



April-2022

E-ISSN - 2348-7143

INTERNATIONAL RESEARCH FELLOWS ASSOCIATION'S
RESEARCH JOURNEY
International E-Research Journal
Peer Reviewed, Referred & Indexed Journal
Issue - 292 (B)

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Students' Life - From Destruction To Recovery

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Introduction:

The Corona pandemic known as COVID-19 brought a drastic change in the field of education since its arrival. It increased the number of unskilled and hard learners and also escalated the pre-existing problems in academics. The COVID-19 pandemic has not stopped at national borders. It has affected people regardless of nationality, level of education, income, or gender. Continuous high rates of death and no medicine available to cure the disease led the Governments to the declaration of complete lockdown and closure of all activities. This decision brought a drastic fall in global economies.

Apart from this millions of students' future was at risk. Schools, colleges, and universities were closed down due to COVID-19. Historically, universities have moved slowly and had problems adapting themselves to changes, but they were going through a disruptive period. The crisis raises questions about the value offered by a university education which includes networking and social opportunities as well as educational content. To remain relevant, universities will need to reinvent their learning environments so that digitalization expands. Disruptive educational innovation replaces existing methodologies and modes of knowledge transmission by opening new alternatives for learning. The unexpected changes in the field of education were ready to enter with the Fourth industrial revolution of Technology.

How COVID – 19 changed the dynamics of education?

Millions of students were scattered all over the globe. All the students were worried about how will be they able to return to their home countries, in these times, the Indian Government played an active role in re-migrating Indians to India. Also, some celebrities, Media houses, and Business personalities came to the forefront to rescue our students. Within 2 months maximum students were safe with their families. But it was only the first problem solved yet a lot were waiting.

Positive Impact on Student Life:

Students from primary to secondary sections felt joyful as they got a big vacation from the daily boring 10hr study routine (including extra classes apart from regular school). Collegians expressed that they were happy as they got a break from their regular activities and they were able to have quality time with their family. Many of the students were either PGs or lived in hostels, so this opportunity to have fun with their families was confounding.

Apart from these, they told that during lockdown as students were free from studies they invested their time in playing games with their families and also developed new skills. Most of the students experimented with cooking, sketching, digital courses, singing, dancing, and various creative activities. Till the second half of 2020, the students were happy with all the new things they learned and were ready to apply their skills in their careers. Their creativity and personality were enhanced during this period.



Way to Destruction:

Lockdown and many researchers also declared that they were ready with the formation of vaccines. But here arrive four phases of the virus, viz. Alpha, Beta, Gamma, Mu, Epsilon, Theta, Zeta, and Delta. As per sequence, they grew in changing climates. Like delta was stronger in winters and alpha and epsilon during summers while theta and zeta were in evergreen zones. Such a large family of one virus pressurized scientists to come up with a universal solution. Meanwhile, these phases of the pandemic stressed the students as now they were also frustrated being indoors and they missed their schools, colleges, friends, their scandals, and memories of their academics. Another big disaster was the raising death rate of students. Many students either lose their life or their beloved ones. Another calamity was a shortage of goods and upraising inflation. All of these forced the world leaders to come together and work to get some solution.

Recovery :

The lockdown was now restricted to night curfews. It was necessary to normalize the socio-economic environment. Masks and sanitizers were made compulsory and at least one feet distance was to be maintained in a public place, secondly more than four individuals were not allowed to gather around. These safety measures reduced death rates but they could not stop the extension of the virus. These allowances were made to only manufacturing and essentials industries. The students' education was still at risk but IT industries came up with communication apps that were primarily developed for online business meetings. To fight back the disruption and damage, educational institutes across the country embraced the digital mode of education as a solution to fill the void left by classroom teaching.

Online Education:

Online education means the use of all the resources associated with Technology and the Internet for education. This drastic change in the system of education and communication was not at all easy. With the availability of a sea of platforms and online educational tools, the students, as well as teachers, faced frequent hiccups while using or referring to these tools. The first problem was an Internet connection, due to such a sudden increase in users and wider consumption of data there were connection problems during lectures. Secondly, No one knew about the usability of such applications. Many universities struggled and lacked the experience and time they needed to conceive new ways to deliver instruction and assignments. Examinations were also affected, disrupting students' learning trajectories and progression.

Although many higher education institutions offered online courses before the pandemic, few students considered it as the sole alternative to physical in-person learning. All these problems were short-term. Within 1-2 months the personal Wi-Fi connection increased so the dependency on one internet system decreased and also new internet towers were installed. Then developers of these apps came to the forefront and started training which also helped to get used to these apps. Also for the health of students, the lectures' duration was slowed down but not stopped. Due to online education audio-visual was growing and other additional features helped the students to accept this new technology. But yet students were locked in a room and there was a lack of exposure to the physical environment.

Vaccination:

By end of 2021, the vaccines were developed for all age groups except for kids. Teenagers were ready to be vaccinated. Schools, colleges, teachers, NGOs, and other



government organizations were actively participating in vaccination campaigns. Initially, there were some fears against the dosages of vaccines but with print media, awareness campaigns, and social media influence vaccination was welcomed. As the teenagers were vaccinated the schools and colleges were partially opened and this year all the lectures, curricular and non-curricular activities, and exams were conducted offline.

Conclusion :

Students are the most valuable assets of any country. This outbreak taught us many new things and gave us some happy and sad experiences. All the students are now vaccinated. All the schools and colleges are now full-fledged and open. Real change often takes place in deep crises, while this crisis has deeply disruptive implications, including for education, it does not have predetermined outcomes. It will be the nature of our collective and systemic responses to these disruptions that will determine how we are affected by them. Like polio and other diseases, with vaccination and correct precautions, we all will uproot this virus from our environment. It is now up to us to build a more resilient society.

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ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 12, Issue, 06 (B), pp. 41979-41983, June, 2021

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

A STUDY ON NEED OF FINANCIAL INCLUSION OF WOMEN THROUGH SYSTEMATIC INVESTMENT PLAN IN BHIWANDI CITY

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DOI: <http://dx.doi.org/10.24327/ijrsr.2021.1206.6002>

ARTICLE INFO

Article History:

Received 6th March, 2021
Received in revised form 15th
April, 2021
Accepted 12th May, 2021
Published online 28th June, 2021

Key Words:

Mutual Fund, Women, Systematic
Investment plan, Bhiwandi

ABSTRACT

This study was taken up to understand the status of women in society and their financial inclusion through Systematic Investment Plan (SIP) schemes in the new era of investment opportunities for overall economic growth at the various geographical locations. Therefore a study related to annual income, annual savings, preferences for investment, attitude towards Mutual fund and Systematic Investment Plan exclusively of women was conducted in the Bhiwandi city, Thane district, Maharashtra along with understanding their knowledge about importance and in The overall findings revealed that Annual income and savings of majority of women is not enough which is hindrance in investment decisions of the women in society. Although women have preferences in mutual fund but investment in SIP is seen poor only due to lack of awareness and tailor-made products. It was observed that investments are independent of age and qualification. The present study recommends that the Government must consider women in society while designing financial products and plans for their effective inclusion and financial independence to live with dignity. Under women and child development strategies, policies must be merged with Self Help Groups, SMEs to encourage income through such investment plans and schemes.

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INTRODUCTION

Financial inclusion is “the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker section and low income groups at an affordable cost in a fair and transparent manner by mainstream institutional players” (Rangarajan, 2008). “Financial Inclusion is the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players”. (Dr. K.C. Chakrabarty, Deputy Governor, Reserve Bank of India)

A Systematic Investment Plan or SIP is a smart and hassle free mode for investing money in mutual funds. SIP allows to invest a predetermined amount at a regular interval (weekly, monthly, quarterly, etc.). A SIP is a planned approach towards investments and helps to inculcate the habit of saving and building wealth for the future.

The city of Bhiwandi located in the Thane District, Maharashtra, India is listed as one of the leading region in Textile industry and known as Manchester of India. It is located at distance of 30 Kms. from Mumbai Corporation. The

population of Bhiwandi is male dominant with ratio of 1000: 709 (Census, 2011) and literacy ratio of women is 75% as compared to 82% of male (Census, 2011). Major indicators of development show comparatively less progress of women in Bhiwandi city. These indicators relate to the socio economic conditions of women in Bhiwandi and reveal the potentials of women empowerment.

Considering the importance of women in family, this study was conducted. This study was conducted with an aim to explore the various strata of women and understand their actual status to give base for further studies in this regard. Such kind of study is important to understand the status to direct women, so they can progress in their financial life and to give recommendation for their upliftment. This particular study was restricted to Bhiwandi city only.

Need of Study

Today is the contemporary situation, it is very much important to understand how much percentage of women are interested in investment and how they can be equipped with improved lifestyle. This will give respect and dignity in the society to women.

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This study will help to understand how the investment in mutual funds through Systematic investment plans (SIP) can gain momentum and increase percentage of income. It will also help in Raising women's financial awareness and literacy so they are better able to navigate the maze of financial product like SIP and information and resources available in the market.

Objectives of study

Specific Objectives

1. To study the status of women in society,
2. To study awareness among women about: a) Mutual fund b) Systematic Investment Plan c) Sources of information d) understanding of people
3. To study kind of investments preferred by women,
4. To study female population with regard to their understanding about SIP, the extent of women invest in Mutual fund,
5. To find the impact of women background on their decision,
6. To study respondents background on the decisions for investments.

General Objectives

1. To create awareness, educate and train women in society for their improvement in their lifestyle
2. To recommend appropriate measures to the stakeholders based on findings of the study

LITERATURE REVIEW

Pratisha Padmasri Deka, (2015) [1] entitled “Financial Literacy and Financial Inclusion for Women Empowerment: A Study”, deals with significance of women’s financial inclusion; Specific financial needs of women’s in respect to men’s; Functions of finance and role of women; Growth, development and financial inclusion;

Monika Dua, (2005), ‘Performance of Mutual Funds in India: Recent Trends’, in his study analyses the perception of mutual fund investors, he reveals that mutual funds are preferred by the small investor who thought that they themselves did not have the expertise to deal directly with shares.

Leeladhar, V (2006): “Taking Banking Services to the Common Man – Financial Inclusion”, In his studies he observed the importance and reach of banking services to the common man.

Thorat, Usha (2006): “Financial Inclusion and Millennium Development Goals”, She studied the importance of Financial inclusion to grass root level.

Rangarajan, C (2008): Report of the Committee on Financial Inclusion, He defined the meaning of Financial inclusion and ways for including common man in economic development.

RESEARCH METHODOLOGY

The study is an analytical study based on primary research and also related to the awareness level and perception of women of Bhiwandi city. The Secondary data available on internet and Research papers were also considered.

The scope of the study has been limited to Bhiwandi city. The objectives and relevant questions for the schedule framed are

accordingly. For the purpose of data collection, Google form questionnaire was created. The data collected are then further processed using Ms-Excel. For analysis of data statistical techniques basically weighted score, ranking method and chi-square test has been used.

Findings

The study was conducted to understand the perception of Women in Bhiwandi city towards investment, with special reference to Mutual Fund and Systematic Investment Plan. Findings are presented in tabular format and graph as per requirement:

Table 1 Income wise distribution of Respondents

| Annual income | % |
|-------------------------|-----|
| 1 Lakh to 3 Lakh Rupees | 24 |
| 3 Lakh to 5 Lakh Rupees | 4 |
| Above 5 lakh | 3 |
| Upto One Lakh | 70 |
| Total | 100 |

Table 1 explains the income wise distribution of Respondents, Majority (70%) of the respondents are earning annual income below one lakh Rupees, where as very less respondents belong to higher income group of above Five lakh Rupees.

Table 2 Saving wise distribution of Respondents

| Annual Saving | % |
|------------------|-----|
| 1 Lakh to 2 Lakh | 8 |
| 2 lakh to 3 Lakh | 1 |
| Above 3 Lakh | 2 |
| Upto 1 Lakh | 88 |
| Total | 100 |

Table 2 explains about annual saving of respondents. It is seen that 88% of respondents are having annual saving of below one lakh Rupees.

Table 3 Qualification wise distribution of Respondents

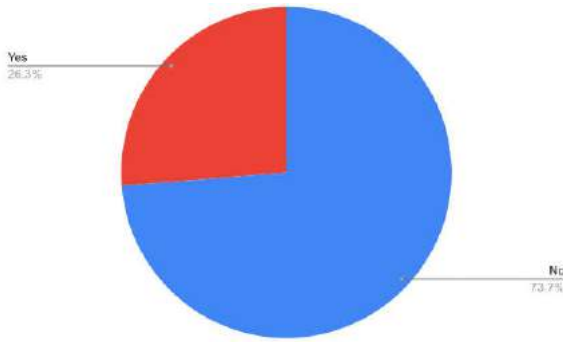
| Qualification | % |
|-----------------|-----|
| Graduation | 25 |
| Other/below SSC | 15 |
| Post graduation | 16 |
| Professional | 2 |
| Upto HSC | 42 |
| Total | 100 |

As per Table 3 it is understood that 4% of the respondents have studied upto HSC education. Only 25% of respondents are Graduate.

Table 4 Sources of Income of Respondents

| Source of income | % |
|------------------|-----|
| Own business | 15 |
| Pin Money | 41 |
| Rental | 2 |
| Salary | 18 |
| other | 24 |
| Total | 100 |

As per Table 4, it is reflected that 41% of respondents are dependent on pin money from their husbands which is the highest among other variables.15% of respondents are having their own business, 18% salaried and 24% reflected as having other sources of income.



Graph 1 Respondents views on whether they are doing investment?

Graph 1 Shows that 74% of women respondents in Bhiwandi city are not doing any type of investments. Only 26% of respondents are doing investments.

Table 5 Type of investment opted by respondents

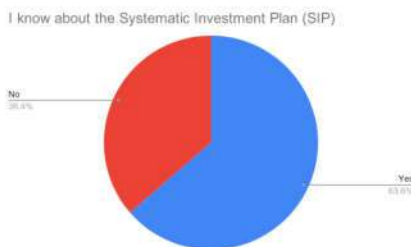
| Types of investment | % |
|---------------------|-----|
| Fixed deposit | 26 |
| Gold | 19 |
| Mutual fund | 39 |
| Shares | 16 |
| | 100 |

Out of 26% respondents doing investment, have selected mutual fund (39%) over Fixed Deposit (26%), gold (19%) and shares (16%) as per table 5.

Table 6 Level of awareness among Respondents about Mutual Fund

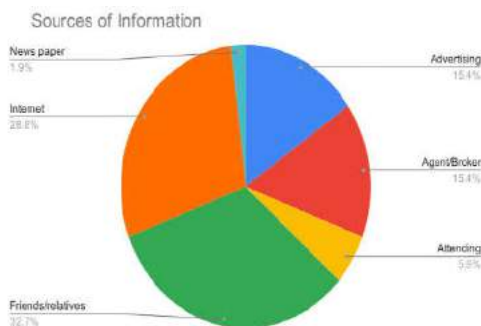
| I am aware about the mutual fund % | |
|------------------------------------|-----|
| No | 21 |
| Yes | 67 |
| total | 100 |

Table 6 shows that 67% of the respondents are aware about the mutual fund as investment alternative where as only 21% of the respondents are unaware about it.



Graph 2 Percentage of awareness about Systematic Investment Plan (SIP)

Graph 2 Shows that 64% of the respondents about SIP scheme and 36% denied about their awareness about SIP.



Graph 3 sources of Information for SIP

As per Graph 3, respondents preferred to gather information from friends/relative about SIP (33%). Next comes internet and last in the preference list is news paper.

Table 7 Importance of Mutual Fund as per ranking of factors

| Factors | % | Ranking |
|--------------------------------------|----|---------|
| Calculation of Net Assets Value | 11 | 4 |
| It provides high returns | 34 | 2 |
| Mutual fund is less risky investment | 55 | 1 |
| Mutual fund is risk free investment | 18 | 3 |

Table 7 shows the importance of mutual fund with relation to factors associated with it. As per the responses received, ranking method is used to find out the most favourable factor to selecting mutual fund over their investment alternatives. As per the table, it shows that as most of the respondents believe that mutual fund are less risky investment plan, then as per ranking method few respondents reacted that it provides high returns. Very few respondents have given importance to NAV method of returns and risk free instrument.

Table 8 Understanding of people with regard to SIP importance

| Factors | Weighted score | Rank |
|------------------------|----------------|------|
| Future plan | 273 | 2 |
| Immediate need | 228 | 6 |
| Entrepreneurship | 236 | 5 |
| Financial Independence | 286 | 1 |
| Dream Fulfillment | 266 | 3 |
| Risk diversification | 243 | 4 |

As per Table 8, weighted average method was applied to find out Respondents view about need and importance of Systematic Investment Plan. Respondents were asked to rate the criteria from 1 (Lowest) to 5 (Highest). As per their perception, Financial Independence ranks first in the capacity of need of SIP. Future plan comes second perception, then followed by Dream fulfillment, Risk diversification, entrepreneurship and immediate need.

Testing of Hypothesis

1. A chi-square test of independence was performed to examine the relation between Age and Investment Decision.

H0 Age and investment decisions are independent
 H1 Age and investment are dependent

The results of the test indicate that there is no significant relationship between Age and investment decisions. As indicated by chi square P value =0.6176 > 0.05. Null hypothesis is accepted

2. A chi-square test of independence was performed to examine the relation between Age and SIP Awareness Level

H0 Age and SIP Awareness are independent
 H1 Age and SIP awareness are dependent

The results of the test indicates that there is significant relationship between Age and SIP awareness level as indicated by chi square P value =0.0269 < 0.05. Null hypothesis is rejected.

3. A chi square test of independence was performed to examine the relation between qualification & Investment decision

H0 Qualification & Investment Decisions are Independent

H1 Qualification & Investment Decisions are dependent

The results of test indicates that there is there is no relation between Qualification of respondents and investment decision as indicated by chi square P value= 0.1229 > 0.05. Null hypothesis to be accepted

DISCUSSION & CONCLUSION

Mutual Fund & SIP in relation with women inclusion has not been studied before and mainly in Bhiwandi region of Maharashtra. This study was conceived to understand the existing status of women in Bhiwandi and about their investment decisions. For the progress of the women in the society, every avenues needs to be researched for effective designing of the policies, financial products and for their overall livelihood with enjoying independence.

In the present study, SIP and Mutual Funds were studied with regards to respondents income, savings, qualification, source of income and factors affecting investment decisions and explored the reason for making a choice of SIP & Mutual Fund.

The status of women annual income percentage (70%) was observed to be less than one lakh Rupees as 41% of women were found to be dependent on their husband for finances. This situation probably impacted planning of savings of almost 88% respondents and created obstacles for investments by the women in Bhiwandi. However, the findings revealed that out of the 26% of women making investment, most of them are presently choosing combinations of Mutual fund, Gold and Fixed deposit. The percentage of Mutual fund investment is moderate (39%).

The Chi square test has shown that investment opportunities are grabbed by respondents irrespective of their age. However, contradictory to this, in an empirical analysis done on age and investment patterns by Ansari (2019) revealed that investors' decisions are influenced by various indicators like age, gender, occupation and income and age is the most important factor influencing the decisions. Regarding qualification and investment decisions, the present study indicated that there is no significant relation established. This proves that low qualified people also can be good investor and earn good income to improve their lifestyle.

Awareness survey among the women of Bhiwandi city suggests that there is comparatively high understanding (70%) about the Mutual Fund because as their view is that it has potential for capital growth in future, and it also provides regular income; wealth creation, better returns as compare to other investments along with the benefits of professional management skills and easy liquidity. In a similar kind of study by Jasmin (2018) related to customers benefit of Mutual Funds, has reported that MF is liked by people as it is an investment with less risk.

During the informal interviews with the respondents and survey about the SIP information, they expressed that most of the information was gained from relatives/friends (33%) and thus their investments decisions were influenced by the experiences of relatives/friends. Print media has a least role to play (1.9%). In the study by Byju K. (2016) in a study on awareness of investment opportunities in mutual funds - special Significance on SIP also revealed that friends and relatives play major role for investment decisions of respondents.

The SIP related survey study in the ranking order revealed that the factor influencing highly were financial independence and lowest was the respondents' immediate need. As per informal communication with respondents it was found that they believe that SIP is not worth in emergency need. In another study by Ainapur (2018) on investors' perception towards Mutual Funds (SIP) in Bidar city (Karnataka state), has shown the benefits of SIP, such as financial independence, higher returns, wealth creation and professional management.

Study of this nature is very essential to benefit every woman in society. Following are the recommendations given for financial inclusion of women.

Recommendations

- As the percentage of women doing investment is less, there is scope for investment opportunity as only 26% of women are active in investment; Mutual fund companies can design suitable products as per the demographic and cultural diversity of women.
- General awareness programme by the NGO and colleges can be adopted to educate females about benefits of investments
- As the average annual savings of female population is less than one lakh rupees, the customized products for increasing investment could be designed by the mutual fund companies.
- Women should also be given opportunity in managing personal finance and wealth creation which will not only bring income to family but economic growth in the city at large.
- The governmental schemes like Pradhan Mantri Jan Dhan Yojna must be aggressively propagated to cover female under banking system therefore achieving financial inclusion
- Such study can be extended to Bhiwandi and other rural region of Bhiwandi Taluka for getting status of financial inclusion of rural women

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How to cite this article:

Snehal Donde and Pooja Dodhia.2021, A Study on Need of Financial Inclusion of Women Through Systematic Investment Plan in Bhiwandi city. *Int J Recent Sci Res.* 12(06), pp. 41979-41983. DOI: <http://dx.doi.org/10.24327/ijrsr.2021.1206.6002>



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 12, Issue, 06 (B), pp. 41979-41983, June, 2021

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

A STUDY ON NEED OF FINANCIAL INCLUSION OF WOMEN THROUGH SYSTEMATIC INVESTMENT PLAN IN BHIWANDI CITY

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DOI: <http://dx.doi.org/10.24327/ijrsr.2021.1206.6002>

ARTICLE INFO

Article History:

Received 6th March, 2021
Received in revised form 15th
April, 2021
Accepted 12th May, 2021
Published online 28th June, 2021

Key Words:

Mutual Fund, Women, Systematic
Investment plan, Bhiwandi

ABSTRACT

This study was taken up to understand the status of women in society and their financial inclusion through Systematic Investment Plan (SIP) schemes in the new era of investment opportunities for overall economic growth at the various geographical locations. Therefore a study related to annual income, annual savings, preferences for investment, attitude towards Mutual fund and Systematic Investment Plan exclusively of women was conducted in the Bhiwandi city, Thane district, Maharashtra along with understanding their knowledge about importance and in The overall findings revealed that Annual income and savings of majority of women is not enough which is hindrance in investment decisions of the women in society. Although women have preferences in mutual fund but investment in SIP is seen poor only due to lack of awareness and tailor-made products. It was observed that investments are independent of age and qualification. The present study recommends that the Government must consider women in society while designing financial products and plans for their effective inclusion and financial independence to live with dignity. Under women and child development strategies, policies must be merged with Self Help Groups, SMEs to encourage income through such investment plans and schemes.

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INTRODUCTION

Financial inclusion is “the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker section and low income groups at an affordable cost in a fair and transparent manner by mainstream institutional players” (Rangarajan, 2008). “Financial Inclusion is the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players”. (Dr. K.C. Chakrabarty, Deputy Governor, Reserve Bank of India)

A Systematic Investment Plan or SIP is a smart and hassle free mode for investing money in mutual funds. SIP allows to invest a predetermined amount at a regular interval (weekly, monthly, quarterly, etc.). A SIP is a planned approach towards investments and helps to inculcate the habit of saving and building wealth for the future.

The city of Bhiwandi located in the Thane District, Maharashtra, India is listed as one of the leading region in Textile industry and known as Manchester of India. It is located at distance of 30 Kms. from Mumbai Corporation. The

population of Bhiwandi is male dominant with ratio of 1000: 709 (Census, 2011) and literacy ratio of women is 75% as compared to 82% of male (Census, 2011). Major indicators of development show comparatively less progress of women in Bhiwandi city. These indicators relate to the socio economic conditions of women in Bhiwandi and reveal the potentials of women empowerment.

Considering the importance of women in family, this study was conducted. This study was conducted with an aim to explore the various strata of women and understand their actual status to give base for further studies in this regard. Such kind of study is important to understand the status to direct women, so they can progress in their financial life and to give recommendation for their upliftment. This particular study was restricted to Bhiwandi city only.

Need of Study

Today is the contemporary situation, it is very much important to understand how much percentage of women are interested in investment and how they can be equipped with improved lifestyle. This will give respect and dignity in the society to women.

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This study will help to understand how the investment in mutual funds through Systematic investment plans (SIP) can gain momentum and increase percentage of income. It will also help in Raising women's financial awareness and literacy so they are better able to navigate the maze of financial product like SIP and information and resources available in the market.

Objectives of study

Specific Objectives

1. To study the status of women in society,
2. To study awareness among women about: a) Mutual fund b) Systematic Investment Plan c) Sources of information d) understanding of people
3. To study kind of investments preferred by women,
4. To study female population with regard to their understanding about SIP, the extent of women invest in Mutual fund,
5. To find the impact of women background on their decision,
6. To study respondents background on the decisions for investments.

General Objectives

1. To create awareness, educate and train women in society for their improvement in their lifestyle
2. To recommend appropriate measures to the stakeholders based on findings of the study

LITERATURE REVIEW

Pratisha Padmasri Deka, (2015) [1] entitled “Financial Literacy and Financial Inclusion for Women Empowerment: A Study”, deals with significance of women’s financial inclusion; Specific financial needs of women’s in respect to men’s; Functions of finance and role of women; Growth, development and financial inclusion;

Monika Dua, (2005), ‘Performance of Mutual Funds in India: Recent Trends’, in his study analyses the perception of mutual fund investors, he reveals that mutual funds are preferred by the small investor who thought that they themselves did not have the expertise to deal directly with shares.

Leeladhar, V (2006): “Taking Banking Services to the Common Man – Financial Inclusion”, In his studies he observed the importance and reach of banking services to the common man.

Thorat, Usha (2006): “Financial Inclusion and Millennium Development Goals”, She studied the importance of Financial inclusion to grass root level.

Rangarajan, C (2008): Report of the Committee on Financial Inclusion, He defined the meaning of Financial inclusion and ways for including common man in economic development.

RESEARCH METHODOLOGY

The study is an analytical study based on primary research and also related to the awareness level and perception of women of Bhiwandi city. The Secondary data available on internet and Research papers were also considered.

The scope of the study has been limited to Bhiwandi city. The objectives and relevant questions for the schedule framed are

accordingly. For the purpose of data collection, Google form questionnaire was created. The data collected are then further processed using Ms-Excel. For analysis of data statistical techniques basically weighted score, ranking method and chi-square test has been used.

Findings

The study was conducted to understand the perception of Women in Bhiwandi city towards investment, with special reference to Mutual Fund and Systematic Investment Plan. Findings are presented in tabular format and graph as per requirement:

Table 1 Income wise distribution of Respondents

| Annual income | % |
|-------------------------|-----|
| 1 Lakh to 3 Lakh Rupees | 24 |
| 3 Lakh to 5 Lakh Rupees | 4 |
| Above 5 lakh | 3 |
| Upto One Lakh | 70 |
| Total | 100 |

Table 1 explains the income wise distribution of Respondents, Majority (70%) of the respondents are earning annual income below one lakh Rupees, where as very less respondents belong to higher income group of above Five lakh Rupees.

Table 2 Saving wise distribution of Respondents

| Annual Saving | % |
|------------------|-----|
| 1 Lakh to 2 Lakh | 8 |
| 2 lakh to 3 Lakh | 1 |
| Above 3 Lakh | 2 |
| Upto 1 Lakh | 88 |
| Total | 100 |

Table 2 explains about annual saving of respondents. It is seen that 88% of respondents are having annual saving of below one lakh Rupees.

Table 3 Qualification wise distribution of Respondents

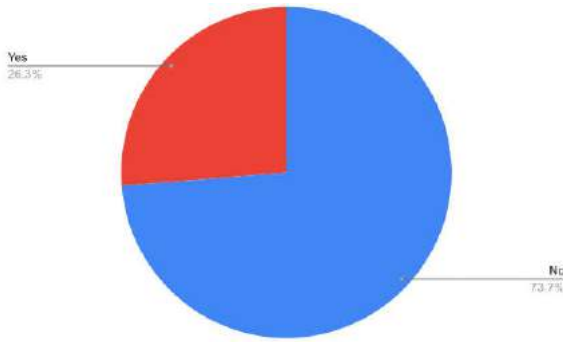
| Qualification | % |
|-----------------|-----|
| Graduation | 25 |
| Other/below SSC | 15 |
| Post graduation | 16 |
| Professional | 2 |
| Upto HSC | 42 |
| Total | 100 |

As per Table 3 it is understood that 4% of the respondents have studied upto HSC education. Only 25% of respondents are Graduate.

Table 4 Sources of Income of Respondents

| Source of income | % |
|------------------|-----|
| Own business | 15 |
| Pin Money | 41 |
| Rental | 2 |
| Salary | 18 |
| other | 24 |
| Total | 100 |

As per Table 4, it is reflected that 41% of respondents are dependent on pin money from their husbands which is the highest among other variables.15% of respondents are having their own business, 18% salaried and 24% reflected as having other sources of income.



Graph 1 Respondents views on whether they are doing investment?

Graph 1 Shows that 74% of women respondents in Bhiwandi city are not doing any type of investments. Only 26% of respondents are doing investments.

Table 5 Type of investment opted by respondents

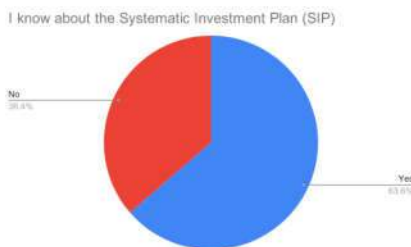
| Types of investment | % |
|---------------------|-----|
| Fixed deposit | 26 |
| Gold | 19 |
| Mutual fund | 39 |
| Shares | 16 |
| | 100 |

Out of 26% respondents doing investment, have selected mutual fund (39%) over Fixed Deposit (26%), gold (19%) and shares (16%) as per table 5.

Table 6 Level of awareness among Respondents about Mutual Fund

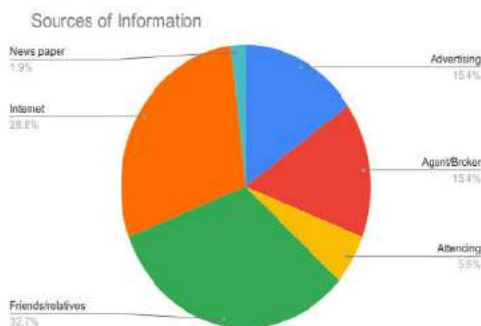
| I am aware about the mutual fund % | |
|------------------------------------|-----|
| No | 21 |
| Yes | 67 |
| total | 100 |

Table 6 shows that 67% of the respondents are aware about the mutual fund as investment alternative where as only 21% of the respondents are unaware about it.



Graph 2 Percentage of awareness about Systematic Investment Plan (SIP)

Graph 2 Shows that 64% of the respondents about SIP scheme and 36% denied about their awareness about SIP.



Graph 3 sources of Information for SIP

As per Graph 3, respondents preferred to gather information from friends/relative about SIP (33%). Next comes internet and last in the preference list is news paper.

Table 7 Importance of Mutual Fund as per ranking of factors

| Factors | % | Ranking |
|--------------------------------------|----|---------|
| Calculation of Net Assets Value | 11 | 4 |
| It provides high returns | 34 | 2 |
| Mutual fund is less risky investment | 55 | 1 |
| Mutual fund is risk free investment | 18 | 3 |

Table 7 shows the importance of mutual fund with relation to factors associated with it. As per the responses received, ranking method is used to find out the most favourable factor to selecting mutual fund over their investment alternatives. As per the table, it shows that as most of the respondents believe that mutual fund are less risky investment plan, then as per ranking method few respondents reacted that it provides high returns. Very few respondents have given importance to NAV method of returns and risk free instrument.

Table 8 Understanding of people with regard to SIP importance

| Factors | Weighted score | Rank |
|------------------------|----------------|------|
| Future plan | 273 | 2 |
| Immediate need | 228 | 6 |
| Entrepreneurship | 236 | 5 |
| Financial Independence | 286 | 1 |
| Dream Fulfillment | 266 | 3 |
| Risk diversification | 243 | 4 |

As per Table 8, weighted average method was applied to find out Respondents view about need and importance of Systematic Investment Plan. Respondents were asked to rate the criteria from 1 (Lowest) to 5 (Highest). As per their perception, Financial Independence ranks first in the capacity of need of SIP. Future plan comes second perception, then followed by Dream fulfillment, Risk diversification, entrepreneurship and immediate need.

Testing of Hypothesis

1. A chi-square test of independence was performed to examine the relation between Age and Investment Decision.

H0 Age and investment decisions are independent
 H1 Age and investment are dependent

The results of the test indicate that there is no significant relationship between Age and investment decisions. As indicated by chi square P value =0.6176 > 0.05. Null hypothesis is accepted

2. A chi-square test of independence was performed to examine the relation between Age and SIP Awareness Level

H0 Age and SIP Awareness are independent
 H1 Age and SIP awareness are dependent

The results of the test indicates that there is significant relationship between Age and SIP awareness level as indicated by chi square P value =0.0269 < 0.05. Null hypothesis is rejected.

3. A chi square test of independence was performed to examine the relation between qualification & Investment decision

H0 Qualification & Investment Decisions are Independent

H1 Qualification & Investment Decisions are dependent

The results of test indicates that there is there is no relation between Qualification of respondents and investment decision as indicated by chi square P value= 0.1229 > 0.05. Null hypothesis to be accepted

DISCUSSION & CONCLUSION

Mutual Fund & SIP in relation with women inclusion has not been studied before and mainly in Bhiwandi region of Maharashtra. This study was conceived to understand the existing status of women in Bhiwandi and about their investment decisions. For the progress of the women in the society, every avenues needs to be researched for effective designing of the policies, financial products and for their overall livelihood with enjoying independence.

In the present study, SIP and Mutual Funds were studied with regards to respondents income, savings, qualification, source of income and factors affecting investment decisions and explored the reason for making a choice of SIP & Mutual Fund.

The status of women annual income percentage (70%) was observed to be less than one lakh Rupees as 41% of women were found to be dependent on their husband for finances. This situation probably impacted planning of savings of almost 88% respondents and created obstacles for investments by the women in Bhiwandi. However, the findings revealed that out of the 26% of women making investment, most of them are presently choosing combinations of Mutual fund, Gold and Fixed deposit. The percentage of Mutual fund investment is moderate (39%).

The Chi square test has shown that investment opportunities are grabbed by respondents irrespective of their age. However, contradictory to this, in an empirical analysis done on age and investment patterns by Ansari (2019) revealed that investors' decisions are influenced by various indicators like age, gender, occupation and income and age is the most important factor influencing the decisions. Regarding qualification and investment decisions, the present study indicated that there is no significant relation established. This proves that low qualified people also can be good investor and earn good income to improve their lifestyle.

Awareness survey among the women of Bhiwandi city suggests that there is comparatively high understanding (70%) about the Mutual Fund because as their view is that it has potential for capital growth in future, and it also provides regular income; wealth creation, better returns as compare to other investments along with the benefits of professional management skills and easy liquidity. In a similar kind of study by Jasmin (2018) related to customers benefit of Mutual Funds, has reported that MF is liked by people as it is an investment with less risk.

During the informal interviews with the respondents and survey about the SIP information, they expressed that most of the information was gained from relatives/friends (33%) and thus their investments decisions were influenced by the experiences of relatives/friends. Print media has a least role to play (1.9%). In the study by Byju K. (2016) in a study on awareness of investment opportunities in mutual funds - special Significance on SIP also revealed that friends and relatives play major role for investment decisions of respondents.

The SIP related survey study in the ranking order revealed that the factor influencing highly were financial independence and lowest was the respondents' immediate need. As per informal communication with respondents it was found that they believe that SIP is not worth in emergency need. In another study by Ainapur (2018) on investors' perception towards Mutual Funds (SIP) in Bidar city (Karnataka state), has shown the benefits of SIP, such as financial independence, higher returns, wealth creation and professional management.

Study of this nature is very essential to benefit every woman in society. Following are the recommendations given for financial inclusion of women.

Recommendations

- As the percentage of women doing investment is less, there is scope for investment opportunity as only 26% of women are active in investment; Mutual fund companies can design suitable products as per the demographic and cultural diversity of women.
- General awareness programme by the NGO and colleges can be adopted to educate females about benefits of investments
- As the average annual savings of female population is less than one lakh rupees, the customized products for increasing investment could be designed by the mutual fund companies.
- Women should also be given opportunity in managing personal finance and wealth creation which will not only bring income to family but economic growth in the city at large.
- The governmental schemes like Pradhan Mantri Jan Dhan Yojna must be aggressively propagated to cover female under banking system therefore achieving financial inclusion
- Such study can be extended to Bhiwandi and other rural region of Bhiwandi Taluka for getting status of financial inclusion of rural women

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How to cite this article:

Snehal Donde and Pooja Dodhia.2021, A Study on Need of Financial Inclusion of Women Through Systematic Investment Plan in Bhiwandi city. *Int J Recent Sci Res.* 12(06), pp. 41979-41983. DOI: <http://dx.doi.org/10.24327/ijrsr.2021.1206.6002>

ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume - VII

Issue - I

Part - I

January - March - 2018

**Peer Reviewed Referred
and UGC Listed Journal**

Journal No. 40776



ज्ञान-विज्ञान विमुक्तये

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8. Role of Access of Muslim to Bank Credit for Inclusive Growth

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Introduction:

Inclusive growth means the economic growth that gives equal opportunities to all sections of society and aim to reduce poverty in country. The concept of inclusive growth was one of the main agenda of eleventh five year plan documents. Which lead to achieve faster economic growth and improve quality of human life. Inclusive growth enable all sections of society to have access to health and education services. Beside this it also promote environment friendly growth. In this case Special effort is put by increasing employment opportunities in country through proper and sustainable distribution of all resources.

Bank credit refers to the amount of credit available to a person or business firm from banking institutions. In simple words all kinds of credit such as mortgage, credit cards account and overdraft line are examples of bank credit. In India the access to bank credit is depend on credit worthiness of borrowers. The individual borrowers or the business firm having huge net worth and good reputation in market can have better access to bank credit which enables them to accumulate more wealth on the other hand poor people or small firm from minority sector has limited or no access to bank credit which lead to slow down their growth.

India is the country which adopted democracy follows the "doctrine on unity in diversity." Hindus in India make up 79.8% to total population whereas Muslims make up 14.23%, Christians make up 2.3% and Sikh make up 1.72% to total population. However based on these data it is a clear signal that Hinduism is the largest religion in India followed by Islam, Christianity and Sikhism who are termed as minorities. By following the philosophy of democracy, Indian constitution is always emphasized on equality of all citizen whether they belongs to majority or minority group. It always promotes and protects rights of minorities which

contributes toward participatory and inclusive growth. However the process sustainable and inclusive growth depends on proper allocation of resources. However providing proper access to bank credit is a path through which all the other resources can be distribute.

In India Muslim's are the largest minority, despite this they don't have the proper access to bank credit and other financial faculty. To analyze the condition of Muslim's in Indiasachar committee was commissioned in the year 2005 under chairmanship of Rajendra Sachar(former chief justice of Delhi high court) to study the social economical and educational condition of Muslims, it cover the various main issues. Access to bank credit was one of main agenda of Sachar committee report. In its research committee examine the level of access that Muslim have to bank credit and also recommends way to improve it.

The committee in its report state that the access of Muslim to bank credit is very low. Even the average size of credit as compare to other minorities. Even the villages with high Muslim population are lacking to avail banking facilities. Some bank has identified a number of Muslim areas as "negative geographical area". The term refers to the area where no credit or other bank facilities are provided. The average bank credit lent to Muslim account is less than half of other community. This financial exclusion of Muslims restrain their social economical and educational upliftment.

Inclusive growth required participation from all section of society. Especially from SC, ST, minorities, women and other backward community. With a proper banking facility there will be proper allocation of financial resources which lead to distribution of other resources. However if a particular community like Muslim are lacking from bank credit. It will have negative impact on social, economic and educational growth of that particular community which in turn restrains the inclusive growth.

Objective of study:

- To analyze role of bank credit for inclusive growth.
- To examine access of Muslim to bank credit
- To suggest various measures to provide proper bank credit.

Methodology:

The data used in this paper is collected from secondary sources purely that is various journals, census 2001 and census 2011, Magazine, websites, books, etc. the scope of study is restricted to Muslim minorities and Access to Bank credit.

Significance of Study:

The paper aims to study about level of access of Muslim to bank credit, role of bank credit in financial inclusion and inclusive growth. The Descriptive study is focused to learn about the measures to improve level of bank credit.

Reason for lack of access to bank credit:

Bank credit is one of the basic need for the growth of Muslim community as it helps in social economic and educational upliftment. However in India the Muslim minorities are lagging behind in case of distribution of bank credit. The reason for this are as follows:

1. Religious norms:

Muslim are community which follow the sharih rule specified in HOLY BOOK "Quran Sharif". As per the verses of Quran interest(Riba) is prohibited (haram)in Islam. However Indian banking system is totally depend on the concept of interest. Due to this reason many Muslims in India restrain themselves from involving in regular banking system.

2. Lack of availability of branches in Rural India:

In rural areas Various Muslim people including small scale and tiny industrialist want to avail banking facility but because of lack of availability of braches in rural area every two out of five cannot avail bank credit

3. Lack of awareness:

In today's financial market the service providers and RBI is trying to match the Needs of People of all community But there is no awareness about schemes among Muslims. Because of lack of awareness people are not able to access bank credit.

4. Indigenous banking:

Many Muslim in country want to avail bank credit but because of huge numbers of formalities and legal requirements they prefer to go with indigenous banking. And this will led to lack of access to bank credit.

5. High Cost of Credit:

In today's market the people and business with creditworthiness get full access to bank credit as they have reputation and they can bear high cost of credit. But the people from lower background does not have such credit worthiness even cannot bear high cost and which restrain them to avail proper bank credit.

6. Negative geographical area:

As per the report of sachar committee many areas with high population of Muslims have declared as negative geographical area. It means the bank has black listed such area for the purpose of credit. Due to that reason the Muslims from such areas are unable to access bank credit. For instance Mahesh Muthya's family which has drivers, accountant, store owner (business man) among them. Yet not getting loan as they reside in Dharavi i.e worlds largest slum area.

Initiatives by RBI for Financial inclusion of Muslims:

India is Hindu majority country but Muslims are the largest minority group by contributing 14.68% to total population. Inclusive growth can be possible by the root of proper financial inclusion which is not possible without the participation of Muslims. Muslim community follows the shariyat rules stated in their "holy book Quran". However as per the verses of Quran interest (interest) is prohibited (Haram) in Islam. Due to that reason Muslims restrain themselves to inter into interest based banking system.

To improve the participation of Muslim in banking system RBI is taking Various Initiatives some of them are as follows:

Raghuram Rajan in his report on the Financial Sector in the year 2008 recommended that interest-free banking techniques should be adopted on a larger scale so as to give access to those, belong to economically disadvantaged section of the society. who are unable to access banking services.

Mr. Rajan also explains how the introduction of Islamic banking window is beneficial for various objectives. Today majority of companies in stock exchange are shariyat complaint thus through this we can attract huge amount of fund from domestic as well as international market. Islamic banking will motivate Muslim community to mobilize their saving with banks which they may not willing put in banking system. However Indian banking laws have to be amending accordingly to match with the requirement of Islamic banking because our current banking system is based on interest which is totally prohibited in Islam. The way of Islamic banking is not only beneficial for Muslims but also for other as they may get opportunity to invest in new innovative financial product.

By the statement release by RBI governor there is a clear indication that the Islamic banking and finance will taking root in near future. Currently five companies such as TAMEEM

ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume - VII

Issue - I

Part - I

January - March - 2018

**Peer Reviewed Referred
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Journal No. 40776



ज्ञान-विज्ञान विमुक्तये

**IMPACT FACTOR / INDEXING
2017 - 5.2**

www.sjifactor.com

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Assit. Prof. Vinay Shankarrao Hatole

M.Sc (Math's), M.B.A. (Mkt), M.B.A (H.R),
M.Drama (Acting), M.Drama (Prod & Dirt), M.Ed.

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Ajanta Prakashan

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8. Role of Access of Muslim to Bank Credit for Inclusive Growth

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Introduction:

Inclusive growth means the economic growth that gives equal opportunities to all sections of society and aim to reduce poverty in country. The concept of inclusive growth was one of the main agenda of eleventh five year plan documents. Which lead to achieve faster economic growth and improve quality of human life. Inclusive growth enable all sections of society to have access to health and education services. Beside this it also promote environment friendly growth. In this case Special effort is put by increasing employment opportunities in country through proper and sustainable distribution of all resources.

Bank credit refers to the amount of credit available to a person or business firm from banking institutions. In simple words all kinds of credit such as mortgage, credit cards account and overdraft line are examples of bank credit. In India the access to bank credit is depend on credit worthiness of borrowers. The individual borrowers or the business firm having huge net worth and good reputation in market can have better access to bank credit which enables them to accumulate more wealth on the other hand poor people or small firm from minority sector has limited or no access to bank credit which lead to slow down their growth.

India is the country which adopted democracy follows the "doctrine on unity in diversity." Hindus in India make up 79.8% to total population whereas Muslims make up 14.23%, Christians make up 2.3% and Sikh make up 1.72% to total population. However based on these data it is a clear signal that Hinduism is the largest religion in India followed by Islam, Christianity and Sikhism who are termed as minorities. By following the philosophy of democracy, Indian constitution is always emphasized on equality of all citizen whether they belongs to majority or minority group. It always promotes and protects rights of minorities which

contributes toward participatory and inclusive growth. However the process sustainable and inclusive growth depends on proper allocation of resources. However providing proper access to bank credit is a path through which all the other resources can be distribute.

In India Muslim's are the largest minority, despite this they don't have the proper access to bank credit and other financial faculty. To analyze the condition of Muslim's in Indiasachar committee was commissioned in the year 2005 under chairmanship of Rajendra Sachar(former chief justice of Delhi high court) to study the social economical and educational condition of Muslims, it cover the various main issues. Access to bank credit was one of main agenda of Sachar committee report. In its research committee examine the level of access that Muslim have to bank credit and also recommends way to improve it.

The committee in its report state that the access of Muslim to bank credit is very low. Even the average size of credit as compare to other minorities. Even the villages with high Muslim population are lacking to avail banking facilities. Some bank has identified a number of Muslim areas as "negative geographical area". The term refers to the area where no credit or other bank facilities are provided. The average bank credit lent to Muslim account is less than half of other community. This financial exclusion of Muslims restrain their social economical and educational upliftment.

Inclusive growth required participation from all section of society. Especially from SC, ST, minorities, women and other backward community. With a proper banking facility there will be proper allocation of financial resources which lead to distribution of other resources. However if a particular community like Muslim are lacking from bank credit. It will have negative impact on social, economic and educational growth of that particular community which in turn restrains the inclusive growth.

Objective of study:

- To analyze role of bank credit for inclusive growth.
- To examine access of Muslim to bank credit
- To suggest various measures to provide proper bank credit.

Methodology:

The data used in this paper is collected from secondary sources purely that is various journals, census 2001 and census 2011, Magazine, websites, books, etc. the scope of study is restricted to Muslim minorities and Access to Bank credit.

Significance of Study:

The paper aims to study about level of access of Muslim to bank credit, role of bank credit in financial inclusion and inclusive growth. The Descriptive study is focused to learn about the measures to improve level of bank credit.

Reason for lack of access to bank credit:

Bank credit is one of the basic need for the growth of Muslim community as it helps in social economic and educational upliftment. However in India the Muslim minorities are lagging behind in case of distribution of bank credit. The reason for this are as follows:

1. Religious norms:

Muslim are community which follow the sharih rule specified in HOLY BOOK "Quran Sharif". As per the verses of Quran interest(Riba) is prohibited (haram)in Islam. However Indian banking system is totally depend on the concept of interest. Due to this reason many Muslims in India restrain themselves from involving in regular banking system.

2. Lack of availability of branches in Rural India:

In rural areas Various Muslim people including small scale and tiny industrialist want to avail banking facility but because of lack of availability of braches in rural area every two out of five cannot avail bank credit

3. Lack of awareness:

In today's financial market the service providers and RBI is trying to match the Needs of People of all community But there is no awareness about schemes among Muslims. Because of lack of awareness people are not able to access bank credit.

4. Indigenous banking:

Many Muslim in country want to avail bank credit but because of huge numbers of formalities and legal requirements they prefer to go with indigenous banking. And this will led to lack of access to bank credit.

5. High Cost of Credit:

In today's market the people and business with creditworthiness get full access to bank credit as they have reputation and they can bear high cost of credit. But the people from lower background does not have such credit worthiness even cannot bear high cost and which restrain them to avail proper bank credit.

6. Negative geographical area:

As per the report of sachar committee many areas with high population of Muslims have declared as negative geographical area. It means the bank has black listed such area for the purpose of credit. Due to that reason the Muslims from such areas are unable to access bank credit. For instance Mahesh Muthya's family which has drivers, accountant, store owner (business man) among them. Yet not getting loan as they reside in Dharavi i.e worlds largest slum area.

Initiatives by RBI for Financial inclusion of Muslims:

India is Hindu majority country but Muslims are the largest minority group by contributing 14.68% to total population. Inclusive growth can be possible by the root of proper financial inclusion which is not possible without the participation of Muslims. Muslim community follows the shariyat rules stated in their "holy book Quran". However as per the verses of Quran interest (interest) is prohibited (Haram) in Islam. Due to that reason Muslims restrain themselves to inter into interest based banking system.

To improve the participation of Muslim in banking system RBI is taking Various Initiatives some of them are as follows:

Raghuram Rajan in his report on the Financial Sector in the year 2008 recommended that interest-free banking techniques should be adopted on a larger scale so as to give access to those, belong to economically disadvantaged section of the society. who are unable to access banking services.

Mr. Rajan also explains how the introduction of Islamic banking window is beneficial for various objectives. Today majority of companies in stock exchange are shariyat complaint thus through this we can attract huge amount of fund from domestic as well as international market. Islamic banking will motivate Muslim community to mobilize their saving with banks which they may not willing put in banking system. However Indian banking laws have to be amending accordingly to match with the requirement of Islamic banking because our current banking system is based on interest which is totally prohibited in Islam. The way of Islamic banking is not only beneficial for Muslims but also for other as they may get opportunity to invest in new innovative financial product.

By the statement release by RBI governor there is a clear indication that the Islamic banking and finance will taking root in near future. Currently five companies such as TAMEEM

ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume - VII

Issue - I

Part - II

January - March - 2018

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8. Open Source Library Management Software

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Prof. Rustum Tajane

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Abstract:

The presented paper is illustrating the actual concept of OSS in a very clear manner. The OSS has been well introduced with its Definitions, History, Features, Advantages and Disadvantages through this paper. Library automation improves the services being provided to the library users. Library automation is made possible by Open Source Software which offers its services absolutely free. In the era of information age, sharing of information and knowledge is the prime responsibility of human society and its institutions. Dr.S. R. Ranganathan, Philanthropic in Library and Information Science enunciates the idea of 'socialization of knowledge' through his Five Laws of Library Science. Dr S. R. Ranganathan's Five Laws of Library Science and underlying concept as a powerful inspiration for social changes, and analyzed the open source software, as defined by the 'Open Source Initiatives'(OSI) as follows and its contingency with the five laws;

- Books are for use/Software is for use.
- Every reader his or her book/Every user his/her software.
- Every book its reader/Every software its user.
- Save the time of reader/ Save the time of user.
- The Library is a growing organism/ A software library is a growing organism.

Keyword: Open Source Software (OSS), Source Code, Open Source Initiatives' (OSI)

1. OSS :

Open source is a software development model as well as a software distribution model. In this model the source code of programs is made freely available with the software itself so that anyone can see, change, and distribute it provided they abide by the accompanying license. In this sense, Open Source is similar to peer review, which is used to strengthen the progress of scholarly communication.

The open source software differs from the closed source or proprietary software which may only be obtained by some form of payment, either by purchase or by leasing. The primary difference between the two is the freedom to modify the software.

An open system is a design philosophy antithetical to solutions designed to be proprietary. The idea behind it is that institutions, such as libraries, are can build a combination of components and deliver services that include several vendors' offerings. Thus, for instance, a library might use an integrated library system from one of the major vendors in combination with an open source product developed by another library or by itself in order to better meet its internal or users' requirements.

2. Definition

- "Open source promotes software reliability and quality by supporting independent peer review and rapid evolution of source code. To be certified as open source, the license of a program must guarantee the right to read, redistribute, modify, and use it freely."
- Open source software is typically created and maintained by developers crossing institutional and national boundaries, collaborating by using internet-based communications and development tools;
- Products are typically a certain kind of "free", often through a license that specifies that applications and source code (the programming instructions written to create the applications) are free to use, modify, and redistribute as long as all uses, modifications, and redistributions are similarly licensed;
- Successful applications tend to be developed more quickly and with better responsiveness to the needs of users who can readily use and evaluate open source applications because they are free;
- Quality, not profit, drives open source developers who take personal pride in seeing their working solutions adopted;
- Intellectual property rights to open source software belong to everyone who helps build it or simply uses it, not just the vendor or institution that created or sold the software.

"Open source software is more about building communities and less about computer programs. It is more about making the world a better place and less about personal profit."

“Open Source Software is computer software whose source code is available under a license that permits users to use, change, and improve the software, and to redistribute it in modified or unmodified form”

Open Source Software (OSS) is an antonym for closed source and refers to any computer software that is released free of cost and its licenses usually prohibit modifications and commercial redistribution. Source code is available under a license that permits users to study, change, and improve the software and to redistribute it in modified or unmodified form. A definition of open source is “free distribution and redistribution of software and source code; licenses that allow distribution of modifications and derived works and non-discrimination against persons, groups or fields of endeavor”

Open source software is computer software for which the human-readable source code is made available under a copyright license (or arrangement such as the public domain) that meets the Open Source Definition. This permits users to use, change, and improve the software, and to redistribute it in modified or unmodified form.

Open source software is often developed in a public, collaborative manner. Open source software is the most prominent example of open source development and often compared to user generated content

3. Reasons to use open source software

1. It promotes creative development
2. Those who can't afford proprietary software can download open source programs for free.
3. Money saved can be used to purchase other needed materials.
4. Can easily modify your software to suit patron's needs and your needs.
5. Little to no upgrade costs.
6. The price (free) makes easier to change your mind when the software doesn't live up to its expenses.

4. Advantage of Open Source Software

1. There are no contractual restrictions on how and where the software is used; there is no charge for the software itself. The lower cost is local development.

2. The open source software availability of the source code means that a user can modify and enhance the software according to one's own requirements.
3. Open source software will be available for free cost, in other words, the acquisition costs are considerably lower than those of the traditional, proprietary software that costs are considerably higher than those of the traditional proprietary software that may be purchased.
4. If the number of users is large and they share their efforts and expertise, each user's cost is reduced.
5. Some cases people also want the services connected with the software acquisition that will cost; installation, operation and training support.
6. Information technology managers in institutions face constant frustration when dealing with vendor lock-ins, Lack of portability. Expensive fees and inability.

5. Disadvantages of open source software

1. Since you are not paying charges for the open source software nobody is bound to give you regular updates. You can get stuck with the same old version for years without charges ever getting an update.
2. The open source software can be modified by anybody and then redistributed because its code is supposed to be freely available, unlike the commercial software application that you cannot alter and redistribute.
3. The decentralized development of open source software means that progress can be chaotic and there may be delays in addressing bugs.
4. Open source software may not offer the level of customization as it is being done in the case of commercial software.
5. A library may find that it needs to do a great deal of more work than anticipated to adopt the software.

6. The Ten Commandments

The Open Source Initiative (OSI) identified ten criteria for a software product to be called open source. The OSI certifies a software license as an 'OSI Certified License' on the basis of the following 'Ten Commandments.'

1. Free Redistribution: The license shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The license shall not require a royalty or other fee for such sale.

2. Source Code: The program must include source code, and must allow distribution in source code as well as compiled form. Where some form of a product is not distributed with source code, there must be a well-publicized means of obtaining the source code for no more than a reasonable reproduction cost—preferably, downloading via the Internet without charge.

3. Derived Works: The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

4. Integrity of the Author's Source Code: The license may restrict source code from being distributed in modified form only if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time. The license must explicitly permit distribution of software built from modified source code.

5. No Discrimination against Persons or Groups: The license must not discriminate against any person or group of persons.

6. No Discrimination against Fields of Endeavor: The license must not restrict anyone from making use of the program in a specific field of endeavor.

7. Distribution of License: The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

8. License Must not be Specific to a Product: The rights attached to the program must not depend on the program's being part of a particular software distribution.

9. The License must not Restrict Other Software: The license must not place restrictions on other software that is distributed along with the licensed software. For example, the license must not insist that all other programs distributed on the same medium must be open-source software.

10. The License must be Technology-Neutral: No provision of the license may be predicated on any individual technology or style of interface.

7. Library Management Open Source Software

Koha Avanti, Firefly, PhyMylibrary, Open Biblio, WebLis, OpenILis, PhyMyBibli, PMB, NewGenlib3.0.4, GLIBMS, Open Book

Limitations of OSS

To upgrade/make any change in the OSS, the library needs support. In case of OSS, there is nobody to solve problem, one have to hire some expert to solve the problem. Open source products require technical experts to operate & maintain. Open source costs more to support because the software is typically self-supporting. Generally, commercial software company will immediately respond & quick service is given to solve any problem.

Conclusion

Open sources digital library software revolutionized the open access movement. According to the registry of open access repository, the three software, namely, Dspace, GsdL, and E-print were used for 1183 institutional repositories (59.80) out of 1978 in the world. In India, most of institutions are using open source digital library management software.

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ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
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3. Study on Socio-Economic Conditions of Fisherman in Wada Taluka, District Palghar, Maharashtra

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Abstract

Study is conducted to assess the Socio-Economic condition of the fisherman community in Wada Taluka in palghar district, to evaluate fisherman livelihood and social status for period of 6 months from September 2017 to February 2018. Data were collected through questionnaire in terms of income generation, housing, age distribution, literacy and other facilities of the fisherman. A 100 fisherman were selected randomly for the interview. Among 100 fisherman interviewed, 18% belong to age group below 20 years, 47% belong to the age group of 20-45 years and 35% were above the age group of 45 years. There literacy level was (46%) fisherman were illiterate, (31%) fisherman know to read and write and (23%) fisherman are matric pass. In the study it was found that 65% house were made up of kacha work and with improper sanitation facilities and 35% were made up of pakka houses. Income distribution showed inequality between the groups of fisherman community as fishing was regarded as the major source of income of the traditional fisherman but occasionally they undertook non-fishing activities for their livelihood and sustainability. The present study show the socio economic condition of fisherman and suggestions regarding clear need to upgrade the fishing practices and supports to be provide from all concern for upliftment of fishermen community.

Keywords: Socio-economic conditions, Fishermen Community, Wada taluka.

Introduction

Rivers are the most important resources in the world. In India particularly, great civilization developed along the bank of rivers and even today most of development has taken place in the cities located near the rivers. The rivers provide water for industries, agriculture and

aquaculture, commercial and domestic purpose. In Maharashtra most of the rivers flow from Western Ghats (Godawari, Tapi, Krishna, Vaitarna, bhima etc). These rivers are not only source of drinking water but also they are important for riverine fishing areas. Fishing and fishing business is an important sector of many nations of the world from the point of view of income and employment. It also provide livelihood to many people worldwide and source of diet to all. It also contribute to the national income and foreign exchange by generating employment. Wada taluka having 84 villages with a population of 1, 78,370 people approximately. Lot of people are engaged in fishing activities due to the Vaitarna river and its estuaries. So it is essential to identify and evaluate the fishery resources, which bring development and improve livelihood condition in Wada region. Considering all this condition study was undertaken to study socio economic condition of the fisherman in Wada region for sustainable development and poverty elimination of this fishermen community.

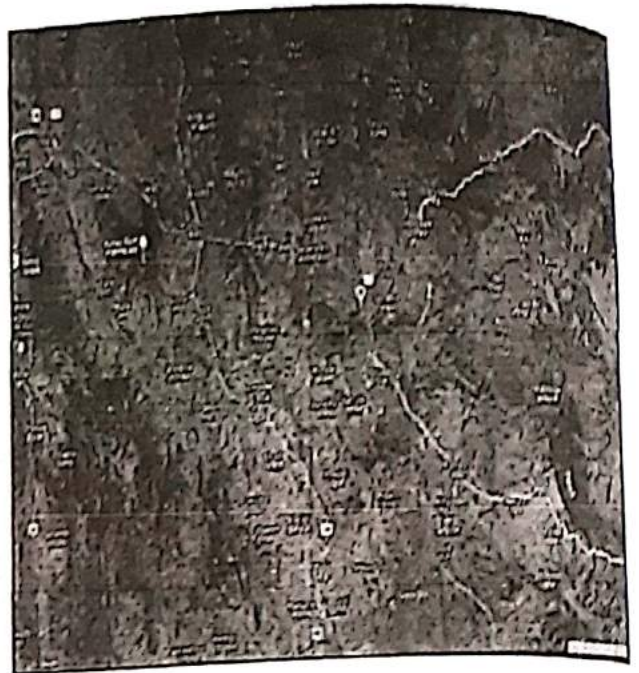
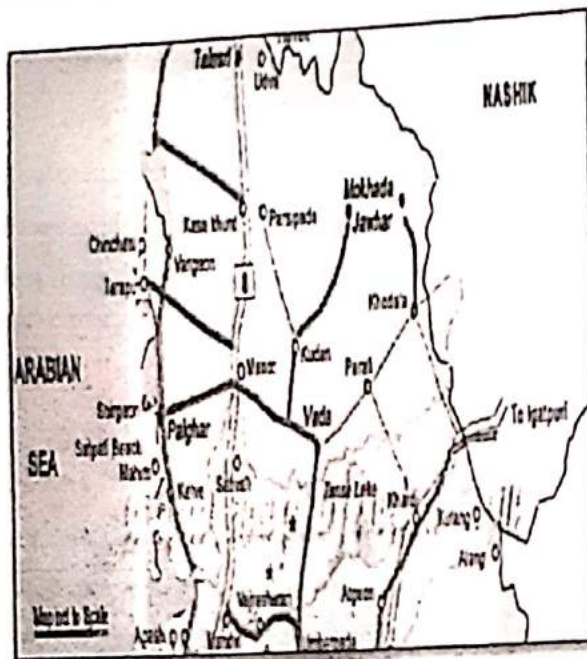
Objective of study:

- To understand the Socio-economic conditions of fishermen community of wada taluka.
- To Identify and Evaluate the Fishery Resources in Wada region.
- To promote and establish fisheries sector in Wada taluka.
- To create job opportunities and source of income to the fishermen community of Wada taluka.
- To Bring Development and Improve Livelihood Condition of fishermen community In Wada Region.

Materials and Methods

Study area

The present study was carried out in Wada region district palghar 19.65°N 73.13°E. The survey was conducted from September 2017 to February 2018. All the people in these region more or less are involved in fishing activities. Thus this river play an important role in upgrading the socio-economic condition of this fishermen community. (Fig no. 1)



Sample Size:

Data were collected for period of 6 months from September 2017 to February 2018 where total 100 fishermen were interviewed. Among 100 fisherman interviewed, 18% belong to age group below 20 years, 47% belong to the age group of 20-45 years and 35% were above the age group of 45 years. There literacy level was (46%) fisherman were illiterate, (31%) fisherman know to read and write and (23%) fisherman are matric pass.

Method of Data collection

Primary data were collected by field survey that include intersection with people and direct observations. Questionnaire in terms of income, literacy, age, housing and other facilities was prepared. Randomly fishermen were selected for interview. Different fisherman were interviewed at different time and on different day. The interview completely focused on socio-economic conditions of the fishermen in terms of income, literacy, age, etc.

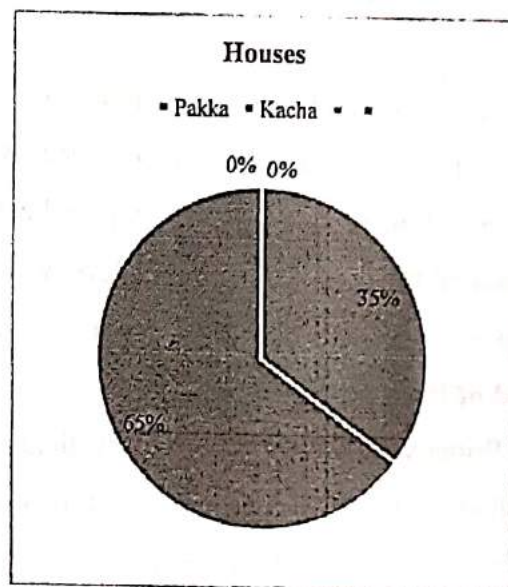
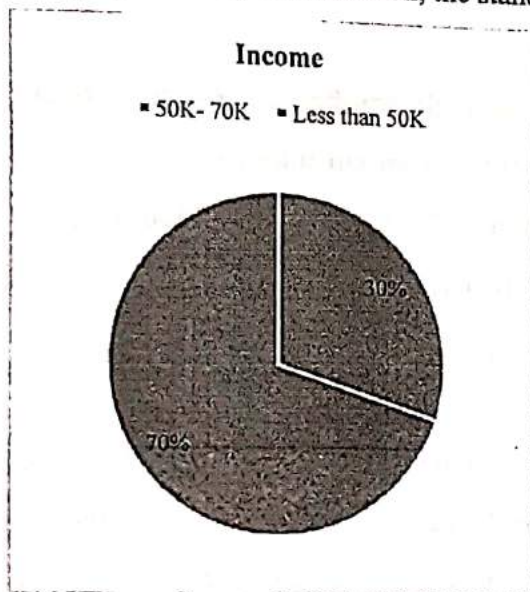
Result and Discussion

The study was conducted on the socio-economic conditions of the fisherman in Wada region. From the study it was observed that the standard of living of the fishermen in this region was very low with poor sanitation facilities. Maximum males involves in the fishing but the female incorporate in the marketing and other activities so the literacy rate comparable to other region was found to be low. Many fishermen were landless due to which fishing was the only

source of income, but due to lack of knowledge and advanced fishing techniques their income level was very low.

Income and living

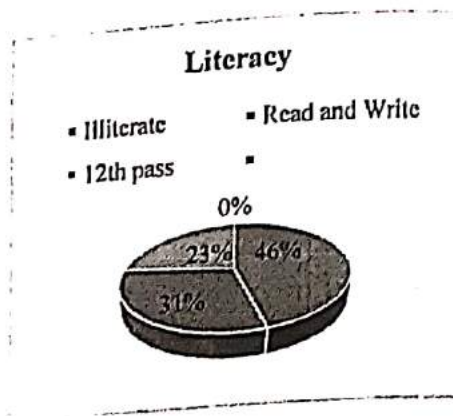
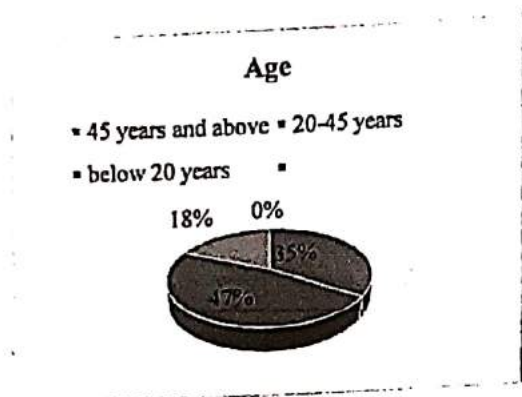
India is known as the land of rivers. Although fishing is the major source of income, in some cases of the traditional fisherman. They are also engaged in other activities for their source of income. Fishery activities include marketing of the fish, maintenance of craft and gear and trading. The total income of these fishermen comes from fishery related activity, about 3 lakh rupees approximately, annually they earn from this. 70% of fishermen earn about 40K to 60K after every expenditure. But 30% of the fishermen earn less than 50K after every expenditure, this amount is not sufficient for the livelihood of their family. In odd situation, they take loan to overcome financial crises. Their housing conditions were very poor. Only 35% of the fishermen live in proper houses, rest 65% of the fishermen live in houses made up of bamboo, straw, etc. Due to improper facilities of habitation, the standard of living in this area is low.



Age distribution and literacy

From the fishermen interviewed 35% were above the age group of 45 years, 47% were of age group of 20 to 45 years and 18% were below 20 years. The result indicated that middle age is involved in fishing. Youngsters and old people are involved in trading. It is due to low involvement of youngsters in the fishing activity there is a reduction in the income that affects

their life and which led to low literacy level. It was found that 46% fisherman were illiterate, 31% fisherman know to read and write and 23% fisherman are matric pass.



Conclusion & Recommendations:

The study was conducted to access the socio-economic conditions of fishermen community in Wada region, of Palghar district. The output of this is that the life of fishermen in this district is at risk due to the low per capita income and lack of amenities. The fish production in this area is also found to be depleted due to anthropogenic activity. This led to the low income of the fisherman due to which they are involve in non-fishing activity. Which has reduced the fishing in this zone. Thus to uplift this sector and socio -economic condition of fisherman following recommendations should be implemented:

- 1) Human habitation, industries setup, and warehouse development should be controlled.
- 2) Educational hub and training centre for the fishery community should be develop in this area.
- 3) Local civic bodies and NGO's should come together to improve sanitation in this area.
- 4) Government should provide loans at low interest rate and try to build cold storage area for preservation of fishes.
- 5) Co-operative society should be set-up for fishermen in this area.
- 6) Awareness programme, market setup, fish processing industries should be setup, so as to improve the socio-economic condition of this community.

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ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume - VII

Issue - I

Part - I

January - March - 2018

**Peer Reviewed Referred
and UGC Listed Journal**

Journal No. 40776



ज्ञान-विज्ञान विमुक्तये

**IMPACT FACTOR / INDEXING
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Ajanta Prakashan

Aurangabad. (M.S.)

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3. Study on Socio-Economic Conditions of Fisherman in Wada Taluka, District Palghar, Maharashtra

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Abstract

Study is conducted to assess the Socio-Economic condition of the fisherman community in Wada Taluka in palghar district, to evaluate fisherman livelihood and social status for period of 6 months from September 2017 to February 2018. Data were collected through questionnaire in terms of income generation, housing, age distribution, literacy and other facilities of the fisherman. A 100 fisherman were selected randomly for the interview. Among 100 fisherman interviewed, 18% belong to age group below 20 years, 47% belong to the age group of 20-45 years and 35% were above the age group of 45 years. There literacy level was (46%) fisherman were illiterate, (31%) fisherman know to read and write and (23%) fisherman are matric pass. In the study it was found that 65% house were made up of kacha work and with improper sanitation facilities and 35% were made up of pakka houses. Income distribution showed inequality between the groups of fisherman community as fishing was regarded as the major source of income of the traditional fisherman but occasionally they undertook non-fishing activities for their livelihood and sustainability. The present study show the socio economic condition of fisherman and suggestions regarding clear need to upgrade the fishing practices and supports to be provide from all concern for upliftment of fishermen community.

Keywords: Socio-economic conditions, Fishermen Community, Wada taluka.

Introduction

Rivers are the most important resources in the world. In India particularly, great civilization developed along the bank of rivers and even today most of development has taken place in the cities located near the rivers. The rivers provide water for industries, agriculture and

aquaculture, commercial and domestic purpose. In Maharashtra most of the rivers flow from Western Ghats (Godawari, Tapi, Krishna, Vaitarna, bhima etc). These rivers are not only source of drinking water but also they are important for riverine fishing areas. Fishing and fishing business is an important sector of many nations of the world from the point of view of income and employment. It also provide livelihood to many people worldwide and source of diet to all. It also contribute to the national income and foreign exchange by generating employment. Wada taluka having 84 villages with a population of 1,78,370 people approximately. Lot of people are engaged in fishing activities due to the Vaitarna river and its estuaries. So it is essential to identify and evaluate the fishery resources, which bring development and improve livelihood condition in Wada region. Considering all this condition study was undertaken to study socio economic condition of the fisherman in Wada region for sustainable development and poverty elimination of this fishermen community.

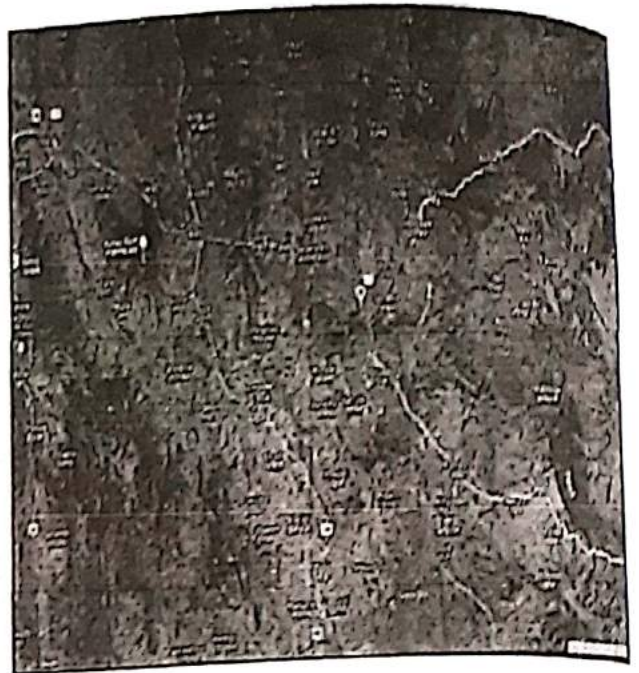
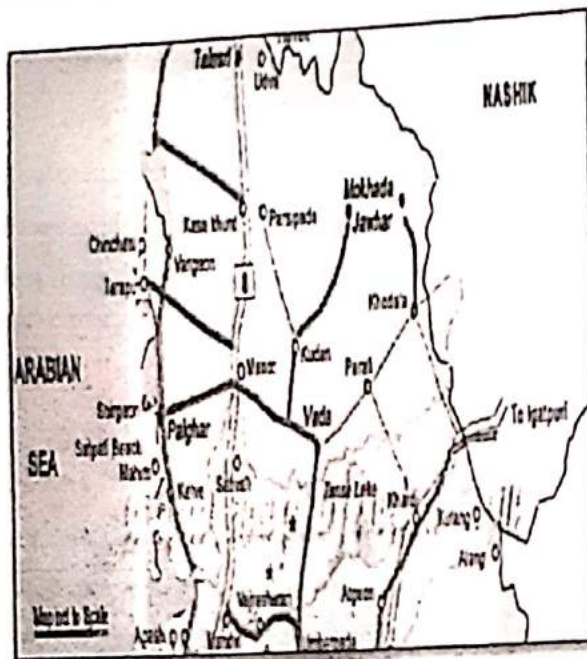
Objective of study:

- To understand the Socio-economic conditions of fishermen community of wada taluka.
- To Identify and Evaluate the Fishery Resources in Wada region.
- To promote and establish fisheries sector in Wada taluka.
- To create job opportunities and source of income to the fishermen community of Wada taluka.
- To Bring Development and Improve Livelihood Condition of fishermen community In Wada Region.

Materials and Methods

Study area

The present study was carried out in Wada region district palghar 19.65°N 73.13°E. The survey was conducted from September 2017 to February 2018. All the people in these region more or less are involved in fishing activities. Thus this river play an important role in upgrading the socio-economic condition of this fishermen community. (Fig no. 1)



Sample Size:

Data were collected for period of 6 months from September 2017 to February 2018 where total 100 fishermen were interviewed. Among 100 fisherman interviewed, 18% belong to age group below 20 years, 47% belong to the age group of 20-45 years and 35% were above the age group of 45 years. There literacy level was (46%) fisherman were illiterate, (31%) fisherman know to read and write and (23%) fisherman are matric pass.

Method of Data collection

Primary data were collected by field survey that include intersection with people and direct observations. Questionnaire in terms of income, literacy, age, housing and other facilities was prepared. Randomly fishermen were selected for interview. Different fisherman were interviewed at different time and on different day. The interview completely focused on socio-economic conditions of the fishermen in terms of income, literacy, age, etc.

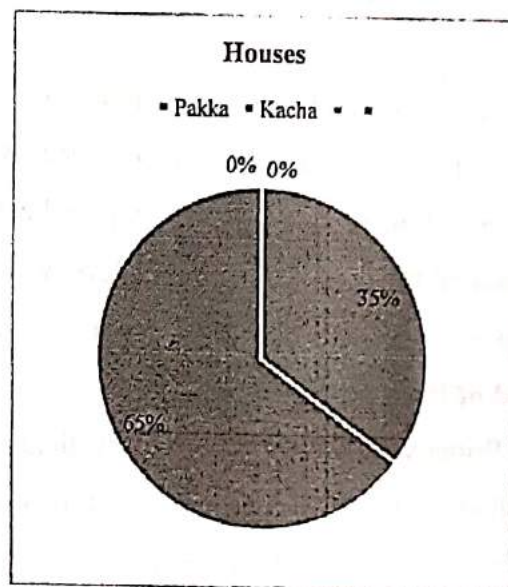
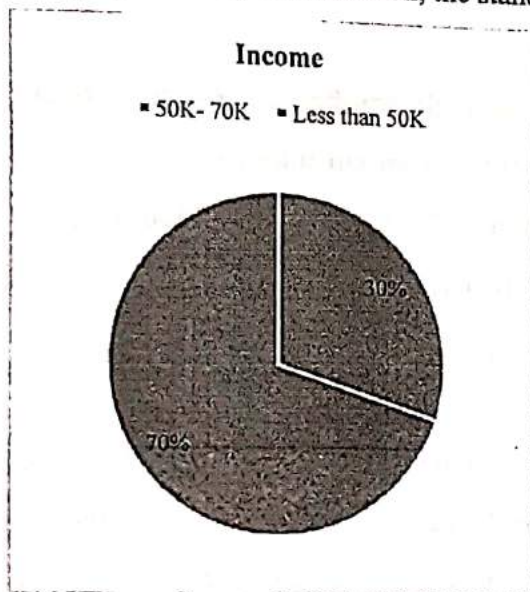
Result and Discussion

The study was conducted on the socio-economic conditions of the fisherman in Wada region. From the study it was observed that the standard of living of the fishermen in this region was very low with poor sanitation facilities. Maximum males involves in the fishing but the female incorporate in the marketing and other activities so the literacy rate comparable to other region was found to be low. Many fishermen were landless due to which fishing was the only

source of income, but due to lack of knowledge and advanced fishing techniques their income level was very low.

Income and living

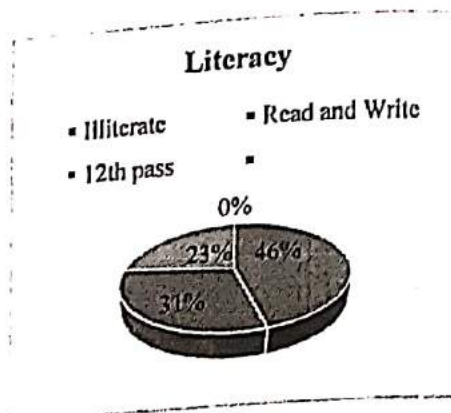
India is known as the land of rivers. Although fishing is the major source of income, in some cases of the traditional fisherman. They are also engaged in other activities for their source of income. Fishery activities include marketing of the fish, maintenance of craft and gear and trading. The total income of these fishermen comes from fishery related activity, about 3 lakh rupees approximately, annually they earn from this. 70% of fishermen earn about 40K to 60K after every expenditure. But 30% of the fishermen earn less than 50K after every expenditure, this amount is not sufficient for the livelihood of their family. In odd situations, they take loans to overcome financial crises. Their housing conditions were very poor. Only 35% of the fishermen live in proper houses, rest 65% of the fishermen live in houses made up of bamboo, straw, etc. Due to improper facilities of habitation, the standard of living in this area is low.



Age distribution and literacy

From the fishermen interviewed 35% were above the age group of 45 years, 47% were of age group of 20 to 45 years and 18% were below 20 years. The result indicated that middle age is involved in fishing. Youngsters and old people are involved in trading. It is due to low involvement of youngsters in the fishing activity there is a reduction in the income that affects

their life and which led to low literacy level. It was found that 46% fisherman were illiterate, 31% fisherman know to read and write and 23% fisherman are matric pass.



Conclusion & Recommendations:

The study was conducted to access the socio-economic conditions of fishermen community in Wada region, of Palghar district. The output of this is that the life of fishermen in this district is at risk due to the low per capita income and lack of amenities. The fish production in this area is also found to be depleted due to anthropogenic activity. This led to the low income of the fisherman due to which they are involve in non-fishing activity. Which has reduced the fishing in this zone. Thus to uplift this sector and socio -economic condition of fisherman following recommendations should be implemented:

- 1) Human habitation, industries setup, and warehouse development should be controlled.
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- 4) Government should provide loans at low interest rate and try to build cold storage area for preservation of fishes.
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- 6) Awareness programme, market setup, fish processing industries should be setup, so as to improve the socio-economic condition of this community.

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“A Study of the Perception of UGC Regulation, 2010 on Minimum Qualification for Appointment of Teachers with Special Reference to B.Ed Faculty”

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Abstract: The present paper attempt at understanding the perception of B.Ed teachers towards the UGC Regulation, 2010. Higher education plays an essential role in society by creating new knowledge, transmitting it to students and fostering innovation. Quality teaching in higher education matters for student learning outcomes. But fostering quality teaching needs higher education institutions to ensure that the education they offer meets the expectations of students and the requirements of employers, both today and for the future. Teacher being a dynamic activity requires a favourable attitude and certain specific competencies from its practitioners. Teachers' proficiency depends on the attitude she possesses for the profession. This can be developed by having awareness about the UGC Regulations.

The perception of B.Ed College teachers was studied in terms of percentage analysis of gender-wise, experience-wise and discipline-wise perceptions with special reference to the UGC 'regulations (2010) with respect to Recruitment conditions and Qualifications, Career Advancement Scheme, Workload of teachers appointment as a measure of maintenance of standard of higher education.

The data was analysed subjected to descriptive and inferential analysis. 't'-test and 'ANNOVA' was applied to find out any significant difference existed between perception of Genderwise, Experience-wise and Discipline-wise, perception of teachers towards UGC's regulations considered for the study.

The findings revealed overall view point that UGC's regulations, 2010 are systematically formulated to achieve the best. One of the plausible reasons may be due to the understanding that resistance to reforms is inescapable. However, all related regulations show high level of perception. Thus, the findings of the study make an important contribution to our understanding of the UGC regulations 2010, its recommendations and the steps taken by the Government of India to implement it.

I. INTRODUCTION

Higher education plays an essential role in society by creating new knowledge, transmitting it to students and fostering innovation. Quality teaching in higher education matters for student learning outcomes. But fostering quality teaching needs higher education institutions to ensure that the education they offer meets the expectations of students and the requirements of employers, both today and for the future .

In the last two decades, a great deal of attention has been directed towards developing research in teacher education all over the world. Teacher education is clearly an essential element for the improvement of education by producing highly qualified teachers. Many countries identify the production of "high quality teachers" as the goal and focus of their teacher education programs. The College of Education from time to time, has been trying to achieve the objectives laid down by the UGC Pay Commission Regulations. Thus, the policies are framed from time to time, for creating the better skills among the teachers. The UGC has formulated the policies from time to time in order to match the changing needs of teaching profession through UGC Pay Commission Regulations.

The teacher's roles and responsibilities have found extension outside the classroom. The implementation of educational policies, transaction of curricula and spreading awareness are the main areas which keep teacher in the forefront. Changing times have added new dimension to this profession, which requires specified competencies and right attitude. Behaviour, attitude and interest of teacher help in shaping the personality of the student.

A primary goal of all teacher educators is to provide pre-service teachers with meaningful professional development opportunities that will help them succeed in making the transition into their own classrooms. In most of the developed countries, teacher education has moved from training teachers to transfer knowledge and preparing them to practice a new role of producing knowledge . In other words, in the process of becoming and being a teacher, doing a teacher research not only promote reflection about personal performance in the classroom, but also seem to stimulate a valued process of self-assessment, in challenging future teachers to identify their personal strengths and weaknesses. Thus, in order to help teachers practice this advanced role, teacher education should equip teachers with self-evaluation and problem-solving skills that are based on research-oriented education.

Research in education is necessary in order to provide a basis for educational planning. It is one of the main fields that should be embedded in higher education curriculum. As a

measure of quality up gradation, UGC focused on raising the quality of teachers and had accordingly arrived at 6th Pay regulations in 2001 for educators and higher authorities to meet challenges of transition. The researcher too believes, that the regulations related policies needs to be studied for its effective implementations and teachers should be involved in the study. The quality of teaching and the quality of teacher overlap, cannot be easily distinguished. The teaching quality generally represents institutional performance whereas the teacher quality is a measure of an individual's effectiveness and commitment. If teachers needs are taken care of with every new plan, then with the other "inputs" (resources and technology) the "output" will be obvious. This study have been undertaken to generate opinion of the B.Ed. college teachers towards newly implemented sixth pay regulations and provide feedback to UGC for assistance in effective implementation. It will also help to ensure maintenance of standard in HE institutions. Thus, the present study, attempts to find out, how the B.Ed. college teachers perceive UGC's Sixth Pay commission regulations (2010) with respect to Recruitment conditions and Qualifications, Career Advancement Scheme, Workload. For this, the researcher feels that, the study of teacher's views in terms of perception study can help in reviewing, monitoring and evaluation of the regulations which is essential for efficiency and effectiveness of education system as a whole.

II. THE BACKGROUND

A number of studies have been conducted to assess the perception of B.Ed teachers with reference to the UGC regulations (2010). Chaturvedi, R.N (1989) carried out a case study on Rajasthan University towards the revised pay scales. He found that the permanent teachers response indicated that there was a positive effect of the revised UGC pay scales in that they have passed the way for recruitment of the required number of teachers with prescribed record and also contributed in making them stay as teachers in the competitive world. Donde, S.(2004) studied on the perception of Degree College Teachers towards Fifth Pay Commission. The findings revealed that all the groups of Degree college teachers gender-wise, experience-wise and discipline-wise have positively perceived above 60% the regulations of the Fifth Pay commission except for one of the regulation i.e. Clock hour basis. Donde, S. (2012) studied on the UGC's Sixth Pay Commission Regulations for Degree College Teachers- A Measure for Maintenance of Standards in Higher Education Institutions. The findings revealed that the regulation related policies need to be studied for their effective implementation and that teachers should be involved in the study. The quality of teaching and the quality of teacher overlap and cannot be easily distinguished. The teaching quality generally represents institutional performance, whereas, the teacher quality is a measure of an individual's effectiveness and commitment.

III. OBJECTIVES

University Grants Commission has formulated several regulations in context of sustaining quality for Higher Education Institutions. To find the perception and the opinions of the B.Ed. teachers of Aided/Govt/Unaided college with special reference to the UGC 'regulations (2010) with respect to Recruitment conditions and Qualifications, Career Advancement Scheme, Workload of teachers appointment as a measure of maintenance of standard of higher education, keeping in view: Gender(Male/Female),Experience(Junior(5-10 rs)/ (Senior>10), Institution-wise (Government/ Aided/ Unaided). To give suggestion to B.Ed. teachers in relation to UGC's regulation of Sixth Pay Commission.To provide the recommendations to higher authorities for effective policy formulation and implementation of UGC's regulations. The present research paper makes an attempt, through perceptions of B.Ed college teachers, to what extent this regulation made by UGC proved it to be of substance.

IV. METHODOLOGY

The study employs the descriptive approach (Survey method) for collection of data from B.Ed college teachers for randomly chosen from Mumbai and parts of Maharashtra. A four point rating scale –ascertaining the perception of the sample (gender-wise, experience-wise and discipline-wise perception of B.Ed college teachers) with respect to UGC's regulation, was the tool used for collecting data

for this study. The data was analysed subjected to descriptive and inferential analysis. 't'-test and 'ANNOVA' was applied to find out any significant difference existed between perception of Gender wise, Experience-wise and Discipline-wise, perception of teachers towards UGC's regulations considered for the study.

Population

All teacher educators of B.Ed. programmes run in Mumbai.

Sample Size

For the present study the sample size remains restricted to one hundred.

All teachers belonged to the same college purposive stratified sampling is done by the researcher. Sample categorized for the study is gender-wise, discipline -wise and institution wise.

V. FINDINGS

Table 1 shows the overall perception of B.Ed. college teachers towards UGC's Sixth Pay regulations with respect to Recruitment and Qualification as a UGC regulation

Table 1 Overall perception of B.Ed college teachers towards Recruitment and Qualification

(Value in terms of percentage)

| Scale I: UGC Regulations related to Recruitment and Qualification (Code 3.0) (Binned) | | | | | |
|---|---------|----------|---------|-------|---------|
| Low | | Moderate | | High | |
| Count | Row N % | Count | Row N % | Count | Row N % |
| 26 | 13.0% | 89 | 44.5% | 85 | 42.5% |

Table 1 shows institution-wise perception of B.Ed. teachers towards Recruitment and qualification as a UGC regulation.

The table 1 shows adequacy of UGC Regulations related to Recruitment and qualification perceived by overall college teachers. 42% of the overall college teacher respondents perceive that UGC regulations related to Recruitment and qualification is highly desirable, and adequate for Recruitment and qualification . Moreover, 44% overall college teachers moderately agrees with the criteria laid down for Recruitment and qualification. Relatively low percentage of the respondent's i.e. 13 % of overall teachers perceive the criteria to be inadequate.

Fig 1 PIE CHART OF OVERALL PERCEPTION TOWARDS UGC'S REGULATION – RECRUITMENT AND QUALIFICATION

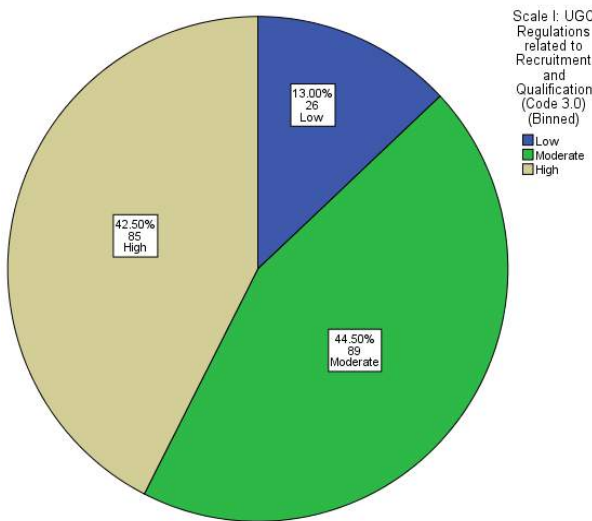


Fig 1 shows pie chart of overall perception towards UGC's Regulation – Recruitment and Qualification

Table 2 shows overall perception of B.Ed college teachers towards UGC's Sixth Pay regulations with respect to Career advancement Scheme as a UGC regulation

Table 2 Overall perception of B.Ed college teachers towards Career advancement Scheme

(Value in terms of percentage)

| Scale: II-UGC Regulations related to Career advancement Scheme (Binned) | | | | | |
|---|---------|----------|---------|-------|---------|
| Low | | Moderate | | High | |
| Count | Row N % | Count | Row N % | Count | Row N % |
| 5 | 2.5% | 159 | 79.5% | 36 | 18.0% |

Table 2 shows perception of B.Ed. teachers towards Career Advancement Scheme as a UGC regulation.

The table 2 shows adequacy of UGC Regulations related to Career Advancement Scheme perceived by overall college teachers. 18% of the overall college teacher respondents perceive that UGC regulations related to Career Advancement Scheme is highly desirable, and adequate for Career Advancement Scheme. Moreover, 79% overall college teachers moderately agrees with the criteria laid down for Career Advancement Scheme. Relatively low percentage of the respondent's i.e. 2 % of overall teachers perceive the criteria to be inadequate.

Fig 2 PIE CHART OF OVERALL PERCEPTION TOWARDS UGC'S REGULATION – CAREER ADVANCEMENT SCHEME

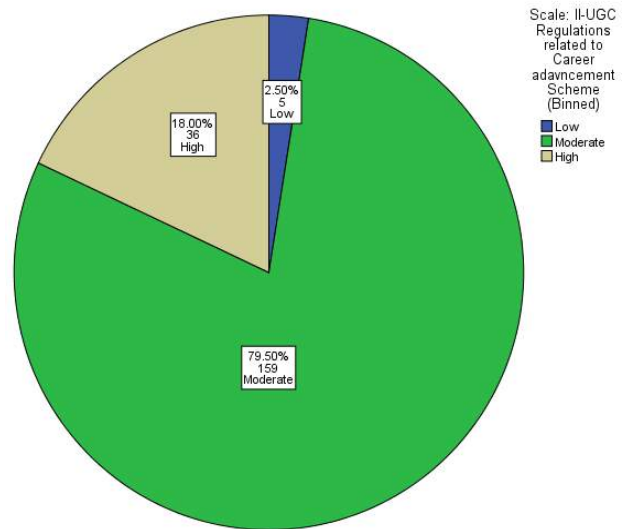


Fig 2 shows pie chart of overall perception towards UGC's Regulation – Career Advancement Scheme

Table 3 shows overall perception of B.Ed. college teachers towards UGC's Sixth Pay regulations with respect to Workload as a UGC regulation

Table 3 Overall perception of B.Ed college teachers towards Workload

(Value in terms of percentage)

| Scale: III-UGC Regulations related to Work Load (Binned) | | | | | |
|--|---------|----------|---------|-------|---------|
| Low | | Moderate | | High | |
| Count | Row N % | Count | Row N % | Count | Row N % |
| 33 | 16.5% | 132 | 66.0% | 35 | 17.5% |

Table 3 shows perception of B.Ed. teachers towards Workload as a UGC regulation.

The table 3 shows adequacy of UGC Regulations related to Workload perceived by overall college teachers. 17% of the overall college teacher respondents perceive that UGC regulations related to Workload is highly desirable, and

adequate for Workload. Moreover, 66% overall college teachers moderately agrees with the criteria laid down for Workload. Relatively low percentage of the respondent's i.e. 16 % of overall teachers perceive the criteria to be inadequate.

Fig 3 PIE CHART OF OF OVERALL PERCEPTION TOWARDS UGC'S REGULATION – WORKLOAD

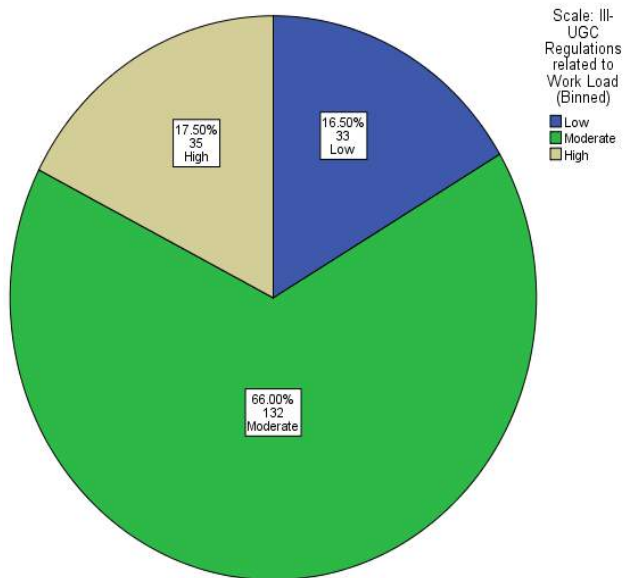


Fig 3 shows pie chart of overall perception towards UGC's Regulation – Workload

1. The findings of the study clearly shows that there is no significant difference in the perception amongst the B.Ed college teachers related to Recruitment and Qualification with respect to UGC regulation 2010, either gender-wise, experience-wise or institution-wise. This could be due to the facts that the teachers are aware of the Regulations laid down by the UGC from time to time. The colleges follow the Regulations laid down by the UGC. They are also aware that, the NET /SET clearance is a must for job and they should fulfill the criteria. The teachers are also aware that Ph.d is also considered for the recruitment of teachers. The position of teachers has also changed from the Lecturer to Asst. Professor. The junior teachers highly agree with this regulation as compared to the senior teachers .Most of the junior teachers are aware of the criteria for getting the Asst. Professor position and of this Regulation. The govt and the aided college teachers highly agree with this regulation. This could be because, their colleges follow this regulation. Thus the teachers have to qualify the NET/SET exam as the competition is increasing and also so that the quality can be raised in the field of education.
2. The study reveals that there is no significance difference in the perceptions of the B.Ed teachers

towards the UGC regulations, 2010, related to Career Advancement Scheme either gender-wise, experience-wise or institution-wise. The reason could be that the teachers are well informed about the Career advancement scheme, as it helps in the upward movement from the entry level grade (stage 1) to the next higher grade (stage 2) for all the Assistant Professors. It also helps in promotion from one grade level to the other. But there are few teachers who are unaware of the career advancement scheme. The analysis also shows that, female teachers are more informed about career advancement scheme as compared to male teachers. The junior teachers moderately perceive the regulation as compared to the senior teachers. This may be because the young teachers are more informed about research work and its benefits as compared to the senior teachers. The government teachers show high perception as compared to aided and unaided college teachers. The few of the unaided college teachers have perceived low. This could be due to the reason that the unaided colleges are not having any motivation from their colleges for research work. Only the aided and government colleges are having the scope for research work. This is the reason why teachers are not having interest for research activities and thereby, lacking quality. Unaided colleges are not allowing their teachers for attending and participating in seminars, conferences, orientation and refresher courses. Many of them who can do much better in academic pursuit, slowly get frustrated and stop spending their valuable time in teaching and research. This is unlikely to solve the problems that have crept in research and teaching. The knowledge and research competence of individuals is a matter of personal commitment and is acquired by sustained efforts of years of hard labour. This also is an indication that the teachers have to be motivated and encouraged for career advancement scheme by the management of their colleges.

3. The study shows that there is no significance difference in the perceptions among the B.Ed teachers towards the UGC regulations, 2010 related to Workload , either gender-wise, experience-wise or institution-wise. The reason could be that most of the teachers know, they must work for minimum of six hours daily in the colleges. The juniors highly perceive this regulation as compared to the senior teachers. The fact that the juniors are more enthusiastic to work, as they are having the attitude to learn and to gain experience. The govt and unaided college teachers highly perceive the regulation as compared to aided college teachers. The teachers of all institutions utilise these six hours in their respective curricular as well as co-curricular

aspects. They also get a relaxation of two hours, for teachers who are actively engaged in extension activities and administration, as mentioned in the regulation. This enhances teachers work commitment and helps in quality achievement. The principals and colleges also encourage and motivate their teachers to get involved in extension and research activities. The reason could be that when it comes to the appointments of teachers in B.Ed. colleges, many of the private colleges are not paying the salary as per the scale. Due to this, many of the teachers are moving from one college to another. The reasons for this regulation to be perceived low, could be because the B.Ed. colleges are not having sufficient staff. All those who venture to opt for jobs in B.Ed. colleges, soon get frustrated because of lack of incentives, appreciation and any financial benefits. Nowadays, the B.Ed. admissions are based on CET exam, so due to delay in CET exams, the admissions are delayed and the enrolment of students are reduced. This has affected the workload of teachers. Due to the less number of student's enrolment, the teachers in B.Ed. colleges are having more workload, as teachers appointed are very few and they are more on a temporary basis. Senior teachers have perceived workload in a highly positive manner than the junior teachers. This could be probably because, senior teachers have more work experience, more job stability and security as compared to junior teachers. Thus the working load of teachers has to be taken care in unaided colleges as the student : teachers ratio is not stable.

The absence of innovation and lack of willingness to overcome rigidity, has crippled the growth of the Indian higher education system. The mind-set of the academicians should change in an appropriate manner. Therefore, the UGC sixth pay recommendations should be taken seriously and given a priority. The level and quality of innovation and research must be given high social and educational relevance.

In a deeper sense, reforming institutions should be better understood as a move to restructure the relationships between universities, the state government, and the society. The above study does not end here, but this project tends to serve as a starting point for us to grab more knowledge about the latest reforms and their impacts on the stakeholders of university education.

Thus, the objective of analysing the UGC regulations 2010 has been fruitful in creating awareness, so that in future there will be no dearth of qualified teachers. A sense of commitment and dedication is to be developed in every teacher.

The specific goal of the present study was to critically analyse and give recommendations and how it will help to improve the quality in the system and performance of teachers. To conclude, the findings of the study make an important

contribution to our understanding of the UGC regulations 2010, its recommendations and the steps taken by the Government of India to implement it. The seventh pay which remains to be implemented, the above review of this sixth pay commission can help in proper formulation and implementation of the seventh pay regulations and to achieve objectives of higher education in contemporary situation. It can be suggested that, if the above given anomalies are handled effectively by policy makers by focusing on proper planning, orientation /training and resource management, the sixth pay regulations can bring about the desired radical change in the higher education system.

VI. CONCLUSION

The results indicated that the though the fifth pay commission has given the recommendations for bringing about the changes. As there were changes in the sixth pay commission. The changes were implemented in all the undergraduate colleges but through this study it was observed that the recommendations were not that fully implemented in the B.Ed colleges as many of the unaided college teachers are unaware of the API scores or even if they are aware their colleges have not implemented. The sixth pay regulations have given many new things which can help the upliftment and up gradation of teachers but through this study the results shows that the most of the B.Ed college teachers are unaware of the UGC Regulation, 2010. The above mentioned findings indicate that the Sixth Pay Regulations are not truly implemented as it has to be in B.Ed colleges. The most of the teachers are unaware of API scores, Career Advancement Scheme, work load, are existing among most of the B.Ed. colleges. Now with the upcoming seventh pay regulation can bring the change in the system .The B.Ed colleges have to see to it that the quality can be developed and encourage and motivate the teachers for more and more participation in research based activities which will help them for future. So it's high time as teachers we need to accept all these challenges, as we are part and parcel of the present education system.

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Original Research Article

<https://doi.org/10.20546/ijcmas.2018.705.026>

Study of Fish Diversity in Vaitarna River of Wada Taluka of Palghar District in Maharashtra, India

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*Corresponding author

ABSTRACT

Study of biodiversity has become very essential for scientific data banking as unexpected abrupt climatic changes occurring regularly. This is mainly due to unchecked anthropogenic activities happening in the name of development. Riverine fishery is livelihood of many and also fish diversity of any region has great significance in environmental assessment of that region. The present research work was carried out to assess the fish diversity at Vaitarna River flowing in Wada Taluka region of Palghar district in Maharashtra. For the present study river water analysis of six villages and its fish diversity was accounted in context to the developments in the area such as industries, warehouses, etc. The finding of the study revealed that the quality of the river water is affected due to establishment of industries on the river bank and least attention of the authorities and non-adherence of the policies by the industries to compulsorily treat effluents. The fish fauna study unfolded the depleting conditions, as the survey conducted in the fish market and among fishermen community revealed disappearance of many species and deteriorating quality of existing species. Only four species were identified and among this Actinopterygii was a major class of fish observed. Overall study revealed that Fish diversity along this region was less in comparison to previous years. Study of this nature is important for restoration of water bodies and revival of fish diversity and improving livelihood of poor fisherman community in the rural region.

Keywords

Wada Taluka, Fish Diversity, Actinopterygii, Vaitarna River

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Introduction

India has a rich biological background that show it is one of the nation with mega diversity of the world. There are 1000 of small and big rivers in India. Rivers are place of freshwater and are dynamic in environmental conditions. Rivers are areas of physical and biological transition between the lands. Importance of rivers is well understood in many parts of the world as breeding and

nursery grounds for a wide variety of fishes. The mangrove ecosystem of river in India act as a nursery ground for a variety of shrimps, crabs and fin-fishes. River environments are among the most productive on earth creating more organic matter each year than comparably sized areas of forest, grasslands or agricultural land and have important commercial value with providing economic benefits for fisheries, tourism and recreational activities. Fishes form one of the most

important groups of vertebrates influencing life in various ways. Fish plays an important role as it is not only useful for food but also be used in recreation and biological control. The Thane district (Now divided into two districts Thane and Palghar) alone shares about 23.6% of the total fish landing from Maharashtra. Today rivers are heavily exploited and are among the most threatened ecosystems. Hence it is necessary to carefully assess the diversity status in these ecosystems. Present study deals mainly with diversity of fishes along Vaitarna River.

Materials and Methods

Vaitarna River was visited from 2nd January 2018 to 16th January 2018. The fishes were collected by local fishermen by using different type of nets *e.g.* Cast net, hand net, purse seine and gill nets.

Analysis of catch was done. The fishes caught were examined for their colour or spots present on their body and recorded on the field. The species were ascertained on the basis of various morphometric characters with the help of Day (1888). This region has not assessed for any ecological study before. Hence, it is chosen to assess fish diversity.

Results and Discussion

The fish diversity at Vaitarna River from Wada was studied from 2nd January 2018 to 16th January 2018. The present study has revealed that there are about 4 fish species were observed during the span of two weeks of study. These 4 species were belonging to major class. Actinopterygii and only one species belong to Malacostraca. The quantity of fish has decreased compare to the previous year data with current year data due to the industrial setup and development at the bank of the river. This has led to the depletion of

aquatic fauna and quality and quantity of the fish. The livelihood of fisherman is under threat in this area.

The water quality monitoring in this area is performed in order to determine the quality of water. Various parameters are analysed in the laboratory and 8 parameters are tested at field level. All these tasks recorded are utilized for preparing these report. This data is considered in order to specify the quality of water at each location. This also helps to determine the pollution level or concentration in each source of water at each station. The growing industries and release of effluents has led to contamination of water in this area which is analysed and noted below.

Study reveals that in recent period there is growing industrialization and other developments in Wada taluka of Palghar district in Maharashtra, India. Due to the development and several anthropogenic activities there is huge scarcity of water and available water is getting polluted, which is mainly due to failure of system with respect to water management and conservation initiatives. Vaitarna River which flow from Nashik district towards Palghar district in Maharashtra passes through Wada taluka. The banks of river and its tributaries in Wada region is getting polluted and almost dried in many areas. Water quality deterioration is evident from the physio-chemical analysis as shown in the findings of the water sample collected of the area (Fig. 1) water quality is deteriorating in this area. pH of the water is turning acidic. Hardness level of the water is also increased, as the physio-chemical parameter of water is affected. It has been reported by Chatterjee (2017) that the upper stretches of Vaitarna are clean but in lower stretches it's polluted due to untreated industrial and civic waste. All this have resulted in low fish production and fish catch in Wada Taluka.

Previous status of fish in the river

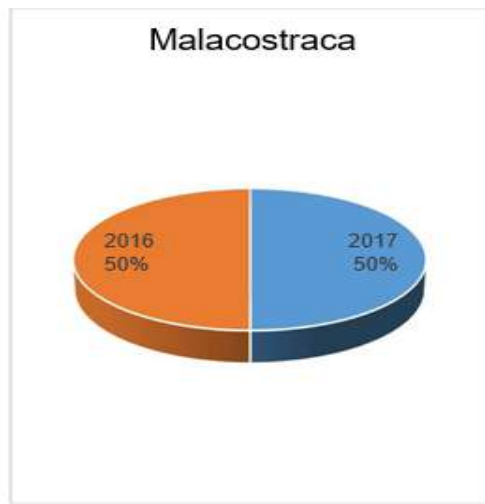
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| 1 | Actinopterygii | Siluriformes | Clariidae | <i>C. yariepinees</i> | Mangur |
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Water analysis report

| Sr. No | Parameters | Bedrock Factory | Karizma Steel Factory | Enrich Factory | Residential area |
|--------|-------------|-----------------|-----------------------|----------------|------------------|
| 1 | pH | 6.89 | 5.67 | 6.7 | 7.62 |
| 2 | Hardness | 193 | 278 | 116 | 45 |
| 3 | DO | 0.12 | 0.56 | 0.1165 | 6.3 |
| 4 | CO2 | 16 | 31 | 20 | 11 |
| 5 | Nitrate | 0.016 | 0.02 | 0.02 | 0.01 |
| 6 | Temperature | 24.23 | 24.66 | 20 | 23.5 |
| 7 | Alkalinity | 125 | 193 | 178 | 97 |
| 8 | TDS | 78.3 | 69.3 | 53.3 | 46 |



Status of fish in Vaitarna river

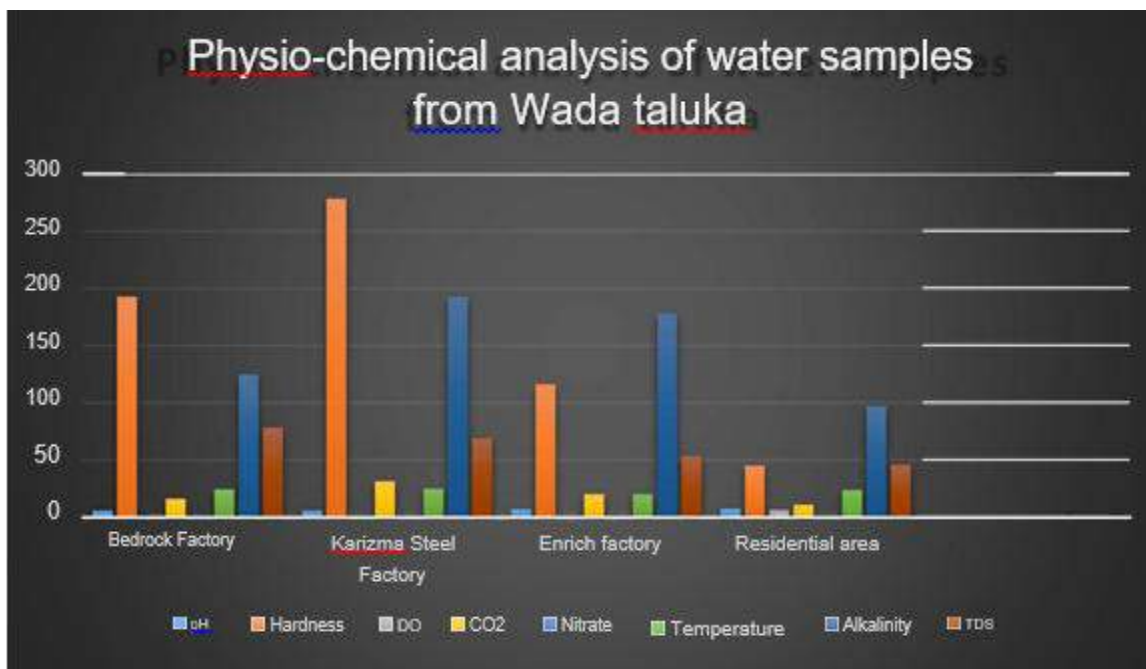


Gibelion Catla (Catla)



Fenneropenarusindius (Kolambi)

Fig.1 Physio-chemical analysis of effluents from factories on river banks and water sample collected from catchment area



This led to the low income of the fisherman due to which they are involved in non-fishing activity. Thus to increase fish catch and fish production, for improving the livelihood of fisherman following recommendation are suggested:

Proper implementation of Government policy.

Introduction and training of new techniques in fishing should be provided to fisherman.

Industrial set up should be allowed with proper sewage treatment plant.

Continuous monitoring of Vaitarna River and its stream by NGO's, Government authorities with the help of students will help to create awareness in the community.

Such initiative will increase fish production in the Vaitarna River and its stream which will generate a good income to fishermen for upgrading their livelihood.

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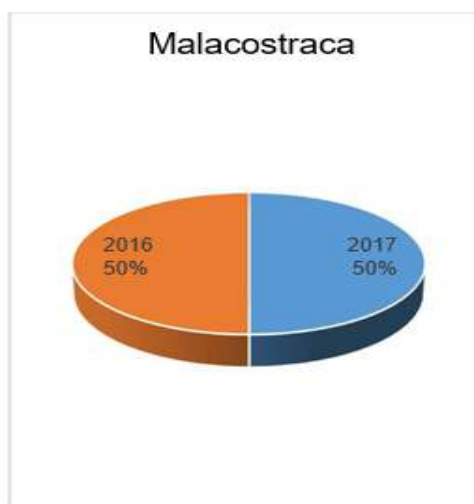
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Water analysis report

| Sr. No | Parameters | Bedrock Factory | Karizma Steel Factory | Enrich Factory | Residential area |
|--------|-------------|-----------------|-----------------------|----------------|------------------|
| 1 | pH | 6.89 | 5.67 | 6.7 | 7.62 |
| 2 | Hardness | 193 | 278 | 116 | 45 |
| 3 | DO | 0.12 | 0.56 | 0.1165 | 6.3 |
| 4 | CO2 | 16 | 31 | 20 | 11 |
| 5 | Nitrate | 0.016 | 0.02 | 0.02 | 0.01 |
| 6 | Temperature | 24.23 | 24.66 | 20 | 23.5 |
| 7 | Alkalinity | 125 | 193 | 178 | 97 |
| 8 | TDS | 78.3 | 69.3 | 53.3 | 46 |



Status of fish in Vaitarna river

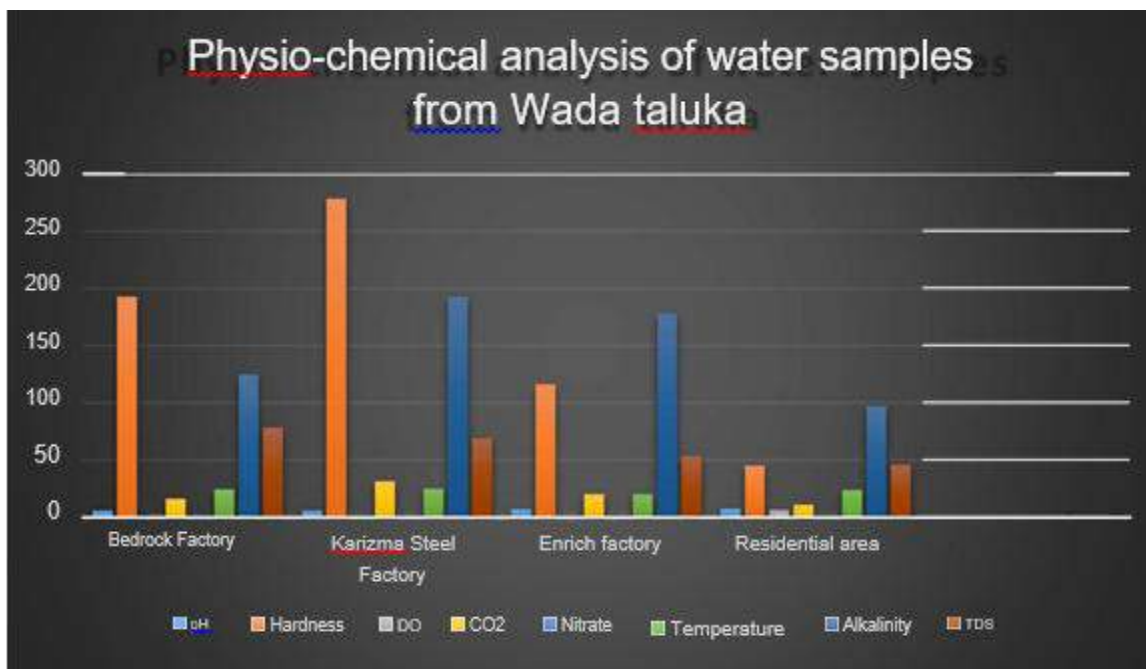


Gibelion Catla (Catla)



Fenneropenarusindius (Kolambi)

Fig.1 Physio-chemical analysis of effluents from factories on river banks and water sample collected from catchment area



This led to the low income of the fisherman due to which they are involved in non-fishing activity. Thus to increase fish catch and fish production, for improving the livelihood of fisherman following recommendation are suggested:

Proper implementation of Government policy.

Introduction and training of new techniques in fishing should be provided to fisherman.

Industrial set up should be allowed with proper sewage treatment plant.

Continuous monitoring of Vaitarna River and its stream by NGO's, Government authorities with the help of students will help to create awareness in the community.

Such initiative will increase fish production in the Vaitarna River and its stream which will generate a good income to fishermen for upgrading their livelihood.

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How to cite this article:

Snehal Subhash Donde and Akshay Laxman Patil. 2018. Study of Fish Diversity in Vaitarna River of Wada Taluka of Palghar District in Maharashtra, India. *Int.J.Curr.Microbiol.App.Sci*. 7(05): 201-206. doi: <https://doi.org/10.20546/ijemas.2018.705.026>

Heavy metal pollution correlation with mangrove (*Avicennia marina*) carbon sequestration in Dahisar creek of Mumbai region, India

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(Received 5 October, 2017; accepted 25 November, 2017)

ABSTRACT

Heavy metal is very essential micronutrient which is required for mangrove growth but excess amount of these nutrients may adversely affect the mangrove growth and its functioning. Mangroves and their sediments act as natural sinker for heavy metals because they highly sequester such metals from tidal waters, anthropogenic pollution, mining activity and industrial waste. Dahisar creek sediment contains large quantity of heavy metals concentration due to discharge of anthropogenic pollutions. Seasonal observation shows that, heavy metal concentrations was highest in post monsoon season followed by monsoon and was lowest in the pre monsoon season. Mangrove roots act as barrier for metal translocation as well as carbon sequestration. Hence the study shows seasonal heavy metal pollution level affect the mangrove plant and its sequestration capacity. *Avicennia marina*, a dominant mangrove species inhabiting in Dahisar creek of Mumbai region as well as it is more sturdy species in mangrove community with respect to pollution. CHNS analyzer was used for estimation of total carbon sequestration in mangrove plant. Subsequently sediment heavy metals pollution was assessed and results are correlated with mangrove carbon sequestration, to understand its impact & severity on mangrove and its carbon sequestration capacity. Overall finding demonstrates that Dahisar creek mangrove absorbs and accumulates higher quantities of heavy metals and it is shown significant correlation with carbon sequestration capacity.

Key words : Dahisar creek, Heavy metal pollution, Carbon sequestration, Correlation

Introduction

Coastal areas are largely affected by different anthropogenic pollutions, i.e. domestic sewage, oil spilling, agricultural and industrial waste. These pollutants are the major sources of heavy metal pollution. Heavy metals are mainly released into the environment from earth crust, metal smelting, refining industries, scrap metal, plastic and rubber industries. Metal pollution create more serious environmental problem because of their non degradable nature. It is also difficult to remove them completely from the environment once they enter into it.

Coastal area is the suitable place for mangrove growth therefore this ecosystem is extremely exposed to heavy metal pollutants from various sources. Some heavy metals act as an essential nutrient for mangrove plants on other hand some are toxic as well. Many studies have shown that heavy metals toxicity, bio-accumulation capacity and persistence are creating serious issue for mangrove ecosystem (Harbison, 1986; Lacerda, 1993; Mackey, 1995; Tam, 1996; and Clark, 1998).

Heavy metals concentration within mangrove sediments is increasing every year as a result of pollution and activities caused by developmental

growth and urbanization (Basamba, 2010; Agoramorthy 2008). Its high concentrations are a major threat to mangrove biodiversity because of their persistence and toxicity. Heavy metals are transported in mangrove plants by water or wind to coastal areas, where they can be deposited in sediment. This sediment can transfer the heavy metal pollutions to the mangrove tree and plant tissues (Mackey, 1995; MacFarlane, 2003; Defew, 2005). Mangrove has the capability to absorb and store heavy metals in its sediment, because of the physico-chemical properties of these sediment (Mackey *et al.*, 1995). Therefore sediment is a good indicator of heavy metal concentration (Tam *et al.*, 2000). Dahisar creek study site is suffered by heavy metal pollution because many types of pollutants are regularly discharged into water body. This study reveals that, seasonal variation of heavy metal concentration along the study site and its correlation with mangrove (*Avicennia marina*) carbon sequestration.

Materials and Methods

Sediment sampling was carried out in pre monsoon (April to May), monsoon (July to August) and post monsoon (November to December) seasons from three different locations around the study site. Metal shovel was used to collect sediment samples at 5 - 20 cm depths. Subsequently collected samples were analyzed for heavy metals, i.e Aluminum (Al), Chromium (Cr), Manganese (Mn), Iron (Fe), and Zinc (Zn). All these parameters were measured on a Perkin Elmer (Analyst 300/600) and Atomic Absorption Spectrometry (AAs). Seasonal mangrove samples & methods were selected in such a way to achieve our objective as stated above. The boal biomass allometric equation was used to estimation of mangrove biomass.

This equation provides acceptable estimation of stem plus branch volume. To estimate of carbon se-

questration, average sized and aged mangrove samples were collected randomly as well as CHNS analyser instrument was used for the estimation of total carbon percent (%). Further to above result, Pearson correlation method were use to understand heavy metal impacts, severity & relationships with mangrove carbon sequestration.

Results

Seasonal sediment sampling was carried out from three different locations around the Dahisar creek study site, moreover seasonal comparison of heavy metal concentration is given in Table 1.

Manganese (Mn) is constructive for mangrove growth but its high concentration is harmful as well. As per seasonal observations, Manganese shows high concentration than any other heavy metals. Higher concentration of Manganese was recorded in the post monsoon season, i.e 767 (749 ± 791) µg/g. Geology of the Mumbai region consists of basalt rock due to this Aluminium (Al) and Iron (Fe) concentration was found on higher side. During assessment these heavy metals concentration was found in the range of 4.5 to 4.9 % and 5.8 to 7.3 % respectively. Major source of Chromium in the water body due to electroplating, tanning industries and anthropogenic pressure. Study site coastal area faces lots of anthropogenic pressure which is also one of the sources for Cr pollution. Thus seasonal chromium concentration was found in the range of 229 to 260 µg/g. Zinc concentration is never in short supply in aquatic sediment. Dahisar creek study sites Zinc (Zn) concentration was (396 to 431 µg/g), which is higher side. High zinc concentration accumulating in mangrove leaves which may affect photosynthesis process. Seasonal observation shows that the heavy metal concentrations was highest in post monsoon (winter season) season followed by monsoon and was lowest in the pre monsoon (summer

Table 1. Seasonal heavy metal analysis results – Dahisar creek

| No. | Parameter | Units | Pre monsoon (April -May) | Monsoon (July to Aug.) | Post monsoon (Nov. to Dec.) |
|-----|----------------|--------|-----------------------------|---------------------------|--------------------------------|
| 1 | Al (Aluminium) | (%) | 4.5 (4.1 ± 5.1) | 4.6 (4.2 ± 4.9) | 4.9 (4.7 ± 5.2) |
| 2 | Cr (chromium) | (µg/g) | 229 (216 ± 247) | 237 (220 ± 252) | 260 (241 ± 284) |
| 3 | Mn (Manganese) | (µg/g) | 758 (742 ± 782) | 729 (651 ± 792) | 767 (749 ± 791) |
| 4 | Fe (Iron) | (%) | 5.8 (5.4 ± 6.2) | 6.3 (61 ± 66) | 7.3 (6.9 ± 7.7) |
| 5 | Zn (Zinc) | (µg/g) | 426 (411 ± 443) | 431 (417 ± 443) | 396 (387 ± 405) |

season). Heavy metal concentration is directly correlated to mangrove growth. Consequently the observed heavy metal concentration is high and it is harmful to mangrove growth and functioning.

Carbon sequestration

Dahisar creek seasonal carbon sequestration results are given in the Table 2 and graphical carbon sequestration is shown in Fig. 1.

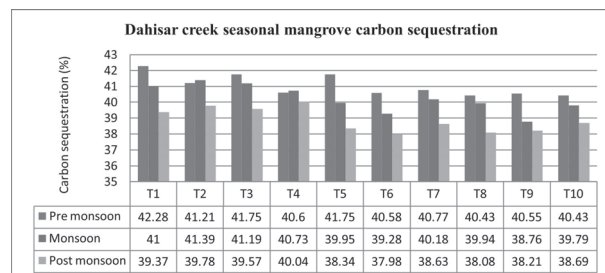


Fig. 1. Dahisar creek mangrove carbon sequestration in selected transects

Carbon sequestration study was completed in pre monsoon, monsoon and post monsoon seasons. Study site seasonal observation shows that, percentage of carbon sequestration was highest in pre-monsoon, i.e. 40.43 % to 42.28 % and average was recorded 40.99 %. Monsoon carbon sequestration range was 38.76 % to 41.39 % and average was 39.94%. Least carbon sequestration was recorded in post-monsoon, i.e. 38.08 % to 40.04 and average was 38.74%). Out of ten transects mangrove carbon sequestration was highest in T1, i.e. (42.28 %) and its

dried biomass was recorded (46.80 kg). Subsequently mangrove carbon sequestration was lowest in transect no. T6, i.e. (37.98 %) and its dried biomass was recorded (36.50 kg). Van Noordwijk (1997) reported that carbon stock in the mangrove forest depend upon different species and biomass. Subsequently above results also shows that high dried biomass records high carbon sequestration because it has direct correlation between these two variables.

Heavy metals and mangrove carbon sequestration correlation matrix

The heavy metal and mangrove carbon sequestration correlation coefficient study was carried out to identify the impact, severity between these two variables. Dahisar creek heavy metal assessment and its correlation study were measured in three seasons (i.e. Pre monsoon, Monsoon and Post monsoon). The detail finding and results are shown in the Table 3 & and graphical comparison is shown in Fig. 2.

Mangrove plants have specific adaptation system, so they respond in different way in different heavy metal concentration. Seasonal observation shows that, study site aluminium concentration is significantly correlated with mangrove carbon sequestration, i.e. ($r = -0.981$ & $r = -0.960$) in pre monsoon and monsoon respectively. Chromium is one of the heavy metal which is important for plant growth but its high concentration will affect the mangrove growth as well. However it shows high significant (positive and negative) correlation ($r = 0.968$, $r = -0.941$ & $r = -0.767$) in all three seasons. Manganese (Mn) is very commonly found in natural water and

Table 2. Seasonal mangrove carbon sequestration – Dahisar creek

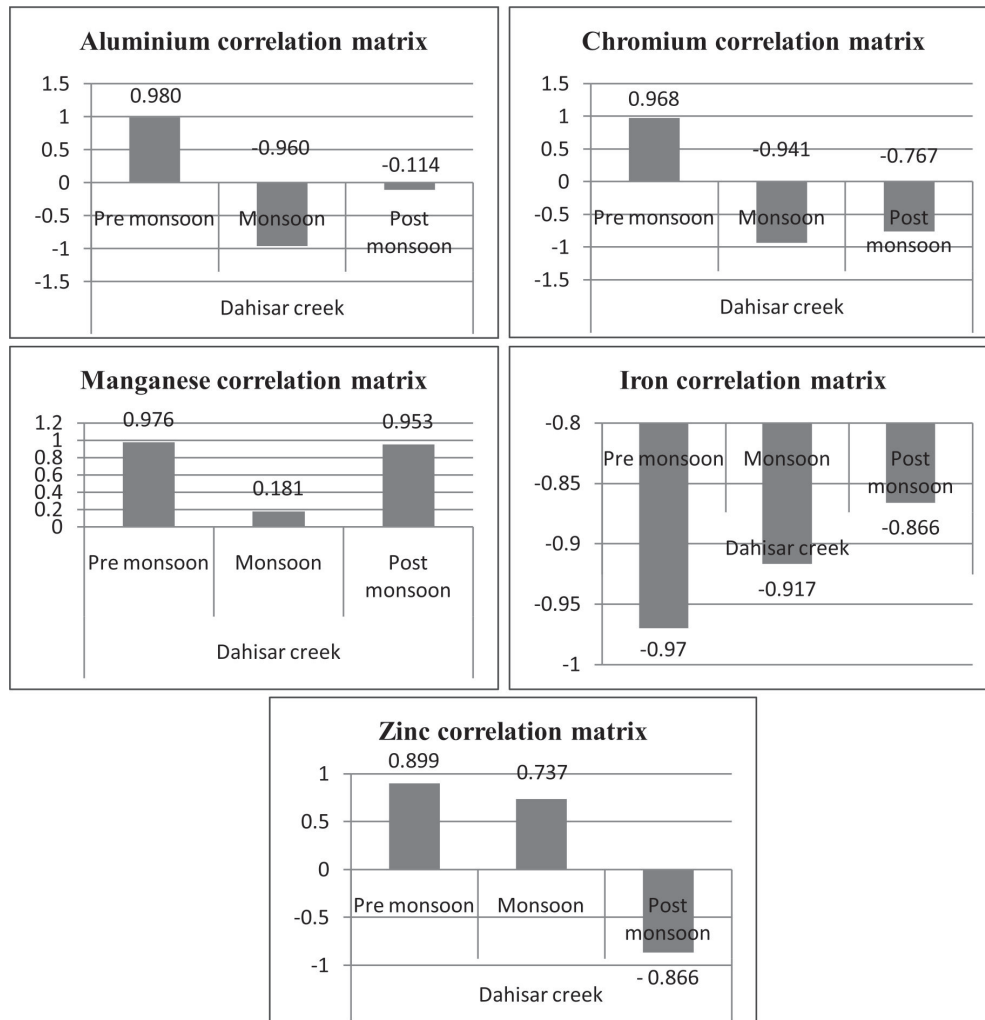
| Stn. | Pre monsoon | | Monsoon | | Post monsoon | |
|------|---------------|--------------------------|---------------|--------------------------|---------------|--------------------------|
| | Biomass (kg.) | Carbon sequestration (%) | Biomass (kg.) | Carbon sequestration (%) | Biomass (kg.) | Carbon sequestration (%) |
| T1 | 46.801 | 42.28 | 50.267 | 41.00 | 55.169 | 39.37 |
| T2 | 22.885 | 41.21 | 25.160 | 41.39 | 29.392 | 39.78 |
| T3 | 23.407 | 41.75 | 26.890 | 41.19 | 30.703 | 39.57 |
| T4 | 14.852 | 40.60 | 18.012 | 40.73 | 20.967 | 40.04 |
| T5 | 26.190 | 41.75 | 30.656 | 39.95 | 33.432 | 38.34 |
| T6 | 30.943 | 40.58 | 33.468 | 39.28 | 36.506 | 37.98 |
| T7 | 41.835 | 40.77 | 47.822 | 40.18 | 38.63 | 38.63 |
| T8 | 51.482 | 40.43 | 53.371 | 39.94 | 38.08 | 38.08 |
| T9 | 78.441 | 40.55 | 86.120 | 38.76 | 90.141 | 38.21 |
| T10 | 28.517 | 40.43 | 31.946 | 39.79 | 34.037 | 38.69 |
| Avg. | 36.53 | 40.99 | 40.37 | 39.94 | 43.52 | 38.74 |

Table 3. Heavy metal & mangrove carbon sequestration correlation matrix

| No. | Heavy metal | Pre monsoon carbon seq. | Monsoon carbon seq. | Post monsoon carbon seq. |
|-----|----------------|-------------------------|---------------------|--------------------------|
| 1 | Al (Aluminium) | 0.981 | -0.960 | -0.114 |
| 2 | Cr (Chromium) | 0.968 | -0.941 | -0.767 |
| 3 | Mn (Manganese) | 0.976 | 0.181 | 0.953 |
| 4 | Fe (Iron) | -0.970 | -0.917 | -0.866 |
| 5 | Zn (Zinc) | 0.899 | 0.737 | -0.866 |

coastal sediment. Study site correlation matrix shows, manganese has a high significant positive correlated with mangrove carbon sequestration, i.e. ($r = 0.976$, $r = 0.181$ & $r = 0.953$). Thus its high concentration may probably affect on mangrove carbon sequestration process. Iron is one of the micronutrient which is essential for mangrove growth and functioning but its high concentration is harmful to

this ecosystem. However correlation matrix shows iron has a high significant negative correlation, i.e. ($r = -0.970$, $r = -0.917$ & $r = -0.866$) in pre monsoon, monsoon and post monsoon respectively. Zinc concentration is never in short supply in aquatic sediment. It is essential micronutrients required in metabolism in mangrove plant (Shaw, 1990). As per correlation matrix report, zinc correlation shows

**Fig. 2.** Graphical comparisons of heavy metal & carbon sequestration correlation

high significant positive and negative correlation i.e. ($r = 0.899$, $r = 0.737$ and $r = -0.866$) in pre monsoon, monsoon and post monsoon respectively. Hence increase in zinc concentration definitely affect respiration and growth rate of mangrove ecosystem.

Discussion

Dahisar creek study site is polluted due to continuous increase of heavy metal levels in the sediment. These metals are bio-accumulating in mangrove plant and they are likely to affect their growth, functioning and metabolism activity. Heavy metal excess amount may show some adverse effect on mangroves (Lovelock, 2009). Study site seasonal observation shows that monsoon heavy metal concentration was high than pre monsoon. It is due to increase in land runoffs and influx of metal rich water in the sediments giving rise to elevated metal levels. Subsequently post monsoon heavy metal concentration level is little higher than monsoon, wherein all metal rich water is stored or settled in coastal sediment. On other hand seasonal carbon sequestration analysis results shows that, mangrove carbon sequestration was highest in pre-monsoon, followed by monsoon and least in post-monsoon season. It means these metal concentrations may affect the mangrove plant and its carbon sequestration capacity. A correlation study was carried out to understand its impact & severity on mangrove carbon sequestration. According to correlation results, study site heavy metal concentration show significant correlation with mangrove carbon sequestration. It means mangrove carbon sequestration is significantly affected whenever these heavy metals increase or decrease. *Avicennia marina* has a greater tolerance and accumulative properties to numerous metals than any other mangrove species (Mac Farlane, 2002), But, this study reveal that such a natural fighter against pollution is constantly being affected by the rising level of metal pollution.

Acknowledgement

Authors are grateful to Dr. Gajbhiye – Chief scientist, National Institute of Oceanography, Mumbai for providing laboratory facilities to carry out the above analysis work.

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Water pollution association with mangrove carbon sequestration in Mithi river

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(Received 14 June, 2017; accepted 10 September, 2017)

ABSTRACT

Mangrove ecosystem is strongly bound to the coastal environment which survives and flourishes in good quality of water and within its tolerance level. This ecosystem is very sensitive to water pollution and it has direct relationship with mangrove functioning. Minor changes in water quality can cause noticeable mortality and severe damage of mangroves ecosystem. However its mortality is the best indicator of global warming, climate change and severity of water pollution. The pilot study was conducted in Mithi river mangrove site which is constantly facing small industrial effluent, domestic sewage and solid waste which is major cause of pollution. As a result study site water quality is intensely polluted and it is seriously affecting mangrove growth and its sequestration capacity. *Avicennia marina* is one of the most dominant mangrove species in study site therefore it was selected for the assessment. Consequently CHNS instrument was used for estimation of total carbon. Pearson correlation matrix were use to understand water pollution impact and severity on mangrove sequestration. This study reveals that Mithiriver is highly polluted and this pollution definitely affects mangrove growth, quality and functioning.

Key words : Carbon sequestration, Water pollution, *Avicennia marina*, Correlation study.

Introduction

Global warming is one of the serious problems in the present scenario which shows negative impact on environment. Mangrove helps in sequestration of carbon and reducing greenhouse gases from the atmosphere. Mangrove is a productive ecosystem and its play an important role in the carbon cycle. It removes CO₂ from the atmosphere and stores it as carbon in plant and soil. Mangroves have the highest net productivity of carbon of any natural ecosystem therefore it is also called as carbon factory (Feb. 2007 issue of National Geographic). Water quality is reflecting study site existing pollution status (Bhaware Budharatna *et al.*, 2013). The Mumbai and adjacent marine environment is intensely polluted

and heavily pressurized by various anthropogenic interference. Pollution has affected the physico-chemical characteristics of water as well as disturbed coastal mangrove habitat. Water pollution has direct relationship with mangrove growth and functioning so changes in water quality can damage of mangroves ecosystem (Pravin and Snehal, 2015). Mangrove ecosystem is well flourishing in some special physicochemical characteristics. They are not only influenced by chemical and physical conditions of their environment, but they also help to create those conditions by themselves (Kjerfve, 1997 -99). Subsequently other environmental factors like temperature, salinity and rainfall are important key determinants that have a strong influence over the growth, survival and distribution of mangroves

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(Blasco, 1984). Mangrove and water samples were collected from Mithi river. These water bodies are treated like an open drain by the citizens, due to this reason water quality is contaminated and pollution levels has reached an alarming stage (NEERI-2011, MPCB Report 2004). This pollution may threat to mangrove ecosystem therefore it is essential to check in scientific manner.

Materials and Methods

Seasonal mangrove sampling was done from selected quadrant; each quadrant dimension contains 10m x 10m area. Total 10 quadrants were plotted and its selection depends on the vegetation type (dense and sparse). The boal biomass allometric equation formula is used (Ravindranath and Ostwald 2008) to calculate the fresh above and below ground biomass. This equation is based on breast height diameter (DBH) and tree height (H) which provides acceptable estimation of stem plus branch volume. Mature mangrove plant was chosen

from selected transect and approx.100 g of fresh weight of each component (leaves, stem and roots) was measured for further analysis. The CHNS analyser instrument was used for estimation of total carbon percent (%) in samples. Water samples were collected from pre-decided locations and period. Seasonal water analysis study was conducted for comparison and measures typical behaviour of some parameter over the period. The water samples were collected in 1 liter pre-cleaned glass/plastic bottles. Highly unstable parameters were measured on site and remaining samples were analysis within the stipulated time period with APHA standard methods.

Results

Mithi river seasonal carbon sequestration results are given in the Table 1, 2 & 3. and graphical carbon sequestration is shown in Figure 1.

Carbon sequestration in the mangrove forest depends on geographical location, mangrove species

Table 1. Mithi river - Pre monsoon mangrove biomass and carbon sequestration

| No. | Sample | Tran.1 | Tran.2 | Tran.3 | Tran.4 | Tran.5 | Tran.6 | Tran.7 | Tran.8 | Tran.9 | Tran.10 | Avg. |
|-----|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| 1 | Mangrove dried biomass (kg.) | 41.835 | 26.957 | 22.279 | 52.046 | 15.162 | 23.407 | 19.803 | 9.505 | 38.679 | 14.826 | 26.449 |
| 2 | Mangrove carbon sequestration (%) | 44.64 | 44.74 | 44.69 | 44.54 | 44.03 | 43.99 | 44.21 | 44.28 | 44.18 | 44.29 | 44.32 |
| 3 | Mangrove carbon sequestration (kg.) | 18.675 | 12.060 | 9.956 | 23.181 | 6.675 | 10.296 | 8.754 | 4.208 | 17.088 | 6.566 | 11.722 |

Table 2. Mithi river - Monsoon mangrove biomass and carbon sequestration

| No. | Sample | Tran.1 | Tran.2 | Tran.3 | Tran.4 | Tran.5 | Tran.6 | Tran.7 | Tran.8 | Tran.9 | Tran.10 | Avg. |
|-----|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| 1 | Mangrove dried biomass (kg.) | 45.198 | 29.450 | 25.654 | 54.128 | 17.791 | 17.791 | 24.602 | 11.804 | 45.198 | 17.884 | 28.950 |
| 2 | Mangrove carbon sequestration (%) | 44.64 | 43.47 | 44.05 | 44.34 | 42.74 | 42.44 | 43.41 | 42.76 | 43.17 | 42.69 | 43.43 |
| 3 | Mangrove carbon sequestration (kg.) | 20.176 | 12.801 | 11.300 | 24.000 | 7.603 | 7.550 | 10.679 | 5.047 | 19.511 | 7.634 | 12.572 |

Table 3. Mithi river - Post monsoon mangrove biomass and carbon sequestration

| No. | Sample | Tran.1 | Tran.2 | Tran.3 | Tran.4 | Tran.5 | Tran.6 | Tran.7 | Tran.8 | Tran.9 | Tran.10 | Avg. |
|-----|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| 1 | Mangrove dried biomass (kg.) | 46.067 | 33.493 | 28.034 | 56.210 | 19.660 | 19.660 | 25.746 | 13.646 | 49.609 | 19.308 | 31.143 |
| 2 | Mangrove carbon sequestration (%) | 40.71 | 40.43 | 40.57 | 40.36 | 40.01 | 39.50 | 39.69 | 40.13 | 39.25 | 39.26 | 39.99 |
| 3 | Mangrove carbon sequestration (kg.) | 18.753 | 13.541 | 11.373 | 22.686 | 7.865 | 7.765 | 10.218 | 5.476 | 19.471 | 7.580 | 12.454 |

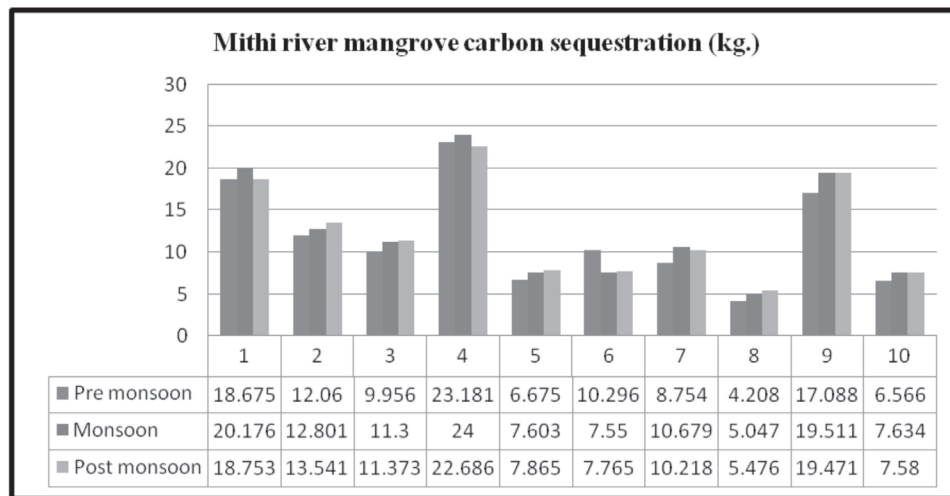


Fig. 1. Mithi river mangrove carbon sequestration in selected transects

and their biomass. Mithi river mangrove biomass (tree height and girth at breast level) was calculated which varies as per age of plantation. As per survey mangrove biomass was recorded in the range of 9.50 kg to 56.21 kg. This observed biomass was used for determination of mangrove carbon sequestration. The seasonal mangrove carbon sequestration was recorded highest in fourth transect, i.e. (23.18, 24.00 & 22.68 kg) and its dried biomass was recorded (52.04, 54.12 & 56.21 kg) in pre-monsoon, monsoon and post monsoon respectively. Subsequently lowest carbon sequestration was recorded in eighth transect, i.e. (4.20, 5.04 & 5.47 kg) and its dried biomass was recorded (9.50, 11.80 & 13.64 kg) in different seasons. The above results shows that Mithi river seasonal carbon sequestration ratio was highest in pre-monsoon (44.32 %), followed by monsoon

(43.43 %), and least in post-monsoon (39.99 %) respectively. Environmental factors are important key determinants that have a strong influence on the growth, survival and distribution of mangroves (Blasco1984). However, pollution severely affects mangrove growth and its sequestration capacity (Kadam, 1992).

Seasonal water quality assessment

Mithi river detailed seasonal comparison of water physicochemical parameter are given in Table 4.

Study areas seasonal highest temperature was recorded in pre monsoon (32°C), followed by monsoon (27°C) and least in post monsoon season (29°C) respectively. Observed temperature was within limits therefore it is favorable to mangrove growth and its sequestration capacity. Seasonal water pH was in

Table 4. Seasonal comparison of water analysis results

| Sr. No. | Parameter | Unit | Mithiriver | | |
|---------|-------------|--------|--------------------|----------------|---------------------|
| | | | Pre monsoon (2015) | Monsoon (2014) | Post monsoon (2014) |
| 1 | pH | - | 7.3 | 7.0 | 7.5 |
| 2 | Temperature | (°C) | 32 | 27 | 29.0 |
| 3 | Salinity | ppt | 21.3 | 17.8 | 20.0 |
| 4 | DO | mg/l | 2.8 | 4.3 | 2.5 |
| 5 | COD | mg/l | 150.2 | 104.3 | 17.9 |
| 6 | BOD | mg/l | 31.5 | 19.0 | 1.0 |
| 7 | Silicate | mg/l | 6.87 | 7.21 | 7.3 |
| 8 | Ammonium | µmol/l | 122.8 | 106.2 | 134.0 |
| 9 | Nitrite | µmol/l | 0.7 | 0.4 | 0.6 |
| 10 | Phosphate | µmol/l | 19.38 | 15.8 | 16.7 |

the range of 7.0 to 7.5, i.e. neutral. This pH was constructive for mangrove growth, because water pH is directly correlated with growth of mangrove seedling. Mithi river study site affected by tidal activity hence its water salinity is high throughout the year. The highest salinity was found in pre monsoon season (21.3 ppt), and the least in monsoon (17.8 ppt). Salinity plays a vital role in the distribution of species, their productivity and growth of mangrove forests. Consequently mangrove high salinity reduces leaf area, increases leaf sap osmotic pressure. Water dissolved oxygen level is very poor, i.e. 2.8, 4.3 and 2.5 mg/L in pre monsoon, monsoon and post monsoon respectively. Low DO is probably due to high organic load contributed by sewage or decomposed garbage of the study site. Seasonal BOD concentration was higher than standards, it shows that, Mithi river water body is highly polluted and this kind of water is not favourable for mangrove ecosystem. The highest COD was recorded in pre monsoon season (150.2 mg/L) and the least in post monsoon (17.9 mg/L) respectively. Observed COD values were unpredictable because there is no linear pattern to be seen in seasonal observations. Water analysis report shows that, Mithi river water consist highest concentration of Ammonia and Nitrite. The ammonia seasonal concentration was higher than acceptable limits, i.e. 122.8, 106.2 and 134.0 $\mu\text{mol/L}$. respectively. Its high concentration has been found toxic to fish and aquatic life. Overall result shows that, majority of water parameters are not within limit throughout the year.

Water quality and mangrove carbon sequestration correlation matrix

Mithi river seasonal water and mangrove carbon sequestration correlation matrix comparison are given in Table 5 and graphical comparison is shown in the Fig. 2.

Mithi river water physiochemical parameters and mangrove carbon sequestration correlation study was carried out to define a relationship between two variables and their connections. Correlation study shows temperature has significant (negative and positive) correlation, i.e. ($r = -0.559$ and $r = -0.653$) ($r = 0.838$) in pre monsoon, post monsoon and monsoon season respectively. Study site pH concentration is significant negatively correlated with mangrove carbon sequestration. The correlation range was ($r = -0.467$, $r = -0.604$ & $r = -0.698$) respectively. It means mangrove carbon sequestration is significantly affected, when water pH level fluctuates (increases or decreases). Salinity is significant parameter for mangrove growth and its sequestration. Water salinity has positively low significant to high significant correlation ($r = 0.324$, $r = 0.687$ & $r = 0.746$) in pre monsoon and post monsoon respectively. Study site water DO concentration level is very poor, which is not suitable for mangrove growth. A similar observation was recorded in MPCB Mithi river Survey report. Correlation matrix study also prove that, DO concentration has (positive and negative) high significantly correlation ($r = 0.870$ & $r = 0.880$) ($r = 0.494$) with mangrove carbon sequestration during all seasons. Nutrients are useful for mangrove growth, but its high concentration is harmful as well. Correlation matrix shows nitrite has significant negative correlation with mangrove carbon and the correlation range is ($r = -0.102$, $r = -0.534$ & $r = -0.801$). However Phosphate also have negative significant correlation, i.e. ($r = -0.159$, $r = -0.565$ & $r = -0.476$) in pre monsoon, monsoon & post monsoon respectively. So study site carbon sequestration significantly affected whenever nutrient concentration level increases than acceptable limit. Overall observations prove that, water pollution have a significant correlation with mangrove carbon sequestration.

Table 5. Mithi river water and mangrove carbon sequestration correlation matrix

| No. | Water Parameters | Pre monsoon | | |
|-----|------------------|----------------------|-----------------------------|----------------------------------|
| | | Carbon sequestration | Monsooncarbon sequestration | Post monsooncarbon sequestration |
| 1 | Temperature | -0.559 | 0.838 | -0.653 |
| 2 | pH | -0.467 | -0.604 | -0.698 |
| 3 | Salinity | 0.324 | 0.687 | 0.746 |
| 4 | DO | 0.870 | 0.880 | 0.494 |
| 5 | Nitrite | -0.102 | -0.534 | -0.801 |
| 6 | Phosphate | -0.159 | -0.565 | -0.476 |

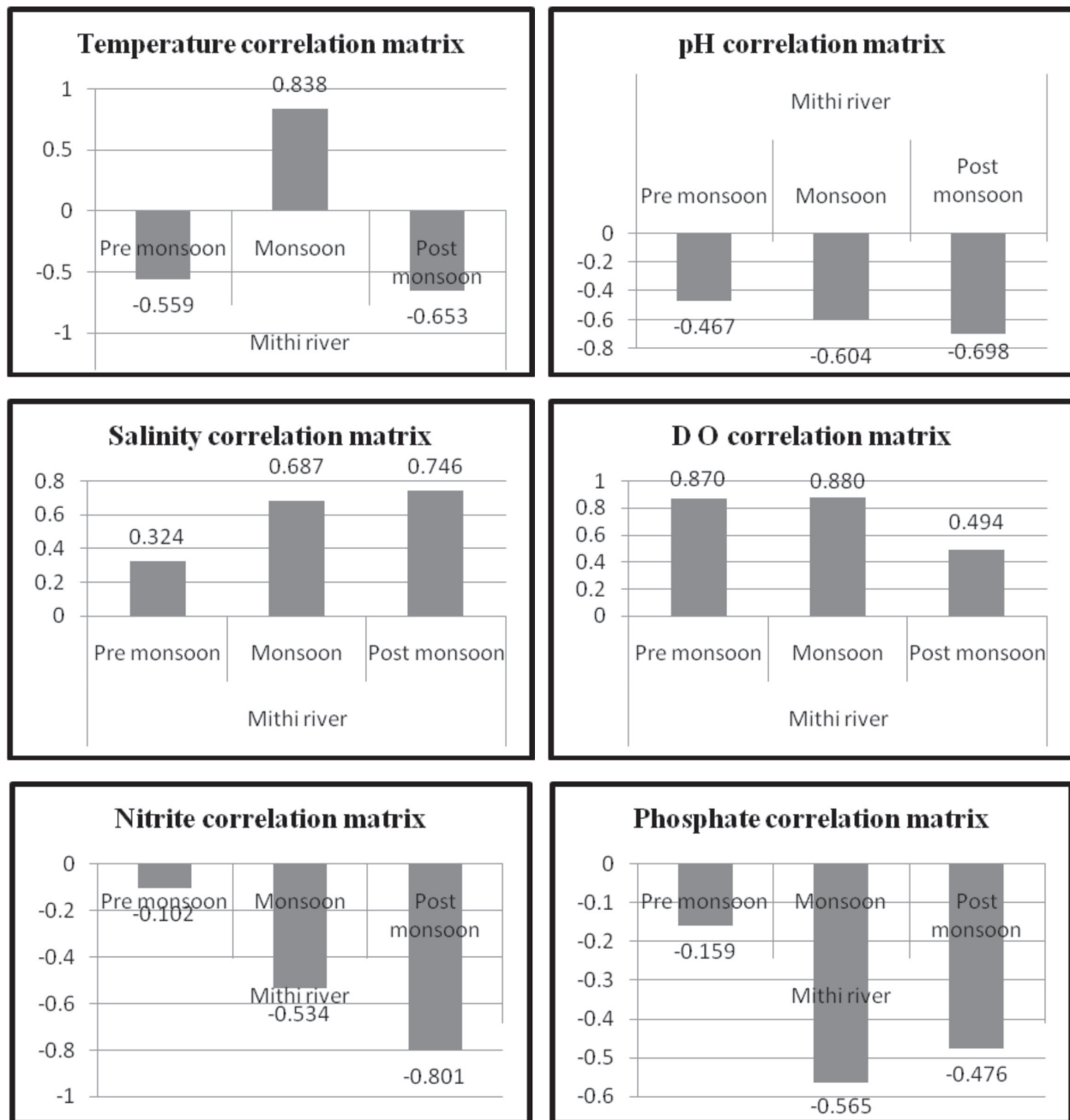


Fig. 2. Graphical comparison of water & mangrove carbon sequestration correlation

Discussion

Mangrove ecosystem is very sensitive to water pollution because it is affected by mangrove growth, reproduction, sequestration capacity and other functioning. Study site water temperature was within limits, because high temperature reduces the photosynthetic capacity of mangrove (Andrews *et al.*, 1984).

Moreover Field (1995) says that, if temperatures exceed 35 °C mangrove root structures, seedling establishment and photosynthesis will all be negatively affected. Water pH is very crucial parameter for mangrove growth Sivasankaramoorthy (2012). Sample water pH was constructive for mangrove growth. Joshi and Ghosein (2003) also mentioned that 7.5 pH is optimum for *M. Avicennia*. Seasonal

water salinity was within limits, low salinity is always favourable for primary production of mangrove (Clough, 1984), and consequently mangrove vegetation grows more luxuriant in lower salinities (Kathiresan *et al.*, 1996). The dissolved oxygen in between 4–5 mg (L-1) is considered to be good for biotic diversity (Park *et al.*, 1996) while concentrations below 2 mg (L-1) represent the hypoxic condition (Zimmerman and Canuel, 2000). Seasonal water DO level was not within the limits. A similar observation was recorded in MPCB Mithi River Survey report (July, 2004). Study site BOD concentration was very high due to the inflow of wastewater and land discharge from nearby areas. Zingde and Desai (1980) and Sabnis (1984) also reported very high BOD concentration in this region. Sample water shows highest ammonia and nitrites concentration throughout the year. Its high concentration affects the mangrove leaves, which reduces the carbon sequestration capacity as well. Therefore study site water body are highly polluted and this kind of water is not favourable for mangrove growth and its carbon sequestration. Correlation study is defined as a relationship between two variables. As per seasonal observation, it is prove that Mithi river water quality is highly polluted. Subsequently, most of the water physicochemical parameter (Temperature, pH, Salinity, DO, COD & BOD) shows significant positive and negative correlation with mangrove carbon sequestration. It means mangrove carbon sequestration is significantly affected whenever this parameter is fluctuating (increases or decreases). *Avicennia marina* was the dominant species which was found throughout the site because it shows greatest adaptation to extremely dry environment (Macnae, 1968). Study site mangrove density, diversity and quality are differs, therefore *Avicennia* species present within same locality may have different biomass, which shows different carbon sequestration capacity. Seasonal carbon sequestration results reveal that Mithiriver mangrove carbon sequestration was highest in pre-monsoon, followed by monsoon and least in post-monsoon season. It is due to seasonal variations in water physicochemical parameters. Consequently correlation study shows that, Water pollution has a significant correlation with mangrove carbon sequestration.

Acknowledgement

Authors are grateful to Dr. S. N. Gajbhiye, Chief sci-

entist, National Institute of Oceanography - Mumbai for providing laboratory facilities to carry out the above Laboratory analysis work.

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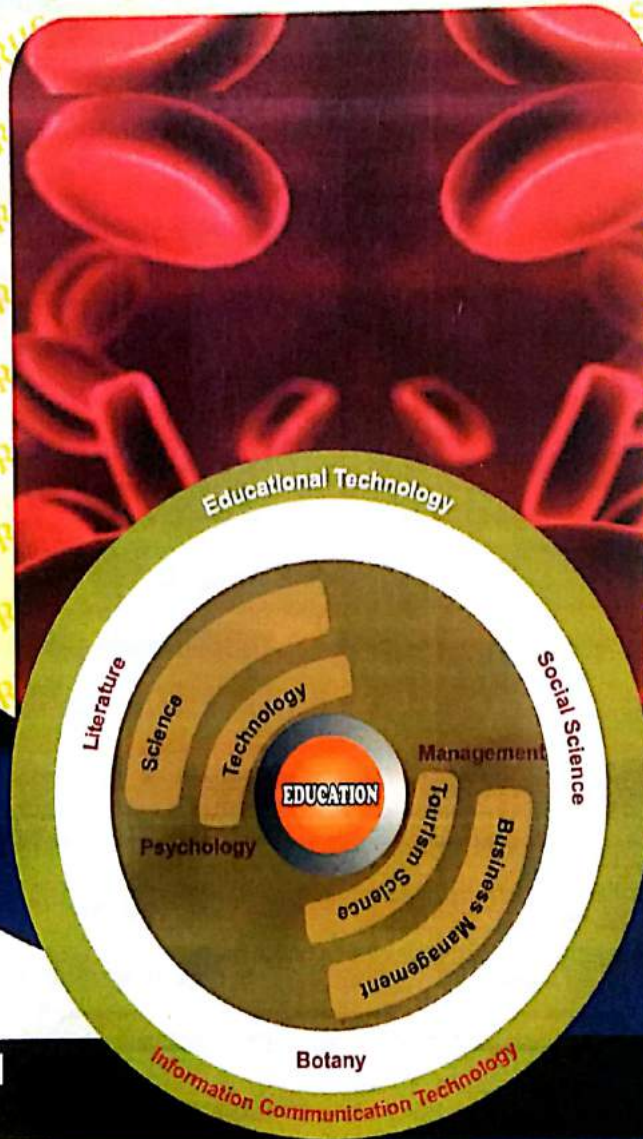
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UGC Approved Sr. No. 45269



SRJIS

Online ISSN -2278-8808
Printed ISSN- 2319-4766



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SCHOLARLY RESEARCH JOURNAL FOR INTERDISCIPLINARY STUDIES

SPECIAL ISSUE JULY-SEPT, 2017. VOL. 6, ISSUE -33

EDITOR IN CHIEF : YASHPAL D. NETRAGAONKAR, Ph.D.

SUB-EDUCATION AND DEVELOPMENT

मराठी माध्यमिक शाळांतील अभ्यासक्रमांतून विद्यार्थ्यांमध्ये जीवन कौशल्यांच्या
अंतर्गत सामाजिक कौशल्य विकास-एक विश्लेषणात्मक अभ्यास

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प्रस्तावना -

शक्तिमन्तं यथावर्णं विद्यामध्यापयेत् ततः।

अनुशिष्यात् सदा चैनं धर्माय विनयाय च ॥

यथा नेन्द्रियदुष्टाक्षैः न्हियते यौवनागमे ॥

जेव्हा मूल शारीरिक, बौद्धिक व मानसिकदृष्ट्या विद्याध्ययनासाठी समर्थ होईल तेव्हा त्याच्या क्षमता, आवड आणि बुध्यंकानुसार (I.Q.) विद्याध्ययनाची सोय करावी. विद्याध्ययनाद्वारे त्याला धर्म अर्थात कर्तव्य व विनय आणि सदाचाराची शिकवण द्यावी, ज्यामुळे तो तारुण्यात इंद्रियरूपी दुष्ट अशांच्या कव्हात जाणार नाही. उलट त्यांच्यावर नियंत्रण मिळवून स्वतःचा उत्कर्ष साधू शकेल. राष्ट्रीय अभ्यासक्रम आराखडा २००५ नुसार विद्यार्थ्यांच्या आरोग्यावर अधिक लक्ष केंद्रीत केले. ओझ्याविना अध्ययन हे या आराखड्याचे वैशिष्ट्य आहे. क्षणाक्षणात्ता निर्माण होणारे अध्ययावत ज्ञान व तंत्रज्ञानाचा परिचय संपूर्ण समाजाला सातत्याने होत रहावा यासाठी शिक्षण क्षेत्र सातत्याने प्रयत्नशील असते हे ज्ञान विद्यार्थ्यांपर्यंत प्रभावीपणे पोहचवे व वर्तमान काळात त्यांच्या अंतर्गत क्षमतांचा पूर्णतःहा विकास होऊन प्रगत मानव निर्माण व्हावा या दृष्टीने शिक्षण क्षेत्रात विशिष्ट कालावधीनंतर अभ्यासक्रमात बदल केला जातो. त्याचअनुषंगाने वर्तमानकाळात जगाची शैक्षणिक, आर्थिक, तांत्रिक, बौद्धिक प्रगती पहात आपल्या देशात शिक्षण क्षेत्रात आमूलाग्र बदल अपेक्षित आहे. त्याचा सखोल मागोवा घेवून अभ्यासक्रमाची ध्येय निश्चित केले जातात. ध्येयपूर्तीच्या दृष्टीने विविध उद्दिष्टे समोर ठेवली जातात. त्याचप्रमाणे वर्तमानकाळाची गरज, राष्ट्र व राज्य अभ्यासक्रम मंडळाने ओळखून जीवन कौशल्यांचा समावेश अभ्यासक्रमाद्वारे पाठयक्रमात प्रभावीपणे

केला. अध्यापनाची उद्दिष्टे व जीवन कौशल्यांची योग्य सांगड घातल्यास जीवन कौशल्यांचा परिपोष योग्य प्रकारे कसा होईल यावर भर दिला आहे.

Life skills -

"Life skills are defined as psychosocial abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life".

They are loosely grouped into three broad categories of skills: cognitive skills for analyzing and using information, personal skills for developing personal agency and managing oneself, and inter-personal skills for communicating and

Interacting effectively with others.

- UNICEF

जीवन कौशल्य -

जीवन जास्तीत जास्त कार्यक्षमतेने व यशस्वीपणे जगता येण्यासाठी व्यक्तिअंतर्गत असणाऱ्या क्षमता म्हणजे जीवन कौशल्य होय.

Life skills-based education

A term which came into use to describe life skills education addressing specific content or undertaken to achieve specific goals, e.g., life skills-based peace education or life skills-based HIV & AIDS education. The term makes it clear that a life skills approach will be used to teach the subject matter, meaning that participatory teaching/learning methods will be used to help learners develop not only knowledge, but also the psycho-social life skills they may need to use knowledge to inform and carry out behaviour-

- UNICEF

सध्यस्थितीत संपूर्ण जग ज्ञानाकडून आर्थिक विकासाकडे झेपावत आहे. अशा परिस्थितीत तळागळातील मनुष्य संसाधनामधील अंतर्गत क्षमतांचा कसून शोध घेणे व योग्य शैक्षणिक वातावरण पुरविणे आज शिक्षण क्षेत्राची

मोठी जबाबदारी आहे. शिक्षण क्षेत्राने अभ्यासक्रम रचना करते वेळी ठरविलेली ध्येय, उद्दिष्ट योग्यप्रकारे व सातत्याने विकसित होतात किंवा नाही याचा पाठपुरावा करणे अतिशय गरजेचे आहे. त्रुटी आढळल्यास योग्य ते बदल करणे अत्यावश्यक आहे. संशोधिका स्वतः शिक्षण क्षेत्रात १३ वर्षे ज्ञानदानाचे कार्य करत आहे. अनुभवाने वर्तमान काळातील शिक्षण क्षेत्रातील उलाढालींचा व जागतिक प्रगतीच्या तुलनेत आपल्या देशातील शिक्षण क्षेत्राचा विचार केला. आपल्या देशाला शिक्षण क्षेत्रात प्रभावी व नियोजनबद्ध पध्दतीने प्रचंड बदल करणे व सतत प्रगतीच्या दृष्टीने मागोवा घेणे वर्तमानकाळाची गरज आहे. सध्या ज्ञानाकडून आर्थिक विकासाकडे शिक्षण क्षेत्राचा प्रवास चालू आहे. अशा परिस्थितीत अभ्यासक्रमाद्वारे व्यक्तिअंतर्गत संपूर्ण क्षमतांचा शोध व विकास करत संपूर्ण जीवन कौशल्यांच्या विकासावर अधिक लक्ष केंद्रीत केले आहे. त्या अनुरूप नानाविध उपक्रमांचा अंतर्भाव अभ्यासक्रमात केला आहे. जीवन कौशल्यांचे अनन्यसाधारण महत्त्व लक्षात घेतले असता मराठी माध्यमिक शाळांतील अभ्यासक्रमांतून विद्यार्थ्यांमध्ये जीवन कौशल्यांच्या विकासाचा एक विश्लेषणात्मक अभ्यास करण्याचे ठरवले आहे.

संशोधनाचे विधान -

मराठी माध्यमिक शाळांतील अभ्यासक्रमांतून विद्यार्थ्यांमध्ये जीवन कौशल्यांच्या अंतर्गत सामाजिक कौशल्य विकास-एक विश्लेषणात्मक अभ्यास.

संशोधनाचे ध्येय -

१. मराठी माध्यमिक शाळांतील विद्यार्थ्यांची जीवन कौशल्य विकास अभ्यासणे.
२. शाळा प्रकारानुसार अभ्यासक्रमातून विद्यार्थ्यांमध्ये सामाजिक कौशल्य विकासत तफावत अभ्यासणे.
३. मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये सामाजिक कौशल्य विकासाचा विश्लेषणात्मक अभ्यास करणे

संशोधनातील चले -

सदर संशोधनासाठी पुढील चलांचा वापर करणार आहे -

१) स्वाश्रीत चल

अ) जीवन कौशल्य

२) आश्रीत चल

ब) सामाजिक कौशल्य

संशोधनातील चलांच्या कार्यात्मक व्याख्या -

जीवन कौशल्य -

जीवन जास्तीत जास्त कार्यक्षमतेने व यशस्वीपणे जगता येण्यासाठी व्यक्तिअंतर्गत असणाऱ्या क्षमता म्हणजे जीवन कौशल्य होय.

सामाजिक कौशल्य -

दुसऱ्यांच्या भूमिकेत शिरून विचार करणे, दैनंदिन जीवनात सतत संपर्कात असलेल्यांबरोबरचे संबंध ओळखून निर्भेळ व स्नेहपूर्व संबंध राखणे, आपले विचार शाब्दिक किंवा अशाब्दिक माध्यमातून पभावीपणे व्यक्त करण्याचे कौशल्य म्हणजे सामाजिक कौशल्य होय.

मराठी माध्यमिक शाळा -

ज्या शाळांमध्ये माध्यमिक शालांत प्रमाणपत्र मंडळाच्या परीक्षेसाठी इयत्ता ८ वी ते इयत्ता १० वी पर्यंतचे वर्ग आहेत, राज्य अभ्यासक्रम संशोधन मंडळाने मराठी भाषेमध्ये अभ्यासक्रम उपलब्ध करून दिला आहे व अध्ययन-अध्यापनासाठी मराठी भाषेचाच वापर केला जातो अशा शासकीय, अनुदानित व विनाअनुदानित शाळा म्हणजे मराठी माध्यमिक शाळा होय.

विद्यार्थी -

चालू शैक्षणिक वर्षामध्ये माध्यमिक शालांत प्रमाणपत्र मंडळाच्या अंतर्गत शासकीय, अनुदानित व विनाअनुदानित मराठी माध्यमिक शाळांतील इयत्ता ८ वी व इयत्ता ९ वी मध्ये शिक्षण घेत असणारे अध्ययनार्थी मुले व मूली म्हणजेच माध्यमिक शाळांतील विद्यार्थी होय.

अभ्यासक्रम -

शिक्षणाच्या ध्येयपूर्तीसाठी संपुर्ण शैक्षणिक वर्षामध्ये इयत्ता ८ वी व इयत्ता ९ वी साठी शिकविला जाणार संपूर्ण पाठ्यक्रम, सहशालेय कार्यक्रम, परीक्षा व मुल्यमापन, विविध उपक्रम व प्रकल्प म्हणजे अभ्यासक्रम होय.

संशाधनाची उद्दिष्टे -

१. मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणऱ्या जीवन कौशल्यांच्या विकासाचा सामाजिक

कौशल्य घटका संदर्भात खालील गटांमध्ये तुलना करणे-

अ) लिंगभेद (मुले व मुली)

ब) इयत्ता निहाय (इयत्ता ८वी व ९वी)

क) शालेय प्रकार (शासकीय, अनुदानीत व विनाअनुदानीत)

२. शालेय प्रकार (शासकीय, अनुदानीत व विनाअनुदानीत) मराठी माध्यमिक शाळांतील अभ्यासक्रमातून

विद्यार्थ्यांमध्ये होणऱ्या जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटक संदर्भात शिक्षकांच्या मतांचा खालील गटांमध्ये तुलना करणे-

अ) लिंगभेद (स्त्री शिक्षक व पुरुष शिक्षक)

ब) अध्यापन कालावधी (० ते ५ वर्षे व ५ वर्षांपेक्षा अधिक अध्यापन अनुभव असणारे शिक्षक)

क) विज्ञान शिक्षक व विज्ञानेतर शिक्षक

ड) शालेय प्रकार (शासकीय, अनुदानीत व विनाअनुदानीत)

संशोधनातील परिकल्पना -

१. मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणऱ्या जीवन कौशल्यांच्या विकासाचा सामाजिक कौशल्य घटका संदर्भात खालील गटांमध्ये लक्षणीय फरक नाही-

अ) लिंगभेद (मुले व मुली)

ब) इयत्ता निहाय (इयत्ता ८वी व ९वी)

क) शालेय प्रकार (शासकीय, अनुदानीत व विनाअनुदानीत)

२. शालेय प्रकार (शासकीय, अनुदानीत व विनाअनुदानीत) मराठी माध्यमिक शाळांतील अभ्यासक्रमातून

विद्यार्थ्यांमध्ये होणऱ्या जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटका संदर्भात शिक्षकांच्या मतांचा खालील लक्षणीय फरक नाही-

अ) लिंगभेद (स्त्री शिक्षक व पुरुष शिक्षक)

ब) अध्यापन कालावधी (० ते ५ वर्षे व ५ वर्षांपेक्षा अधिक अध्यापन अनुभव असणारे शिक्षक)

क) विज्ञान शिक्षक व विज्ञानेतर शिक्षक

ड) शालेय प्रकार (शासकीय, अनुदानीत व विनाअनुदानीत)

संशोधन पध्दती -

प्रस्तुत संशोधन हे वर्तमान काळाशी संबंधित असून प्राथमिक स्तरावरील सामान्य शिक्षकांचा व विशेष शिक्षकांचा समावेशक शिक्षणातील मानसिक विजलांग बालकांप्रतीच्या अवबोधनाचा तुलनात्मक अभ्यास सदर संशोधनाच्या माध्यमातून केला जाणार असल्यामुळे सदर संशोधनासाठी सर्वेक्षण पध्दतीचा अवलंब केला आहे.

संशोधनाची साधने - प्रस्तुत संशोधनासाठी तथ्यांचे संकलन करण्यासाठी खाली साधनाची पूर्तता करण्यात आली.

- १) अनुदानित शाळा, विनाअनुदानित शाळा, शासकीय शाळांतील शिक्षकांसाठी संशोधक निर्मित प्रश्नावली.
- २) अनुदानित शाळा, विनाअनुदानित शाळा, शासकीय शाळांतील विद्यार्थ्यांसाठी संशोधक निर्मित प्रश्नावली.

न्यादर्श निवड -

प्रस्तुत संशोधनाकरीता इयत्ता आठवी व इयत्ता नववी ला 1।शकवणाऱ्या शिक्षकांची सहेतुक नमुना निवड पध्दतीचा वापर करून निवड करण्यात आली.

अनुदानीत शाळा, विनाअनुदानीत शाळा, शासकीय शाळांची निवड नमुना निवडोच्या संभाव्यतेवर आधारीत याइच्छिक नमुना निवड पध्दतीने निवड करण्यात आली.

अशा प्रकारे मराठी माध्यमाच्या माध्यमिक शाळांप्रकारानुसार एकूण २४० शिक्षक तर विद्यार्थी शाळांप्रकारानुसार एकूण ६०० विद्यार्थ्यांची निवड केली आहे. एकूण नमुना आकार - विद्यार्थी ६०० तर शिक्षक २४० असा आहे.

संशोधनाची फलिते -

१)उदिष्टे १. क. परिकल्पना १.

(एकूण विद्यार्थी संख्या ६००)

| प्रसरण स्रोत) | वर्ग बेरीज | स्वा. मात्रा | वर्ग मध्यमान | 'एफ' परीक्षेचे गुणोत्तर | 'पी' सार्थकता स्तर |
|---------------|------------|--------------|--------------|-------------------------|--------------------|
| आंतरसमुह | १२१.७४३३ | २ | ६०.८७१७ | ६.१४ | ०.०१ |
| समुहांतर्गत | ५९१६.०५५ | ५९७ | ९.९०९६ | | |
| एकूण | ६०३७.७९८३ | ५९९ | | | |

या शुन्य परिकल्पनेच्या परिक्षणासाठी अॅनोव्हा (एकमार्गी प्रसरण) या तंत्राचा वापर करण्यात आला आहे. जीवन कौशल्याच्या सामाजिक कौशल्य या घटकासंदर्भात शासकीय शाळा, अनुदानीत शाळा व विना अनुदानीत शाळांतील सर्व विद्यार्थ्यांच्या अनुशंगाने तुलना केली आहे. प्राप्त 'एफ' मूल्य ६.१४ असे आहे. प्राप्त 'एफ' मूल्य ६.१४ हे सारणी 'एफ' मूल्य $0.05 = 3.00$ व $0.01 = 4.61$ या पेक्षा जास्त आहे. त्यामुळे ही शुन्य परिकल्पना त्याज्य केली आहे.

म्हणजेच मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्याच्या सामाजिक कौशल्य घटका संदर्भात शासकीय शाळा, अनुदानीत शाळा व विना अनुदानीत शाळेतील विद्यार्थ्यांच्या गटात 0.01 या स्तरावर लक्षणीय फरक आहे.

२) उद्दिष्टे २, ड. परिकल्पना २, ड.

(एकूण शिक्षक संख्या २४०)

| प्रसरण स्रोत | वर्ग बेरीज | स्वा. मात्रा | वर्ग मध्यमान | 'एफ' परीक्षिकेचे गुणेश्र | 'पी' सार्थकता स्तर |
|--------------|------------|--------------|--------------|--------------------------|--------------------|
| आंतरसमुह | १२१.८७ | २ | ५६.४३५ | ०.६९ | सार्थकता नाही |
| समुहान्तर्गत | ४८९८१.८७ | ५९७ | ८२.०४६७ | | |
| एकूण | ४९०९४.७४ | ५९९ | | | |

या शुन्य परिकल्पनेच्या परिक्षणासाठी अॅनोव्हा (एकमार्गी प्रसरण) या तंत्राचा वापर करण्यात आला आहे. जीवन कौशल्याच्या सामाजिक कौशल्य या घटकासंदर्भात शासकीय शाळा, अनुदानीत शाळा व विना अनुदानीत शाळांतील सर्व शिक्षकांच्या मतांच्या अनुशंगाने तुलना केली आहे. प्राप्त 'एफ' मूल्य 0.61 असे आहे. प्राप्त 'एफ' मूल्य 0.61 हे सारणी 'एफ' मूल्य $0.05 = 3.00$ व $0.01 = 4.61$ या पेक्षा कमी आहे. त्यामुळे या शुन्य परिकल्पनेचा स्विकार केला आहे.

म्हणजेच मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्याच्या सामाजिक कौशल्य घटका संदर्भात शासकीय शाळा, अनुदानीत शाळा व विना अनुदानीत शाळेतील विद्यार्थ्यांच्या गटात लक्षणीय फरक नाही.

उद्दिष्टे १ अ). परिकल्पना १ अ)-

(एकुण विद्यार्थी संख्या ६००)

| चल | गट | नमुना संख्या | मध्यमान | प्रमाण विचलन | स्वाधीनता मात्रा | 'टी' कोष्टक मूल्य | | प्राप्त 'टी' | सार्यकता स्तर |
|-----------------|------|--------------|---------|--------------|------------------|-------------------|------|--------------|------------------|
| विद्यार्थी लिंग | मुले | ३०० | ९१.७९ | २.९९ | ५९८ | १.९६ | २.५९ | ०.५८ | लक्षणीय फरक नाही |
| | मुली | ३०० | ९१.६४ | ३.३५ | | | | | |

या शुन्य परिकल्पनेच्या परिक्षणासाठी 'टी' परीक्षका या तंत्राचा वापर करण्यात आला. जीवन कौशल्याच्या सामाजिक कौशल्य या घटकासंदर्भात लिंग निहाय म्हणजेच एकुण मुले व एकुण मुलींची तुलना केली असता प्राप्त 'टी' मूल्य ०.५८ असे आहे. प्राप्त 'टी' मूल्य ०.५८ हे सारणी मूल्य ०.०५ स्तरावर १.९६ व ०.०१ स्तरावर २.५९ या पेक्षा कमी आहे. त्यामुळे या शुन्य परिकल्पनेचा स्वीकार केला आहे

म्हणजेच मराठी माध्यमिक शाळांतील अभ्यासक्रमातुन विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटकासंदर्भात लिंग निहाय म्हणजेच एकुण मुले व एकुण मुलींची तुलना केली असता लक्षणीय फरक नाही.

उद्दिष्टे १ ब). परिकल्पना १ ब)-

(एकुण विद्यार्थी संख्या ६००)

| चल | गट | नमुना संख्या | मध्यमान | प्रमाण विचलन | स्वाधीनता मात्रा | 'टी' कोष्टक मूल्य | | प्राप्त 'टी' | सार्यकता स्तर |
|-------------------|-----|--------------|---------|--------------|------------------|-------------------|------|--------------|------------------|
| विद्यार्थी इयत्ता | ८वी | ३०० | ९१.६७ | ३.४२ | ५९८ | १.९६ | २.५९ | ०.४६ | लक्षणीय फरक नाही |
| | ९वी | ३०० | ९१.७९ | २.९९ | | | | | |

या शुन्य परिकल्पनेच्या परिक्षणासाठी 'टी' परीक्षका या तंत्राचा वापर करण्यात आला. जीवन कौशल्याच्या सामाजिक कौशल्य या घटकासंदर्भात इयत्ता निहाय म्हणजेच इयत्ता ८वी व इयत्ता ९वी च्या एकुण विद्यार्थ्यांची तुलना केली असता प्राप्त 'टी' मूल्य ०.४६ असे आहे. प्राप्त 'टी' मूल्य ०.४६ हे सारणी मूल्य ०.०५ स्तरावर १.९६ व ०.०१ स्तरावर २.५९ या पेक्षा कमी आहे. त्यामुळे या शुन्य परिकल्पनेचा स्वीकार केला आहे

म्हणजेच मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटकासंदर्भात इयत्ता निहाय इयत्ता ८वी व इयत्ता ९वी च्या विद्यार्थ्यांमध्ये लक्षणीय फरक नाही.

५) उद्दिष्टे २अ.. परिकल्पना २ अ.-

(एकूण शिक्षक संख्या २४०)

| चल | गट | नमुना संख्या | मध्यमान | प्रमाण विचलन | स्वाधीनता मात्रा | 'टी' कोष्टक मूल्य | | प्राप्त 'टी' | सार्थकता स्तर |
|-------------|--------------|--------------|---------|--------------|------------------|-------------------|------|--------------|------------------|
| शिक्षक लिंग | पुरुष शिक्षक | १२० | ११२.०७ | ५.३८ | २३८ | १.९७ | २.६० | १.७३ | लक्षणीय फरक नाही |
| | पुरुष शिक्षक | १२० | १११.१ | २.९४ | | | | | |

या शुन्य परिकल्पनेच्या परिक्षणासाठी 'टी' परीक्षका या तंत्राचा वापर करण्यात आला. जीवन कौशल्याच्या सामाजिक कौशल्य घटका संदर्भात लिंग निहाय शिक्षकांच्या मतामध्ये पुरुष शिक्षक व स्त्री शिक्षिका गटांमध्ये तुलना केली असता प्राप्त 'टी' मूल्य १.७३ असे आहे. प्राप्त 'टी' मूल्य १.७३ हे सारणी मूल्य ०.०५ स्तरावर १.९७ व ०.०१ स्तरावर २.६० या पेशा कनी आहे. त्यामुळे या शुन्य परिकल्पनेचा स्वीकार केला आहे.

मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटका संदर्भात शिक्षकांच्या मतामध्ये पुरुष शिक्षक व स्त्री शिक्षिका गटांमध्ये लक्षणीय फरक नाही

६) उद्दिष्टे २ ब. परिकल्पना २ ब.

(एकूण शिक्षक संख्या २४०)

| चल | गट | नमुना संख्या | मध्यमान | प्रमाण विचलन | स्वाधीनता मात्रा | 'टी' कोष्टक मूल्य | | प्राप्त 'टी' | सार्थकता स्तर |
|-------------|-------------------|--------------|---------|--------------|------------------|-------------------|------|--------------|------------------|
| शिक्षक विषय | विज्ञान शिक्षक | १२० | १११.६३ | ५.४० | २३८ | १.९७ | २.६० | ०.५९ | लक्षणीय फरक नाही |
| | विज्ञानेतर शिक्षक | १२० | १११.३ | ३.०३ | | | | | |

या शुन्य परिकल्पनेच्या परिक्षणासाठी 'टी' परीक्षका या तंत्राचा वापर करण्यात आला. जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटका संदर्भात शिक्षकांच्या मतांमध्ये विज्ञान शिक्षक व विज्ञानेतर शिक्षक या गटांमध्ये तुलना केली असता प्राप्त 'टी' मूल्य ०.५९ असे आहे. प्राप्त 'टी' मूल्य ०.५९ हे सारणी मूल्य ०.०५ स्तरावर १.९६ व ०.०१ स्तरावर २.५९ या पेक्षा कमी आहे. त्यामुळे या शुन्य परिकल्पनेचा स्वीकार केला आहे.

मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटका संदर्भात शिक्षकांच्या मतांमध्ये विज्ञान शिक्षक व विज्ञानेतर शिक्षक या गटांमध्ये लक्षणीय फरक नाही

७) उद्दिष्टे २ क. परिकल्पना २ क.-

(एकूण शिक्षक संख्या २४०)

| चल | गट | नमुना संख्या | मध्यमान | प्रमाण विचलन | स्वाधीनता माद्व | 'टी' कोष्टक मूल्य | | प्राप्त 'टी' | सार्थकता स्तर |
|---------------|---------------------|--------------|---------|--------------|-----------------|-------------------|------|--------------|------------------|
| अध्यापन अनुभव | ० ते ५ वर्षे | १२० | ११२.१२ | ५.४८ | २३८ | १.९७ | २.६० | २.०० | लक्षणीय फरक आहे. |
| | ५ वर्षांपेक्षा अधिक | १२० | १११.० | २.७२ | | | | | |

या शुन्य परिकल्पनेच्या परिक्षणासाठी 'टी' परीक्षका या तंत्राचा वापर करण्यात आला. जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटका संदर्भात शिक्षकांच्या मतांमध्ये ० ते ५ वर्षे अध्यापन अनुभव असणारे व ५ वर्षांपेक्षा अधिक अध्यापन अनुभव असणारे शिक्षकांच्या गटांमध्ये तुलना केली असता प्राप्त 'टी' मूल्य २.०० असे आहे. प्राप्त 'टी' मूल्य २.०० हे सारणी मूल्य ०.०५ स्तरावर १.९६ व ०.०१ स्तरावर २.५९ या पेक्षा जास्त आहे. त्यामुळे ही शुन्य परिकल्पना त्याज्य केली आहे

मराठी माध्यमिक शाळांतील अभ्यासक्रमातून विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटका संदर्भात शिक्षकांच्या मतांमध्ये ० ते ५ वर्षे अध्यापन अनुभव असणारे व ५ वर्षांपेक्षा अधिक अध्यापन अनुभव असणारे शिक्षक गटांमध्ये ०.०५ या स्तरावर लक्षणीय फरक आहे

निष्कर्ष व चर्चा -

उद्दिष्टे १. क. परिकल्पना १. क.

मराठी माध्यमाच्या माध्यमिक शाळांतील अभ्यासक्रमात विद्यार्थ्यांमध्ये होणाऱ्या जीवन कौशल्यांचा विकासाचा सामाजिक कौशल्य घटका संदर्भात तुलनात्मक अभ्यास केला असता शासकीय, अनुदानित व विना-अनुदानित या गटात लक्षणीय फरक दिसून आला. मागील कारणांचा मागोवा घेतला असता अनुदानित शाळांमध्ये येणारे विद्यार्थी सधन कुटुंबातील असून आर्थिक दृष्ट्या कोणत्या समस्या नाहीत तसेच शाळेला अनुदान उपलब्ध असल्याने शालेय स्तरावर राबविले जाणाऱ्या असंख्य उपक्रम व प्रकल्पांमध्ये सर्व साहित्य मुबलक प्रमाणात उपलब्ध आहे. परिणामी क्षेत्रभेदी, उपक्रम, प्रकल्प प्रभाविणे राबवले जातात. मात्र शासकीय व अनुदानित शाळांमध्ये उलट परिस्थिती दिसून येते. परिणामी विद्यार्थ्यांच्या सामाजिक विकासात शाळा प्रकारानुसार तफावत आढळली असे निरीक्षणांती लक्षात आले.

उद्दिष्टे २ क. परिकल्पना २ क.-

जीवन कौशल्य विकासाच्या सामाजिक कौशल्य घटका संदर्भात शिक्षकांच्या मतांचा तुलनात्मक अभ्यास केला असता, विज्ञान शिक्षकांतर्गत गणित व विज्ञान विषयाचे अध्यापन करणारे शिक्षक व इतर सर्व विषयांना अध्यापन करणारे शिक्षक म्हणजेच विज्ञानेतर शिक्षक ह्यांच्या (अध्यापन अनुभवानुसार) मतांमध्ये लक्षणीय फरक आढळतो. शिक्षकांच्या मतांचा मागोवा घेतला असता अध्यापन अनुभवानुसार शासकीय शाळांतील विद्यार्थी तुलनेत अनुदानित व विना अनुदानित शाळांतील विद्यार्थी विविध उपक्रमांमध्ये सहभागो होतात. कौटुंबिक व सामाजिक वातावरणाचा अधिक परिणाम मुलांच्या सामाजिक विकासावर होतो. शासकीय शाळांतील विद्यार्थी सहशालेय उपक्रमांतर्गत राबविल्या जाणाऱ्या उपक्रमांबाबत उदासिन दृष्टिकोन ठेवत असले तरी दैनंदिन जीवनता जगताना छोट्या, छोट्या व्यवसाय करत असतात. परिणामी समाजात वावरतानाचा व्यवहारी दृष्टिकोन वर्तन अनुदानित व विना अनुदानित विद्यार्थ्यांच्या तुलनेत अधिक चांगले असते. आत्मविश्वासपूर्ण असते. त्यांच्या सामाजिक वर्तनात नियमबद्धता नसते मात्र सहजतेने समाजात वावरण्याची क्षमता अनुदानित व विना अनुदानितच्या तुलनेत अधिक असते.

संशोधनाचे महत्त्व -

सदर संशोधनामुळे प्रत्येक व्यक्तीच्या जीवनात विद्यार्थीदशेतील शिक्षणाचे योगदान किती प्रभावी असते व त्यांचे दूरगामी परिणाम व्यक्तिबरोबरच संपूर्ण देशावर कसे पडता हे समजणार आहे. सदरील संशोधनामध्ये

शासकीय, अनुदानित व विनाअनुदानित मराठी माध्यमाच्या माध्यमिक शाळांतील विद्यार्थी व शिक्षकांच्या मतांचा विचार केला असल्याने प्रत्यक्ष विद्यार्थ्यांचे व शिक्षकांचे अनुभवावरून आलेली मते समजणार आहे.

व्यक्तिच्या व्यक्तिमत्त्व विकासातील सामाजिक कौशल्य विकासात शाळेचे कर्तव्य समजणार आहेत. शासकीय, अनुदानित व विनाअनुदानित शाळांमध्ये सामाजिक कौशल्य विकासावर कशा प्रकारे लक्ष पुरविले जाते हे समजणार आहे. जीवन कौशल्य शिक्षणाचे विद्यार्थीदृश्यातील महत्त्व लक्षात येणार आहे. विद्यार्थ्यांमध्ये जीवन कौशल्य विकास कसा होतो याबाबत शिक्षकांची मते समजणार आहेत.

शाळांच्या प्रकारानुरूप सामाजिक कौशल्य शिक्षणात काही तफावत आढळते का? त्या मागची कारणे कोणती? त्यासाठी काय प्रभावी उपाययोजना राबविता येतील हे समजणार आहे. शिक्षकांच्या दृष्टीकोनातून जीवन कौशल्य शिक्षणावर शाळांमध्ये किती भर दिला जातो हे समजणार आहे. तसेच शाळांमध्ये राबविल्या जाणाऱ्या विविध उपक्रमांची व अभ्यासक्रमांतर्गत राबविल्या जाणाऱ्या उपक्रमांचे महत्त्व व परिणामकारकता समजणार आहे. शासकीय व विनाअनुदानित शाळांमध्ये जीवन कौशल्य विकासामध्ये तफावत आढळते का? आढळत असल्यास का? या प्रश्नांची उत्तरे लक्षात येणार आहेत.

सामाजिक कौशल्य विकासामध्ये नकारात्मक तफावत आढळल्यास ती दूर करण्यासाठी प्रभावी उपाययोजना करता येतील. तसेच एम.एस.ई.आर.टी., एन.सी.ई.आर.टी. द्वारे अभ्यासक्रमात अधिक प्रभावीपणे सामाजिक कौशल्य शिक्षणाला प्राधान्य देण्यास दिशा मिळू शकेल. विविध प्रशिक्षणांचे आयोजन करून जीवन कौशल्य विकासासाठी नाविन्यपूर्ण प्रभावी उपक्रम राबविण्यासाठी शिक्षकांना प्रोत्साहन देण्यास सहकार्य होईल. पालक, विद्यार्थी, शिक्षक, समाज सर्वांनाच जीवनातील जीवन कौशल्य शिक्षणाचे प्रभावी, योग्यवेळी व सातत्यपूर्ण विकासाचे महत्त्व लक्षात येईल. एक प्रभावी व संपूर्ण विकसित, आत्मविश्वास पूर्ण नागरीक देशाला मिळवून देण्यातील शिक्षणक्षेत्राचा हिस्सा व शिक्षकांची भूमिका व कर्तव्ये अधिक प्रभावीपणे समजतील.

सदरील संशोधन अंबरनाथ तालुक्यापुरते मर्यादित असले तरी संपूर्ण जिल्हा व राज्यातील विविध प्रकारच्या शाळांतील विद्यार्थ्यांच्या सामाजिक कौशल्य विकासाला मदत करणारे ठरू शकते. विद्यार्थ्यांमध्ये योग्य वेळी योग्य प्रकारे, सातत्यपूर्ण जीवन कौशल्य विकासावर भर देवून संपूर्ण राज्यात विद्यार्थ्यांच्या सामाजिक कौशल्य विकासाला

प्रभावी मदत होऊ शकते. सामाजिक कौशल्य शिक्षणाला अधिक गती मिळू शकते. जी वर्तमानकाळातील प्रत्येक विद्यार्थ्यांसाठी व राष्ट्र विकासासाठी काळाची गरज आहे.

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ISSN 2319-2429



Management Guru: Journal of Management Research

International Journal

A Journal Approved by UGC (University Grants Commission)

Vol. V.I Issue No. 07 | August 2017 | Thane | Monthly Journal | Special Issue



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About Organising Bodies

Shri Halari Visa Oswal College of Commerce

Oswal Shikshan and Rahat Sangh was found in the year 1972 in Jamnagar at Saurashtra. The overall aim of this trust not only to uplift the standard of community but also to develop the individual personality of students by providing necessary facilities and services. As there was problem for the students from rural area to go far away places for education, Oswal Shikshan and Rahat Sangh started a boarding for boys in 1963 and for girls in 1983 (KanyaChatralay) at Jamnagar. From 1988 onwards the members of the trust took initiative to impart education in Bhiwandi area and thus they established Shree Halari Visa OswalVidyalaya at AnjurPhata with Primary & Secondary School Education which has now completed its silver jubilee year. Further Junior college was started in the year 2004 with only 35 students and now reached to the strength of 600 students. As per the demand for Degree College - Shree Halari Visa Oswal College of Commerce was established in 2009. Today in Bhiwandi campus total of 4500 students take education from KG to UG and proposed to start CA coaching and other courses. The Sangh gives every type of aid to needy people and bright student. It is fully devoted to bring up the educational standard of our nation. College started with 40 students and today it has grown quality wise with around 300+ student - strength and adequate infrastructure facilities. Presently college runs B.Com. degree courses which is affiliated to the University of Mumbai and recognized by the Government of Maharashtra. The college has proposed Certificate course in Direct Tax, Chartered Accountant Coaching, Certificate Course in Computerized Accounting & Tally, Diploma Course in Management Studies - affiliated to Mumbai University. Although the Trust has established educational institutions to cater for the needs of the society, quality and excellence is the aim of the institution. The college makes sincere efforts towards empowerment of students by providing innovative teaching and learning facilities. The comprehensive and value based education has been the benchmark achieved by involvement of the stakeholders. Within a short span of 7 years, the college has achieved good position by maintaining high teaching standards and by achieving outstanding results



Nexus Conference 2016-17

Proceedings of the NEXUS 2016 -National Conference
on
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Nexus

Eco-Stewardship

Award

2017



Dr. Snehal Donde:

It is my proud privilege to stand before this galaxy of people and to call upon two very eminent personalities on the stage that is Dr. A. D. Sawant and Dr. Rajendra Singh ji, please. Something unique which are going to witness now. A very different kind of program which is introduced here for you all to understand better, both the people sitting on the stage. Dr. A. D. Sawant first of all I'd like to speak about him. Dr. A. D. Sawant, he was earlier joint director of Maharashtra state in higher education before that he was professor in Institute of Science in Mumbai. Later, he was elevated to Pro-vice Chancellor of Mumbai University. After that he was also Vice Chancellor of Jaipur University, Rajasthan. At present he is Project Director WTERTC that is "Waste to Energy Research and Technology Council" he has a long list of work which he has done and contributed and if I say specifically regarding the water. He has done studies on Bhatsa, Vaitarna Kaloo, Mutha, Ulhas water, basically about the water quality. He has also 26 students who have done PhD under him and basically the work was on the environment including water quality from source to supply. That is the biggest thing. These people I can say, actually I don't have words to tell about them, they are so qualified people and so grass-root kind of people that if we keep on talking about them and telling about their accolades what they have done I think I will take full day but then I will leave all these things to happen later because there is as I said a unique kind of program which you are going to witness is an interview which will happen between Dr. A. D. Sawant and he will be interviewing Rajendra Singh ji. I request Maharaj to felicitate Dr. A. D. Sawant.

Now a very special event for which we all assembled here, gathered here for a person who has contributed a lot in the area of water and as I already said that more you will get to listen when the interview will be proceeding but in few lines I'd like to introduce him. Basically the award which we are giving is "Nexus Eco Stewardship Award 2017". Award of excellence to Rajendra Singh ji. Rajendra Singh ji, the waterman of India, known for his pioneering work of community drive water harvesting starting with one village his NGO "Tann Bharat Sangh" over the years has held over 8600 Johads and other water conservation structures to collect rainwater for the dry seasons has brought water back to over 1000 villages and revived 5 rivers in Rajasthan.

I think big round of applause should be given for this. And actually he, that is why he has been already won awards, he has won the prestigious award "Magsaysay award" and "Stockholm Water Prize" also known as Nobel Prize for water. He is also a member of "National Ganga River Basin Authority" under the Ministry of environment, Government of India. The Guardian named him among the list of 50 people who could save the planet. So this is in few words that I can explain him but rather you will get to know him better when so many things will unfold from his own mouth while Dr. A. D. Sawant will be taking his interview. Now I'd request Maharaj ji to present the award to Dr. Rajendra Singh ji.

Congratulations Dr. Rajendra Singh ji. I think he is already so many such kind of awards already on his rack. Now as we all are waiting to listen to all unfolding of what he's been doing what kind of grass-root work that he's done and who other than his own best friend Dr. A. D. Sawant because they have been long associated and they have been doing lot of work together. I think none other than Dr. A. D. Sawant was the right person to interview him here. And nobody would dare also to do that, that is also I believe and I pass over the mike to them so that we can listen to what they have to say.

