Volume 4 (Issue 04) ISSN-2230-9578
May-June, 2014

Journal of Research and Development

- A Multidisciplinary International Level Refereed Journal

Editor
Dr. R. V. Bhole

'Prajyot', Plot No. 8, Survey No. 101/2, Mundada Nagar, Jalgaon (M.S.) 425002
Email- info@jrdrvb.com Visit-www.jrdrvb.com

ISSN-2230-9578

Journal of Research and Development

Volume 4 (Issue 04) May-June, 2014

सम्पादक –

प्रा. डॉ. आर. व्ही. भोळे

संपादकीय कार्यालय

Journal of Research and Development
C/o Dr. V. J. Patil, 'Prajyot', Plot No. 8, Survey No. 101/2, Mundada Nagar, Jalgaon (M.S.) 425002

१) सम्पादन – प्रकाशन एवं संचालन अवैतनिक

२) कला साहित्य संस्कृती समाज इतिहास राजनिती एवं आर्थिक विषयों पर केंद्रीत शोधपत्र आमंत्रित है।

३) जर्नल ऑफ रिसर्च ॲन्ड डेव्हलपमेंट में प्रकाशित शोध/ विचार पत्रों में व्यक्त चिन्तन एवं दृष्टीकोन सम्बधित लेखकों के है। उससें जर्नल का सहमत होना आवश्यक नही है।

४) सदस्यता फार्म एवं नियमावली अंक के अंतिम पृष्ट पर देखे।

५) जर्नल ऑफ रिसर्च ॲन्ड डेव्हलपमेंट का प्रकाशन प्राध्यापकों को प्राध्यापकों के द्वारा, प्राध्यापकों के लिए एक अव्यावसायिक सहयोगी प्रयास।

६) सदस्यता शुल्क का भुगतान नगद मनी ऑर्डर व्दारा जर्नल ऑफ रिसर्च ॲन्ड डेव्हलपमेंट जलगांव के पतेपर भिजवाए।

७) मराठी भाषाके शोध पत्र प्रकाशित किए जाएगे।

८) इस शोध पत्रिका को प्रकाशित करते हुए पुर्ण सावधानी बरती गई है। फिर भी किसी प्रकारकी त्रृटि के लिए सम्पादक प्रकाशक मुद्रक जिम्मेदार नही होगा। समस्त विवादों का न्यायक्षेत्र जळगांव होगा।

९) जर्नल ऑफ रिसर्च ॲन्ड डेव्हलपमेंट में प्रकाशनार्थ प्राप्त होने वाले शोधपत्रो का चयन एव उनकी स्वीकृती। अस्वीकृती का निर्णय संबंधीत विषय के दो विशेषज्ञो की राय से सम्पादन मंडल द्वारा लिया जाता है।

ISSN-2230-9578

Journal of Research and Development

Volume 4 (Issue 04) May-June, 2014

I N D E X

Sr. No	Title	Page
1	Agricultural Land Use and Cropping Pattern in Relation to Population : A Case Study of Village - Garkhede Dr. S. N. Bharambe	1
2	Chemical Weapons and Terrorism Dr. S. P. Dhake	10
3	"Role of Faith in Development of Mental Health" Dr. Gokul B. Chaudhari	17
4	Liberalization of Indian Banking and Regulation Dr. Sanjay B. Kadu	21
5	Landslide and Soil Creeping and Their Impact: A Case Study of Bhilar Village Dr. Ananadrao S. Patil , Mr. A. S. KHADE	29
6	Solid Supported Synthesis of Biologically Active N-alkyloxy phthalimides Compounds H. P. Narkhede	34
7	Geo-Economic Study of Agricultural Density in Jalgaon District (Maharashtra) : A Spatio-Temporal Analysis Dr. S. N. Bharambe,	38

8	Phytochemical Screening and Antimicrobial Studies of Some Indigenous Plants. Patole S. S., Bhoi S. S, Patil M. U.	48
9	Prospects for Tourism Industry in Konkan, Maharashtra. Ms. Dhanashree Pramod Sawant	55
१०	मालेगांव शहरातील यंत्रमाग उद्योगातील मालक वर्गाचे दोष आणि समस्यांवर दृष्टीक्षेप डॉ. जे. बी. मोरे, अनिल देविदास भावसार	६०
११	शैक्षणिक वर्ष २०१३-१४ मधील इ. ८ वी च्या विद्यार्थ्यांचा सहशालेय उपक्रमामध्ये सहभाग वाढविण्याचे उपाय-योजना करुन त्यांची परिणामकारकता अभ्यासणे डॉ. संध्या पटेल	६३
१२	हिसार जनपद में वनों का वितरण डॉ. उर्मिला सभ्रवाल	६७

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Agricultural Land Use and Cropping Pattern in Relation to Population : A Case Study of Village - Garkhede

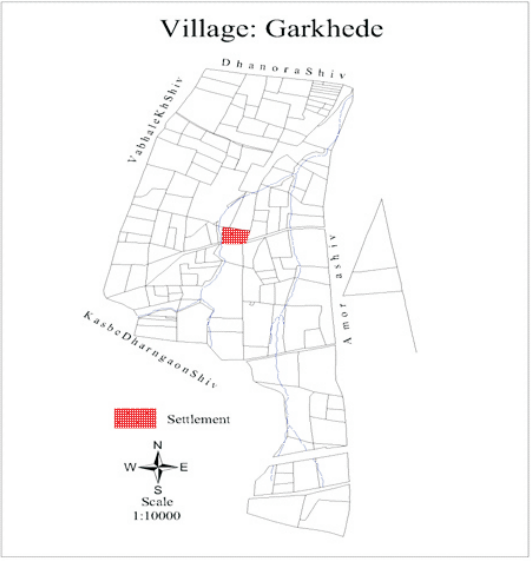
Dr. S. N. Bharambe
Associated Professor, Department of Geography, M. J .College, Jalgaon.

Introduction:

The present study is good attempt in understanding the agricultural land use and cropping pattern in relation to population. . In order to assess the agricultural land use and cropping pattern in relation to population and to prepare agricultural land use planning, it is necessary to have an intensive study of the land uses of each village situated in the area under study. Jalgaon district consists of 1519 revenue villages. This is why, it is very difficult, if not impossible, to record the existing uses of every piece of the land of all the 1519 villages, especially when the cropping pattern changes with seasons and from year to year. As the size of farm is very small, it is very difficult to record the nature of agricultural land utilization. Such large scale survey involves mobilization of vast resources of manpower and organization as was done in the first land use survey of Great Britain 1930-45. This is beyond the scope of an individual research worker to have such a detailed survey of all the villages of the region. Therefore, the only alternative is to select sample representative village i.e. Garkhede for the detailed micro level study.

The Study Area:

The village Garkhede from Erondol tahsil of Jalgaon district is selected for detailed micro level study to understand the dimensions of agricultural land use and cropping pattern in relation to population.



Aim and Objectives:

The aim of the paper is to take brief review of the changes that have been taking place in changes in agricultural land use and cropping pattern in relation to population characteristics during the period of forty years to achieve the following objectives,

1. To evaluate the variations in agricultural land use and cropping pattern.
2. To study the population characteristics
3. To assess the surplus/deficits of agricultural land

Data Source and Methodology:

The secondary data at village level from talathi record was collected for last forty years and discussion was made with villagers to understand and confirm the trend. In the study, one acre of agricultural land has been selected as required to adequately feed each person in the district. This figure has been converted into hectare that comes to 0.40. It is possible now to depict how far the land required supporting one person in the village as a whole. The figure now provides a quick measure of spatial pattern of farming efficiency as well as population pressure on land of the village.

Village-Garkhede

Introduction :

Garkhede village of low plain region is situated on the bank of river Bori in Erondol tahsil. It lies on the cross section of 21° 1' 16.974" N Central Latitude and 75° 17' 52.154" E of Central Longitude . The village shivar is extended between 21°0'10.122"N to 21°2'5.963"N Latitude and 75°17'21.673"E to 75°18'13.768"E Longitude. It is just 1 Km away from Dharangaon and connected by Erondol-Chopda metalled road. The total geographical area covered by the village is 3.07 sq. kms and 307.03 hectares with the total population of 1122 (2001)

General land use :

The average land use pattern in the last 40 years i.e. from 1961-63, 1971-73, 1981-83, 1991-93 and 2001-2003 reveals in the following table No.7.22

Table No.7.22 and Fig. No. 7.16 shows the area under different land use classes during 1961 to 2001.

Table No. 7.22

Village-Garkhede : General Land use

Land use class	1961-63	1971-73	1981-83	1991-93	2001-03
Forest	-	-	-	-	-
Barren & Area not available for cultivation	10.56	9.36	9.00	8.73	8.36
Other cultivable land	2.46	2.24	2.05	3.42	2.81
Fallow Land	5.81	8.23	4.38	3.074	4.06
Net Sown Area	81.15	80.16	84.55	84.76	84.76
Total geographical area	100 (307)	100 (307)	100 (307)	100 (307)	100 (307)

Source : Village record, Garkhede & Office of Land record, Erondol, Taluka

Village Garkhede : General Landuse

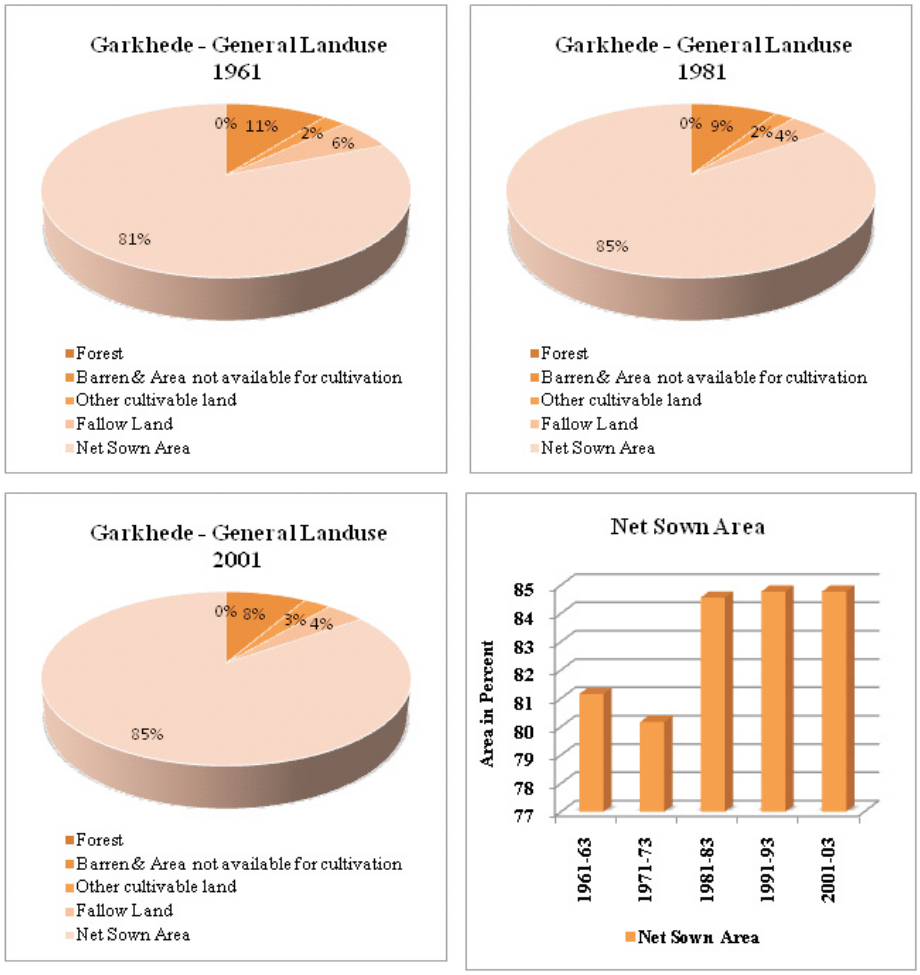


Fig No. 7.16

In the year 1961, out of the total village area 10.56 % was barren and not available for cultivation, 2.46 % was cultivable waste or other cultivable area, 5.81 % was under fallow and 81.15 % of area was N.S.A. There is no forest area registered in the village record. Out of the total area more than 18 hectares was under irrigation.

In the year 2001, out of the total village area 8.36 % is barren and not available for cultivation, 2.81 % is cultivable waste or other cultivable area, 4.06 % is under fallow and 84.76 % of area is N.S.A. Out of the total area more than 60 hectares is under irrigation which is significantly high as compared to Tahsil / District average where additional area can be brought under irrigation.

Distribution of Land use and its change:

Village-Garkhede is located in a relatively low plain area and therefore, possesses near about 84.76 % is N.S.A in 2001 which was 81.15 % in 1961 and 84.55 % in 1981.

This category recorded the net increase of 3.61 % during last 40 years. Being located on the bank of river Bori, sizable area was under barren (bad land) and not available for cultivation. It was 10.56 % in 1961, 9.00 % in 1981 and became 8.36 % in the year 2001.During the period of investigation sizable amount of area was brought under cultivation. The village shows cultivated waste land of 2.46 % in 1961, 2.05 % in 1981 and 2.81 % in 2001. Fallowing is a regular practice of the farmers of Jalgaon district to maintain the quality of soils where Gorkhede village is not an exception. The area under fallowing is also increased by 2.9 % in 2001. The graphical representation of area under N.S.A. shows near about 3.61 % of actual change in it during the period of investigation.

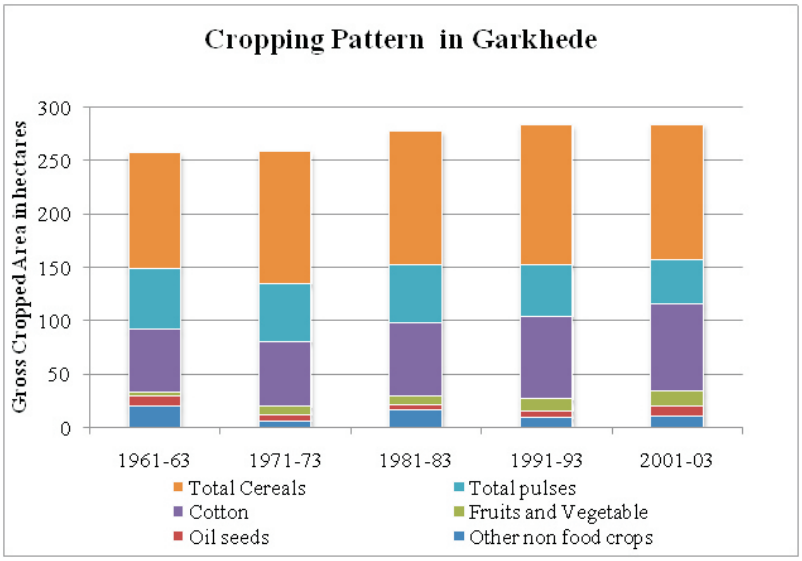
Cropping Pattern:

The area under cultivation in the village Garkhede is high. Out of the cultivated area, maximum area is devoted to food crops amongst more than 62% of area is under food grain crops.

Table No.7.23
Village Garkhede : Cropping Pattern

Crops	1961-63	1971-73	1981-83	1991-93	2001-03
Total Cereals	43.50	50.28	48.36	50.30	48.93
Total pulses	23.06	21.83	20.94	18.73	15.99
Total food grains	66.56	72.11	69.30	69.03	64.92
Cotton	23.40	24.89	26.30	29.63	31.28
Fruits and Vegetable	1.43	3.12	3.51	4.42	5.26
Oil seeds	3.96	2.48	1.65	2.45	3.57
Other non food crops	8.07	2.45	6.38	3.45	4.28

Source : Village record, Gorkhede & Office of Land record, Erondol, Taluka



Source : Village record, Gorkhede & Office of Land record, Erondol, Taluka

Fig. No. 7.17

The average cropping pattern of the village during the last 40 years is revealed in the table No.7.23 and by fig. No.7.17. In the year 1961, out of the total cropped area 43.50 % was occupied by cereals, 23.06 % by pulses, i.e. 66.56 % by food grain crops, 3.96 % by oilseed crops, 1.43 % by fruits and vegetable crops, 23.40 % by cotton and 2.73 % by other nonfood crops. Maximum amount of area was recorded under food grain crops

In 2001, the situation is somewhat changed with increasing demand of food, the farmers of the village have to maintained more area under food crops. Out of the total cropped area 48.93 % was occupied by cereals, 15.99 % by pulses, i.e. 64.92 % by food grain crops, 3.97 % by oilseed crops, 5.26 % by fruits and vegetable crops, 31.28 % by cotton and 4.28 % by other nonfood crops. This year also maximum amount of area was recorded under food crops to meet the demand of food for increasing population. Fig No. 7.17 clearly shows the share of principal crops in the cropping area of the village.

Area under cereals is decreased by 1.27 % but the area under fruits and vegetable crops increased by 3.83 % and cotton by 7.88%. The trend of growing cash crops increases with growing of surplus food grains. Most of the farmers are interested to produce maximum surplus food grains. The black cotton soils attract the agriculturist to produce more and more cotton.

Population:

Garkhede is a small size village having population 1122 (2001) with only 164 families. The main occupation of the population is agricultural where more than 90 % are directly or indirectly related to it. During the last decade i.e. 2001, while the village area has remained the same, high population growth rate and higher density has resulted in increasing the % of marginal workers.

Table No.7.24

Village Garkhede : Population Growth.

Year	Number of Persons	Decadal Variation		Males	Females	Females per 1000 male	General density Per Km2
		Actual	In%				
1951	308	-		148	160	1081	100
1961	481	173	56.16	232	249	1073	157
1971	602	121	25.16	298	304	1020	196
1981	848	246	40.86	420	428	1019	276
1991	863	15	1.77	435	428	984	281
2001	1122	259	30.01	584	538	921	366

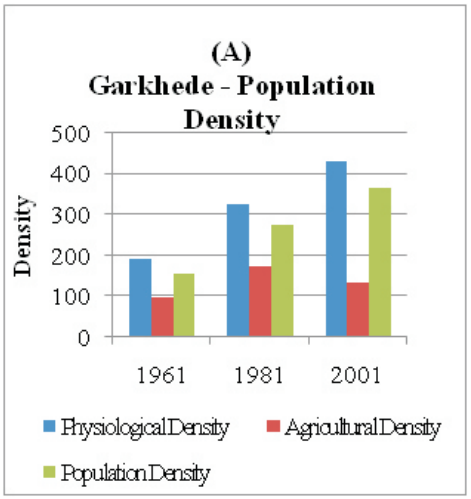
Source : Complied by author (District Census Handbooks 1961 to 2001)

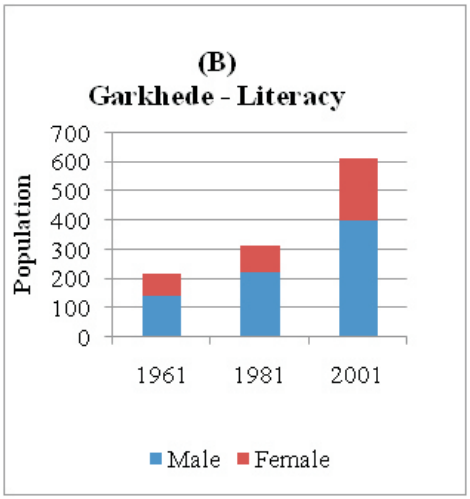
Population Growth :

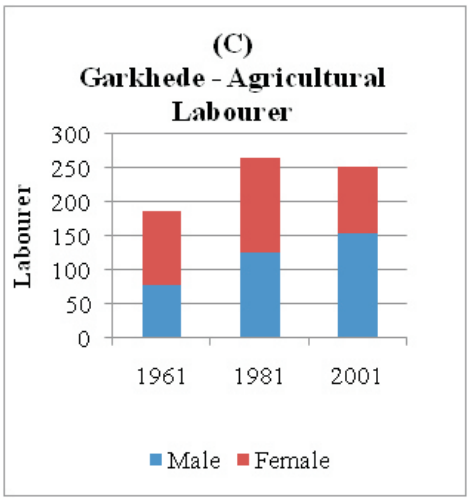
Table No.7.24 shows the decadal growth of village population and actual variations during the period of 1961 to 2001. The actual growth has been 133.26 % during the last five decades. The decadal growth rate recorded a great fluctuation from 1961 to 2001 i.e. from 56.16 % in 1961 to 25.16 % in 1971 and increased by 40.86 % in 1981. The growth rate was again declined by 1.77 % in 1991 and become 23.08 % in 2001.

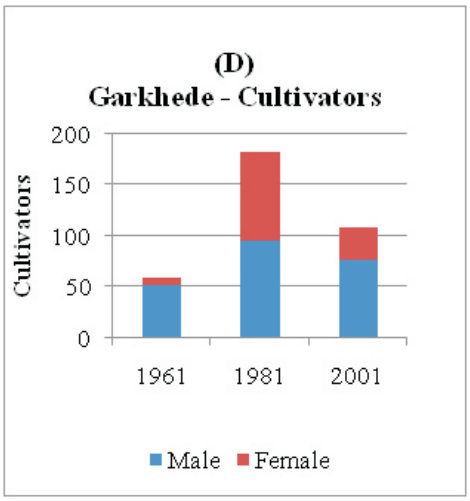
Density:

The term density of population refers to a ratio between population and land area. The general density of population of the village was 100 in 1951, 157 in 1961, 19 in 1971, 276 in 1981, 281 in 1991 and 366 in 2001. As compared with the arithmetic density, physiological density and agricultural density of the village has increased. The physiological density of the village was 193 in 1961, 327 in 1981 and became 432 in 2001.The agricultural density of the village was 99 in 1961, 173 in 1981 and accelerated to 139 in 2001(Fig.No.7.18 (A)). The increase in the density of all kinds is the









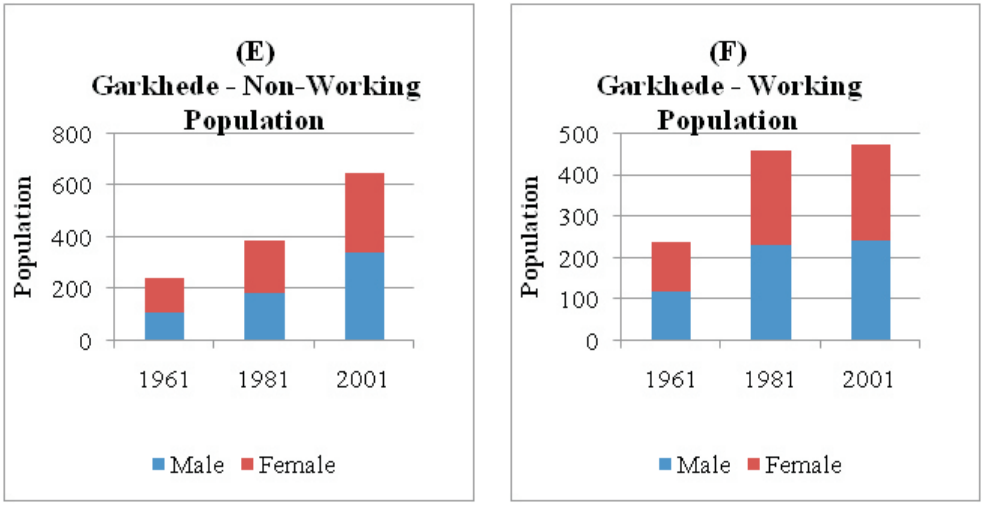


Fig. No. 7.18

indication of pressure of increasing population on existing agricultural land resource of the village.

Literacy:

The low ratio of literacy proves to be handicap and if high, it can be a big asset for development. The literacy rate of the village is continuously increasing from 45.32 % in 1961, 36.79 % in 1981 and became 54.81 % in 2001. Fig. No. 7.18(B) shows that the rate of male literacy was always higher than that of the female literacy. The rural area of India had the problem of women folk due to which females were always the victims of such bad thought. But now there is some improvement in this situation and such endeavor is being made by Central and State Governments in this regard.

Working and non-working population:

Working and non-working population structure of population of the village Garkhede is denoted by the Fig. No. 7.18(C,D,E,F).The working population of the village shows continuous addition in it where the percentage of female is always low as compared to male i.e. working population of the village is male dominated. On the other hand, there is continuously decrease in non-working population where the ratio of female is high as compared to male i.e. non-working population of the village is female dominated. During the field enquiry, it is observed that in general the male are taking decision and that was being implemented by female on the field which is a peculiar characteristic of rural agricultural policy of the district.

Land Man relationship:

The per capita agricultural land resource has been designated as land man ratio. This ratio is calculated as agricultural land resource by population which gives the Land Man ratio at the village for a particular year.

Table No. 7.25
Village : Garkhede
Surplus / Deficit Agricultural Land Resource

Sr. No	Perticular	1961	1971	1981	1991	2001
1	Total population	481	602	848	863	1122
2	Total land available for cultivation	249.16	246.12	259.60	260.26	260.26
3	Per capita land resource available	0.52	0.41	0.31	0.30	0.23
4	Per captia land required	0.40	0.40	0.40	0.40	0.40
5	Surplus / deficit land resource	0.12	0.01	-0.09	-0.10	-0.17

Source : Complied by Author

In this study, one acre of agricultural land resource has been selected as required to adequately feed each person in the village. This figure has been converted into hectare that comes to 0.40 hectare. Through this ratio, it is possible to depict how far the land resource is required for supporting the existing population of the village. Agricultural occupation is by far the most important occupation of the people in the village Garkhede and hence an important land use. It provides livelihood to more than 90 % of its population. Food grain and cotton crops are predominant in the agricultural production of the village. Table No. 7.25 clearly shows that there is no much pressure of increasing population on the agricultural land resource of the village at the initial period of study, but after 1971 there is increase in population the village due to which shortage of agricultural land resource has been felt and the situation continued till 2001. To acquire the required amount of land resource to sustain the existing population vertical expansion of agricultural land resources is the only solution. It can be possible only through expansion of irrigation through which efficiency of available land resource can be enhanced in future.

Conclusion:

1. Agricultural is the main important occupation of the village and more than 90 per cent of land and people are devoted to agricultural activities.
2. The rate of increase of Population density is more and it recorded more than double during the period of investigation.
3. The overall deficit of agricultural land noticed since initial period of study and same remains at the end.
4. Vertical expansion is possible by applying the agricultural technology.

References:

1. Ali Mohamad (1978): Studies in Agricultural Geography" Rajesh Publication, New Delhi, pp 15-45

2. Mamoria C.D. and Tripathi B.B.(1953): " Agricultural Problems of India", Kitab Mahal Publications, Allahabad PP 228-248
3. Sharma B.L.(1991): "Applied Agricultural Geography" Rawat Publications, Jaipur,, PP 4-28.
4. S.N.Bharambe (2014), Agricultural land utilization and population changes in Jalgaon district: A Geographical analysis, Ph.D.thesis submitted to N.M.University, Jalgaon.
5. S. N. Bharambe, A. S. Bhole (2013), Spatial Distribution of Arable land in Jalgaon District; A Geographical Analysis in The research Journal of Social Sciences, Jalgaon M.S. www.issrdjagaon.coVol 1,Issue 5,April., 2013. ISSN - 0976-061X
6. S.N.Bharambe,C.D.Mahajan (2012): " Change detection of land use and land cover of Yawal, raver, Bhusawal and Muktainagar tahsils using remote sensing ans GIs techniques", Journal of Chemo and Biosphere, Issue-3, Vol-2, Aug-2012,
7. S.N.Bharambe (2014), " Land use and population: A case study of Village-Rajore"in Journal of Research and Development, Vol-4(Issue 03), March-April-2014, pp 22-30.
Dr. S.B.Swant & Dr. A.S.athawale (1994) : population Geography, Mehata Publishing House, Pune.

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Chemical Weapons and Terrorism

Dr. S. P. Dhake
Head, Department of Defence and Strategic Studies Late M.D. Sisode Alias Bhausaheb Arts & Com. College, Nardana Tal. Shindhkheda, Dist. Dhule

Introduction :

"In future no wars will the military be able to ignore poision gas. It is the higher form of killing "-

Fitz Haber

German Chemical Warfare Pioneer.

Ever since primitive man understood that in order to survive, he has to fight with another primitive man. He started to developed various means of fighting. He started to develop various kinds of weapons, which would make his art of fighting and his weaponry much superior to his enemy.

Then came the thought *"How could I kill on mass scale with minimum efforts and minimum of loss on my side"* This thought has been upper most in the human mind ever since and gained momentum with advent of chemical Engineering. It is said that during the early stage of American history, The new American Settlers had distributed irritating agents affects blankets to the unsuspecting " 'Red Indians'. The result which was disastrous. The idea of using chemical weapons started creeping up. Vigorous efforts made towards the development of weapons of these kinds. During the world war- I, we saw for the first time in modern history, the use of toxic gases in the famous trench warfare. Since then the development of the weapons increased.

During World War- II, both parties involved and stockpiled huge quantities of these weapons but were reluctant to use it for fear that the other party would also use it. The Canadians had developed a chemical weapons which could wipe out all human life in the given area within six hours and yet leave. The area habitual afterwards i.e. while it kills everybody in six hours, it itself is oxidized in twelve hours.

Chemical weapons popularly known as the *"Poor man's nuke,"* are increasingly being sought by different governments as an alternative to or in addition to nuclear weapons as a weapons of mass destruction (WMD)

Meaning & Definitions of Chemical Weapons –

Chemical warfare agents are toxic chemicals designed to kill or incapacitate. Chemical warfare agents vary in toxicity, persistency and effects they cause to the body.

A 1969 report from the United Nations defines Chemical agents as – Chemical substances whether gaseous, liquid or solid which might be employed as a weapons in

combat because of their direct effect on man animal or plants and the means of their delivery."

The agents are liberated in the air and they, cause fatal effects by chemical reactions with the organs of the body internally when connected with body.

The US Army defines a chemical weapons as "Substances in either gaseous, liquid or solid from that is capable of producing incapacitation, injury or death to exposed personnel."

In other world, chemical warfare means use of poisonous gaseous and chemicals as weapons in war. (Oxford Dictionary)

There are four types of chemical warfare agents blister, blood choking and nerve.

Qualities of Chemical Weapons –

According to American's Military Document, Army Technical Mannual TM-3-215, There are following good qualities of chemical agents.

1) These agent necessarily stockpiled.
2) These agents can necessary produced from raw material.
3) During the time of war these weapons are dispersed on enemy's area by military equipment. The expected results are fulfilled.
4) These chemical agents should be produced easily by the factories and university & college laboratories & research laboratories.
5) They are safely for business transportation.
6) While stockpiling chemicals, the other should not be troubled by them.
7) Enemy should not knows physical and mental effect of chemical weapons.
8) Enemies should not protect them.
9) Experimenter should know the remedy of protecting chemical weapons.
10) Experimenter should know the first aid while testing chemical weapons.

Use of Chemical Weapons -

Chemical Weapons are the weapons of Mass destruction. But chemical weapons might be attractive to non state entities. The Aum Shiurikyo attack in Tokyo in 1995 was a good example for subversive organization that used chemical weapons to spread terror.

The main aim of the terrorist is to hit one and frightened thousand and make terror in the mind of people.

"Many terrorist organizations are interested in death and terror in order to the public attention to their cause. Many analyst equivalentor even better than bombs " The analysts point to the cause of getting the weapons their destructive power and possible shift in their motives."

Chemical warfare agents are poisonous chemicals that can rapidly cause death and disability to the enemy. The deployment of the chemical weapons the use of

poisonous compounds in the time of war with the intention to kill or incapacitate large number of the enemy. In world war I tear gas, phosgene, chlorine, mustard gas and other respiratory agents were used. For example German Soldiers deployed. Chlorine gas on 22 April 1915 resulting in the death of more than 5000 allied troops. The overall casualty to all from chemical weapons during W.W.I estimated 100,000 deaths & 900,000 injuries.

The Japanese also used chemical weapons during W.W. II. The Japanese imperial Army injured and killed close to 100,000 people during the war.

"Religious fundamentalism has become the mainstay of educated, motivated and well trained Jihads."

American used defoliants on large scale in Vietnam. Defoliants are applied to foliage in order to cause premature shedding of leaves.

e.g. Ammonium thiocynate, Cocodyl acid.

2-4-D , 2-4-5-T, Agent Orange.

"The Vietnam war saw the use of defoliants as means of chemical warfare employed by the Americans to deny concealment offered by the thick Jungles to the Vietnam Congo."

Defoliants are used to aid mechanical harvesting of cotton and other peaceful use. The FBI and CIA have publically stated these chemical agents could be the weapons of future terrorists groups around the globe could employ. The needle of suspicion towards Pakistan, Libia, Iran, North Korea, Syria. It poses a real danger of leakage or illegal transfer of WMD and related technologies to Al-Queda and other Pan Islamic terrorists to Al-Queda and other Pan Islamic terrorists organizations belonging to Osama Bin Laden's International Islamic Front (IIF) for Jihad.

Chemical weapons are noticed more in the past decade, especially since they are used by Iraq against Iranian troops in 1980-88 in Iran-Iraq war and against Kurdish Civilian in 1988. *"Chemicals are far more widely available than nuclear weapons because technology required to produced them is simpler and large number of countries have undertaken chemical weapons programme."*

There have been few examples of successfully chemical attacks, In 1995, Aum Shinrikyo, a Japanese apocalyptic cult, used Sarin on Tokyo subway. The attack killed 12 people and sent more 5,000 to be hospital with some degree of injury. This same cult reportedly carried out an attack in Matsumoto as well, where 7 people were killed and over 200 injured. Both of these attacks used G-series nerve agents, which are more toxic through inhalation than by contact V-series agents employed in a similar manner might have caused greater fatalities.

On 11th Sept 2001 Al-Queda terrorist attack on World Trade Center in USA. They use petrol as a chemical for blasting of WTC. Here terrorist used air craft fully loaded from transcontinental with fuel. That exploded on impact.

In early 2007, multiple terrorist bombing have been report in Iraq using chlorine gas. These attacks have wounded on sickened more than 350 people. Reportedly the bombers are affiliated with al-queda in Iraq & have used bombs of various sizes upto chlorine tanker trucks.

On 2012-13 Syrian Govt used Sarin gas against insurgents /Terrorists & these insurgents used weapons against Syria. In this civil war uptil now more than one Lac people are died. Recently attack of chemical weapons in Syria more than 1300 people are died.

23 March 2012- 7 citizens were affected and dies due to these of chemical weapon in Al Bayada the city near HOMS.

19 March 2013- 'Khan Al Assal' terrorist organization used chemical arrow and 31 people were died.

19 March 2013- 'Al Utay Beh' terrorist organization blames to Asa Army's attack, and 6 citizen died.

24 March 2013- 'Adra Attack ' 2 citizens died, blame of Terrorist organization.

29 April 2013- 'Saracuba ' due to poisonous weapons 8 people were injured and one of them is died.

13 June 2013- Attack on Terrorist Organisation with the help of chemical weapons and near about 100-150 people were died.

In comparison blister agents would likely be less Lethal, but more injurious, if used in similar manner Blister agents are dreamly active. So inhalation of the agents would not be necessary to injury. Hustard agent vapour penetrate most fabrics, Victims near the point of release might while not likely to cause mass destruction, might cause terror and injury.

Choking agent are not longer considered to be useful military weapons as chemical suits and masks provides high protection. Industrial availability of some choking agents provides opportunities for acquisition and subsequent use of potentiality very large volumes of use of potentiality very large volumes of such agents.

For example United states produced approximately one billion pounds of chlorine a year for use water treatment facilities". The potential Vulnerability of chlorine filled rail tank. Cars by which chlorine is primarily transported has been noted.

Terrorist attack on Industrial Stores at chemical or water treatment facilities or during shipment has been raised as another potential source of concern.

The quick dispersal of blood agents combined with other agents difficult to use on mass causalities, Even those blood agents which are industrially manufactured are often used on site without being shipped. Terrorist groups seem to be increasingly interested in these agents because of criminal use of them.

In 1995, the Sarin attack, members of Aum Shinrikyo attempted on attack in Tokyo by

setting fire to a plastic bag of Sodium Cyanide positioned next to a bag of an acid. A similar combination of chemicals was discovered following month in another station.
Al Queda terrorist group bas produced and developed plans for the employment, including hydrogen Cyanide. Osama bin Laden has stated that *"Al Queda has a chemical capability,"* Ahmed Ressam convicted in a plot to bomb the Los Angles airport, testified he had received training of the use of hydrogen cyanide in Afghanistan at an Al Queda training camp. The training described included the production of hydrogen cyanide. Salts & acids, demonstration of effectiveness of the agent by explosing dogs to it and introducing the agent into building ventilation introducing the agent into building ventilation system by placing a source near the air intakes.
CNN also located and retrieved videotapes from Afghanistan, which portray the results of testing of unknown chemical agents on dogs. *"It has been suggested that the chemical agents in those video tapes was a blood agents, most likely hydrogen Cyanide"*.
For many terrorist organization, chemical weapons might be considered an ideal choice mode of attack, if they are commercially available in open market, relatively accessible and easy to transport and which could be dispersed easily without creating suspicion.
Chemical weapons are relatively low cost as comparing to the cost of conventional modern weapons, especially as compare to nuclear weapons, chemical weapons are cheaper.
Toxic Chemicals & materials to make chemical warfare agents readily available in school . Laboratories, college, Laboratories, University Laboratories. Such materials are legitimately used in industry and use employed in various research facilities. Pathogens may be obtained from nature, hospital labs & university research facilities & other places. Terrorist usually prefer to obtain readymade chemical weapons.
Some possessors can also pose a threat for example a number of unfriendly states have acquired chemical weapons, including Iran, Iraq, North Korea & Syria : Iran & Iraq both used chemical weapons in Iran-Iraq war and many state have multiple delivery vehicles for chemical weapons.
There are three factors that makes us Vulnerable to WMD (Weapons of Mass Destruction) :1) The manner in which complex technology in our society can be tuned against itself by the terrorist- Fox example "A ballpoint pen factory can be the source of chemical weapons. 'X' chemical added to the ink in the refill material of a ball point pen can produce deadly 'Mustard gas'."
2) The suicide mission or Jihad, where there is no requirement for the terrorist so have an escape plan. Which implies that entry to the target area is the only problem.
3) The terrorist aim for attention appears to have. Changed to desire to kill perceived enemies in greater numbers.

Dual use CW Compounds

Sr.No.	Compound	Commercial use	C W use
1	Thiodiglycol	Plastics, textile dyes, ink	Mustard
2	Phosphorous Trichloride	Plastics, Insecticides	G- series nerve agent
3	Sodium Cyanide	Dyes, Pigments, Metal Hardening	GA, AC, CK
4	Methyl –Phosphonic difluoride	Organic Chemicals Synthesis	Vx,GB, GD
5	Phosphorous Pentasulphide	Lubricants, Pesticides	Vx

Source – "Gordon M Bruck", Chemical Weapons production Technology and the conversion of civilian production", Arms control Sept- 1990. P. -153.

Remedies -

1) Create adequate stockpile of necessary vaccines and their turnover suitably, under various commands.

2) Denying terrorist access to chemicals that could be used as chemical weapons.

3) Deterring the potential supply of knowledge, equipments & chemicals to terrorist.

4) Ban on the terrorist organizations which are more dangerous to India's security and International security.

5) If such chemical weapons gets in the hands of terrorist, weapons of destruction would be a first resort, the preferred means to further their ideology of suicide and random murder.

6) We academicians, scholars & other right thinking people have to join and raise our voice against anything which is dangerous to international peace and security and not accepted by the international security.

References –

1) "Question of Chemicals and Biological Weapons" (New York United Nations 1969).

2) FM-21-41. "Soldiers Hand Book for Defence Against Chemical & Biological Operations and Chemical Warfare" (Washington P.C. Department of Army 1967)

3) Khan J.A. , "Probing War and Warfare", APH Publishing Corporation, New Delhi-2005.

4) "American Military Document", Army Technical Mannual. TM-3-275.

5) Dr. Kar H.K., "Salient Warfare", Manas Publications, New Delhi-2005.

6) Kaplan David E., “Aum Shinrikyo 1995”, In toxic terror, Assesing Terrorist use of chemical and Bilogical weapons CRS report of congress.
7) Reobertson Nic., “Disturbing Sciences of Death show capability with chemical Gas”, CNN 19 Aug. 2002 and CRS report of Congress-2003.
8) Digumurti Bhaskarrao, Digumurti, Pushpalatha, “Biological Warfare”, Discover Publishing House, New Delhi.2001.
9) Lt Gen Shankar Prasad, “NBC Disaster, Prevention and management” Indian Defence Review. Oct –Dec-2007 Vol. 22(4).
10) Mishra, R.C., Biterrorism, “Threat of Massive Global Distruction, “ Authors Press-New Delhi.
11) K. Bhushan, G. Katyl, “Nuclear, Biological & chemical Warfare” APH, Publishing Corportion, New Delhi-2002.
12) Wing Commander Dr. Bala Manmohan, “Raksha Vidyan” Arms & Technology, Prabhat Publication, Delhi. 2004.
13) Baranwal S.P, “Military Year Book”, - 1982-83 , Guide Publications, New Delhi.
14) Chaudhari A.P. , Chaudhari Archana, “Modern Warfare”, Nirali Prakashan, Pune-1998.
15) Datta A.K., “Treatment & Prevention of Poison Gas”, by Indian Medical Assoication, Calcutta.
16) Sharma Vishnukant Sharma, Shirmati Meena Sharma, “Techniques of chemical warfare”, M.P. Hindi Granth Academy, Bhopal-1994.
17) Gander T.J., “Nuclear Biological and Chemical Warfare”, Lan Allan , London – 1987.
“Gordon M Bruck”, Chemical Weapons production Technology and the conversion of civilian production”, Arms control Sept- 1990.

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

"Role of Faith in Development of Mental Health"

Dr. Gokul B. Chaudhari
Head & Asso. Professor Dept. of Psychology (UG & PG)
A.Y.K.K's Arts Mahila Mahavidyalay, Deopur, Dhule (M.S.)

ABSTRACT: Mental Health as the adjustment of human beings to the world and to each other with a maximum of effectiveness and hapiness. In college life mental, physical and every other kind of development take place rapidely. Imagination and emotionality are at highest pitch while the college student is passing through this period. College students are constantly anxious about their future and livehood regarding with development of ambitious and dreams. In India there are many problems at the state, national & scientific region level of locality where there college students stay. But researcher more interested to study the mental health factor of collge students which are egocemdrism, alienation, expression, emotional unstability and social non confirmity. And college students faith on one self which affect on their mental health.

Therefore investigator used 2x2 factorial design. For study the mental health, Mithila Mental Health Status Inventory (MMHSI) prepared by Dr.Anand Kumar & G.P. Thakur. In this investigation faithful and unfaithful boy's and girls are selected on the basis of some religious questions and their attitude forwards the faith. In this study out of 60 college students 15 faithful and 15 unfaithful boys are selected. Same principle apply to select the girls students also. For analysing the mental health status researcher used, mean S.D. & 't' test statistics. In factorwise analylsis of mental health researcher found that significance mean, difference between faithful & unfaithful boys and girls with relate to alienation variable. Here high mean score of unfaithful boys and girls shows that they are suspicious, over sensitive and sensory distortion in day to day life. No significance difference are found with egocentrism, expression, emotional unstability and social nonconformity mental health variable.

INTRODUCTION: In an Indian Psychology we find many conatations, One of it is mans faith on one self, which represent the soul. Because of his faith, he can overcome any situation, whether it is of comflict, social problems or natural calamities. Taking this into consideration the researcher are tried to test the faithfulness and mental health of the college students. According to Menninger A.K. **"Mental Health as the adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness."**

STUDIES ON MENTAL HEALTH: In India with relation to mental health some studies have already been conducted. In which shrivastava's study (1984) on the relation-

ship between mental health and alcoholism Thakur (1984) study on industrialisation and mental health Pandey's study on mental health of migrain patients. Gupta, Jain and Kumar's study on mental health of urban and rural women. Kumar & Pathak and Thakur Study (1985) on sports & mental health.

OBJECTIVE:

1. To study the difference between mental health of faithful and unfaithful college boys and girls.
2. To study the factorwise (variable) mean difference between mental health of faithful and unfaithful boys and girls.
3. To find out the sexwise difference relate to mental health.

HYPOTHESIS:

1) There is no mean difference between mental health of faithful and unfaith college boys and girls.
2) There is no factorwise (variable) significance mean difference between mental health of faithful and unfaithful boys and girls.
3) There is no sexwise difference relate to mental health.

VARIABLE:

Independent Variable

1. Sex — Male, Female

2. Selected Students of faithful and unfaithful

Dependent Variable

Five factors of mental health which is egocentrism, alienation, expression, emotional unstable and social non-conformity.

RESEARCH DESIGN: 2x2 factorial design was used in this investigation.

SAMPLE: 60 college going students are selected for present study from Dhule City. Out of sixty 30 (15+15) boys and 30 girls (15+15) from faithful & unfaithful attitudes. The age group of boys & girls is between 18 to 21 years. In this investigation faithful and unfaithful boys and girls are selected on the basis of some religious questions and their attitude towards the faith. Those boys and girls show's more positive attitude towards the religious ceremonies, worship, god and faith, they are comming in the group of faithful, those boys and girls who have river bank attitude they are comming in the unfaithful group.

SCALE: Mithila Mental Health Status Inventory (MMHSI) prepared by Dr. Anand Kumar and G.P. Thakur have been used to assess the mental health of college students. This inventory covered the five areas which is mentioned in dependent variable. In this inventory total questions is 50 Here each factor covers 10 questions which is positively and remaining 5 were negatively worded. The responses were to the obtained on 5 points its format is very true, true, doubtful, false and completely false. The positively

worded intems of the inventory were given scores of 5 ,4, 3, 2 and 1 and the negatively worded items were scored in the reverse way.

STATISTICAL METHODOLOGY: For measuring the mental health researcher used mena, S.D. and 't' test.

Table No.1

Faithful and Unfaithful College Boys Only

N=15 df = 13

Variable	Sex	Mean	S.D.	't'	Significant Level
Egocen-trism	Boys (F)	25.70	5.85	1.82	N.S.
	Boys (U)	31.10	9.80		
Alienation	Boys (F)	21.93	4.98	3.67	.01
	Boys (U)	31.30	8.55		
Expression	Boys (F)	20.33	6.40	0.34	N.S.
	Boys (U)	22.13	6.02		
Emotional Unstability	Boys (F)	30.06	6.20	0.96	N.S.
	Boys (U)	24.33	7.16		
Social Non-conformity	Boys (F)	19.60	4.75	0.36	N.S.
	Boys (U)	21.20	6.65		

Critical Value of 't' at .05 level 2.16

.01 level 3.01

Table No. 2

Faithful and unfaithful college girls only

N=15 df=13

Variable	Sex	Mean	S.D.	't'	Significant Level
Egocen-trism	Girls (F)	32.53	6.55	0.75	N.S.
	Girls (U)	30.20	10.10		
Alienation	Girls (F)	21.53	5.48	4.04	.01
	Girls (U)	32.13	8.55		
Expression	Girls (F)	25.80	6.70	1.88	N.S.
	Girls (U)	21.13	6.99		
Emotional Unstability	Girls (F)	32.00	6.50	2.49	.05
	Girls (U)	25.33	8.40		
Social Non-conformity	Girls (F)	23.60	6.26	1.02	N.S.
	Girls (U)	20.70	9.10		

DISCUSSION: Regarding with first hypothesis researcher goes through total mean score of mental health of faithful and unfaithful college students. The mean score of faithful boys and girls is 126.54 unfaithful boys and girls means is 129.78. It means both group shows moderate level mental health.

But with reference to **Table No.1** it is focused that variable wise mental health of **faithful and unfaithful college boys only.** Here researcher found that significant difference in the area of alienation. The 't' value of alienation is 3.67. It is highest than the critical value of 't' at .01 level is 3.01. It means unfaithful boys are more suspicious, oversensitive than the faithful boys. Therefore the second hypothesis, there is no significance mean difference regarding with mental health variable of faithful and unfaithful boys is accepted.

Table No.2 it shows that variable wise mental health of **faithful and unfaithful girls only.** Here also researcher not found any significance mean difference in the area of egocentrism, expression and social non-conformity. Only in the area of alienation and emotional constablity respondent were significantly different. The 't' value of alienation is 4.04 and emotional unstability values is 2.49. It means faithful girls shows adjustment problem than the unfaithful girls.

Lastly, researcher calculated **sexwise mean** differance relate to mental health of college going faithful and unfaithful boys and girls. Here, researcher not found any mean difference between both sex. The mean score of girls students of faithful and unfaithful is 132.47 and boys students of faithful and unfaithful is 123.84 only.

CONCLUSION:

1. Faithful and unfaithful college boys and girls shows moderate level mental health.
2. **In factorwise analysis** of mental health, in area of alienation unfaithful boys and girls are more suspicious, oversensitive than the faithful college going boys and girls. Remaining variable like egocentrism, expression, social non-conformity not shows significant mean differences.
3. In **sexwise analysis** of college going students of faith ful and unfaithful boys and girls. Both sex student not shows significant difference, relate to mental health. Means faithfulness not differ the mental health.

LIMITATIONS OF THE STUDY:

1. In present study sample size was so small.
2. No cast, economical status was consider.
3. In selection of unfaithful students not standardised test was used.

REFERENCE:

1. Amate Baba - Ujawal Udyasthi, Nana Dengle Sadhana Prakashan, Pune
2. Anand K.C.(1966) Youth Specks C.C.Cooke, Cindigadh.
3. Clark S.M. and Clark, J.P. (1972) Youth In Modern Society New York Holts Rinehart and Winston.

Vatsyayan - Abnormal Psychology - Kedar Nath Ramnath, New Delhi.

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Liberalization of Indian Banking and Regulation

Dr. Sanjay B. Kadu
Associate Professor, Vidya Bharati Mahavidyalaya, Amravati.

Banking is an ancient business in India with some of oldest references in the writings of Manu. Bankers played an important role during the Mogul period. During the early part of the East India Company era, agency houses were involved in banking. Modern banking (i.e. in the form of joint-stock companies) may be said to have had its beginnings in India as far back as in 1786, with the establishment of the General Bank of India. Three Presidency Banks were established in Bengal, Bombay and Madras in the early 19th century. These banks functioned independently for about a century before they were merged into the newly formed Imperial Bank of India in 1921. The Imperial Bank was the forerunner of the present State Bank of India. The latter was established under the State Bank of India Act of 1955 and took over the Imperial Bank.

The Swadeshi movement witnessed the birth of several indigenous banks including the Punjab National Bank, Bank of Baroda and Canara Bank. In 1935,the Reserve Bank of India was established under the Reserve Bank of India Act as the central bank of India. In spite of all these developments, independent India inherited a rather weak banking and financial system marked by a multitude of small and unstable private banks whose failures frequently robbed their middle-class depositors of their life's savings. After independence, the Reserve Bank of India was nationalized in 1949 and given wide powers in the area of bank supervision through the Banking Companies Act (later renamed Banking Regulations Act). The nationalization of the Imperial bank through the formation of the State Bank of India and the subsequent acquisition of the state owned banks in eight princely states by the State Bank of India in 1959 made the government the dominant player in the banking industry. In keeping with the increasingly socialistic leanings of the Indian government, 14 major private banks, each with deposits exceeding Rs. 50 crores, were nationalized in 1969. This raised the proportion of scheduled bank branches in government control from 31% to about 84%. In 1980, six more private banks each with deposits exceeding Rs 200 crores , were privatized further raising the proportion of government controlled bank branches to about 90%. As in other areas of economic policy-making, the emphasis on government control began to weaken and even reverse in the mid-80s and liberalization set in firmly in the early 90's. The poor performance of the public sector banks, which accounted for about 90% of all commercial banking, was rapidly becoming an area of concern. The continuous escalation in non-performing assets (NPAs) in the portfolio of banks posed a significant threat to the very stability of the financial system. Banking reforms, therefore, became an integral part of the liberalization agenda.

The first Narasimham Committee set the stage for financial and bank reforms in India. Interest rates, previously fixed by the Reserve Bank of India, were liberalized in the 90's and directed lending through the use of instruments of the Statutory Liquidity Ratio was reduced. While several committees have looked into the ailments of commercial banking in India, but major work has been done according to the Narsimham committee reports.- the Narasimham committee I (1992) and II (1998)

Liberalization

Liberalization (or liberalization) refers to a relaxation of previous government restrictions, usually in areas of social or economic policy. In some contexts this process or concept is often, but not always, referred to as deregulation. In the arena of social policy it may refer to a relaxation of laws restricting. Most often, the term is used to refer to economic liberalization, especially trade liberalization or capital market liberalization.

Liberalization in Indian Banking Sector-

Liberalization in Indian banking sector was begun since 1992, following the Narsimham Committee Report (December 1991). The 1991 report of the Narasimham Committee served as the basis for the initial banking sector reforms .In the following years, reforms covered the areas of interest rate deregulation, directed credit rules, statutory pre-emptions and entry deregulation for both domestic and foreign banks. The objective of banking sector reforms was in line with the overall goals of the 1991 economic reforms of opening the economy, giving a greater role to markets in setting prices and allocating resources, and increasing the role of the private sector. The Narsimhan Committee was first set up in 1991 under the chairmanship of Mr. M. Narasimham who was 13th governor of RBI. Only a few of its recommendations became banking reforms of India and others were not at all considered. Because of this a second committee was again set up in 1998.As far as recommendations regarding bank restructuring, management freedom, strengthening the regulation are concerned, the RBI has to play a major role. If the major recommendations of this committee are accepted, it will prove to be fruitful in making Indian banks more profitable and efficient.

Problems Identified By The Narasimham Committee

1. **Directed Investment Program** : The committee objected to the system of maintaining high liquid assets by commercial banks in the form of cash, gold and unencumbered government securities. It is also known as the Statutory Liquidity Ratio (SLR). In those days, in India, the SLR was as high as 38.5 percent. According to the M. Narasimham's Committee it was one of the reasons for the poor profitability of banks. Similarly, the Cash Reserve Ratio- (CRR) was as high as 15 percent. Taken together, banks needed to maintain 53.5 percent of their resources idle with the RBI.

2. **Directed Credit Program** : Since nationalization the government has encouraged the lending to agriculture and small-scale industries at a confessional rate of interest. It is known as the directed credit programme. The committee opined that these sectors have

matured and thus do not need such financial support. This directed credit programme was successful from the government's point of view but it affected commercial banks in a bad manner. Basically it deteriorated the quality of loan, resulted in a shift from the security oriented loan to purpose oriented. Banks were given a huge target of priority sector lending, etc. ultimately leading to profit erosion of banks.

3. **Interest Rate Structure**: The committee found that the interest rate structure and rate of interest in India are highly regulated and controlled by the government. They also found that government used bank funds at a cheap rate under the SLR. At the same time the government advocated the philosophy of subsidized lending to certain sectors. The committee felt that there was no need for interest subsidy. It made banks handicapped in terms of building main strength and expanding credit supply.

4. **Additional Suggestions:** Committee also suggested that the determination of interest rate should be on grounds of market forces. It further suggested minimizing the slabs of interest.

Along with these major problem areas M. Narasimham's Committee also found various inconsistencies regarding the banking system in India.

Narasimham Committee Report I – 1991

The Narsimham Committee was set up in order to study the problems of the Indian financial system and to suggest some recommendations for improvement in the efficiency and productivity of the financial institution.

The committee has given the following major recommendations:-

1. **Reduction in the SLR (Statutory Liquidity Ratio) and CRR(Cash Reserve Ratio)** : The committee recommended the reduction of the higher proportion of the Statutory Liquidity Ratio (SLR) and the Cash Reserve Ratio (CRR). Both of these ratios were very high at that time. The SLR then was 38.5% and CRR was 15%. This high amount of SLR and CRR meant locking the bank resources for government uses. It was hindrance in the productivity of the bank thus the committee recommended their gradual reduction. SLR was recommended to reduce from 38.5% to 25% and CRR from 15% to 3 to 5%.

2. **Phasing out Directed Credit Programme** : In India, since nationalization, directed credit programmes were adopted by the government. The committee recommended phasing out of this programme. This programme compelled banks to earmark then financial resources for the needy and poor sectors at confessional rates of interest. It was reducing the profitability of banks and thus the committee recommended the stopping of this programme.

3. **Interest Rate Determination** : The committee felt that the interest rates in India are regulated and controlled by the authorities. The determination of the interest rate should be on the grounds of market forces such as the demand for and the supply of fund. Hence the committee recommended eliminating government controls on interest rate and phasing out the concessional interest rates for the priority sector.

4. **Structural Reorganizations of the Banking sector** : The committee recommended that the actual numbers of public sector banks need to be reduced. Three to four big banks including SBI should be developed as International banks. Eight to Ten Banks having nationwide presence should concentrate on the national and universal banking services. Local banks should concentrate on region specific banking. Regarding the RRBs (Regional Rural Banks), it recommended that they should focus on agriculture and rural financing. They recommended that the government should assure that henceforth there won't be any nationalization and private and foreign banks should be allowed liberal entry in India.

5. **Establishment of the ARF Tribunal** : The proportion of bad debts and Non-performing asset (NPA) of the public sector Banks and Development Financial Institute was very alarming in those days. The committee recommended the establishment of an Asset Reconstruction Fund (ARF). This fund will take over the proportion of the bad and doubtful debts from the banks and financial institutes. It would help banks to get rid of bad debts.

6. **Removal of Dual control** : Those days banks were under the dual control of the Reserve Bank of India (RBI) and the Banking Division of the Ministry of Finance (Government of India). The committee recommended the stepping of this system. It considered and recommended that the RBI should be the only main agency to regulate banking in India.

7. **Banking Autonomy** : The committee recommended that the public sector banks should be free and autonomous. In order to pursue competitiveness and efficiency, banks must enjoy autonomy so that they can reform the work culture and banking technology upgradation will thus be easy.

Some of these recommendations were later accepted by the Government of India and became banking reforms.

Narasimham Committee Report II – 1998

In 1998 the government appointed yet another committee under the chairmanship of Mr. Narsimham. It is better known as the Banking Sector Committee. It was told to review the banking reform progress and design a programme for further strengthening the financial system of India. The committee focused on various areas such as capital adequacy, bank mergers, bank legislation, etc.

It submitted its report to the Government in April 1998 with the following recommendations.

1. **Strengthening Banks in India:** The committee considered the stronger banking system in the context of the Current Account Convertibility (CAC). It thought that Indian banks must be capable of handling problems regarding domestic liquidity and exchange rate management in the light of CAC. Thus, it recommended the merger of strong banks which will have 'multiplier effect' on the industry.

2. **Narrow Banking**: Those days many public sector banks were facing a problem of the Non-performing assets (NPAs). Some of them had NPAs were as high as 20 percent of

their assets. Thus for successful rehabilitation of these banks it recommended 'Narrow Banking Concept' where weak banks will be allowed to place their funds only in short term and risk free assets.

3. **Capital Adequacy Ratio:** In order to improve the inherent strength of the Indian banking system the committee recommended that the Government should raise the prescribed capital adequacy norms. This will further improve their absorption capacity also. Currently the capital adequacy ration for Indian banks is at 9 percent.

4. **Bank ownership:** As it had earlier mentioned the freedom for banks in its working and bank autonomy, it felt that the government control over the banks in the form of management and ownership and bank autonomy does not go hand in hand and thus it recommended a review of functions of boards and enabled them to adopt professional corporate strategy.

5. **Review of banking laws:** The committee considered that there was an urgent need for reviewing and amending main laws governing Indian Banking Industry like RBI Act, Banking Regulation Act, State Bank of India Act, Bank Nationalisation Act, etc. This upgradation will bring them in line with the present needs of the banking sector in India.

Apart from these major recommendations, the committee has also recommended faster computerization, technology upgradation, training of staff, depoliticizing of banks, professionalism in banking, reviewing bank recruitment, etc.

Changes due to the recommendations made by the Narsimham committee are-

1. Statutory pre-emptions: The degree of financial repression in the Indian banking sector was significantly reduced with the lowering of the CRR and SLR, which were regarded as one of the main causes of the low profitability and high interest rate spreads in the banking system. During the 1960s and 1970s the CRR was around 5%, but until 1991 it increased to its maximum legal limit of 15%.The reduction of the CRR and SLR resulted in increase flexibility for banks in determining both the volume and terms of lending.

2. Priority sector lending: Besides the high level of statutory pre-emptions, the priority sector advances were identified as one of the major reasons for the below average profitability of Indian banks. The Narasimham Committee therefore recommended a reduction from 40% to 10%. However, this recommendation has not been implemented and the targets of 40% of net bank credit for domestic banks and 32% for foreign banks have remained the same.

3. Interest rate liberalization: Prior to the reforms, interest rates were a tool of cross-subsidization between different sectors of the economy. To achieve this objective, the interest rate structure had grown increasingly complex with both lending and deposit rates set by the RBI. The deregulation of interest rates was a major component of the banking sector reforms that aimed at promoting financial savings and growth of the organized financial system. The lending rate for loans in excess of Rs200,000 that account for over90% of total advances was abolished in October 1994. Banks were at the same

time required to announce a prime lending rate (PLR) which according to RBI guidelines had to take the cost of funds and transaction costs into account.

4. Entry barriers: Before the start of the 1991 reforms, there was little effective competition in the Indian banking system for at least two reasons. First, the detailed prescriptions of the RBI concerning for example the setting of interest rates left the banks with limited degrees of freedom to differentiate themselves in the marketplace. Second, India had strict entry restrictions for new banks, which effectively shielded the incumbents from competition.Through the lowering of entry barriers, competition has significantly increased since the beginning of the1990s. Seven new private banks entered the market between 1994 and 2000. In addition, over 20 foreign banks started operations in India since 1994. By March 2004, the new private sector banks and the foreign banks had a combined share of almost 20% of total assets. Deregulating entry requirements and setting up new bank operations has benefited the Indian banking system from improved technology, specialized skills, better risk management practices and greater portfolio diversification.

5. Prudential norms: The report of the Narasimham Committee was the basis for the strengthening of prudential norms and the supervisory framework. Starting with the guidelines on income recognition, asset classification, provisioning and capital adequacy the RBI issued in 1992/93, there have been continuous efforts to enhance the transparency and accountability of the banking sector. The improvements of the prudential and supervisory framework were accompanied by a paradigm shift from micro-regulation of the banking sector to a strategy of macro-management.

6. Public Sector Banks : At the end of the 1980s, operational and allocative inefficiencies caused by the distorted market mechanism led to a deterioration of Public Sector Banks' profitability. Enhancing the profitability of PSBs became necessary to ensure the stability of the financial system. The restructuring measures for PSBs were threefold and included recapitalization, debt recovery and partial privatization.

Despite the suggestion of the Narasimham Committee to rationalize PSBs, the Government of India decided against liquidation, which would have involved significant losses accruing to either the government or depositors. It opted instead to maintain and improve operations to allow banks to create a good starting basis before a possible privatization.

Conclusion

Nevertheless, more than a decade since the beginning of economic reforms, the banking sector is still struggling under the burden of considerable NPAs and the poor performance of public sector banks continues to be a major issue. Liberalization has, however, had a predictable effect in the distribution of scheduled commercial banking in India. The reforms era growth in banking have focused on the more profitable urban and metro areas of the country. Between 1969 and 1991 for instance, the share of the rural branches increased from about 22% to over 58%. In 2004, the corresponding figure stood at a much lower

46%. The number of rural bank branches actually declined from the 1991 figure of over 35,000 branches by about 3000 branches. Between 1969 and 1991 the share of urban and metro branches fell from over 37% to less than 23%. In the years since it has crawled back up to over 31%.

Since India has decided to move toward a more market-based system, it is now important for policy makers to create the conditions for the well-functioning of a market based banking system. Among the necessary tasks are the building and strengthening of the necessary institutions like oversight bodies, accounting standards and regulations as well as the further restructuring and privatization of PSBs. If India continues on its current path of banking sector liberalization, it should be in a position to further strengthen its banking system, which will be vital to support its economic growth in the years to come. Thus Liberalisation has proved to be a great boon to the banking system as the structural changes which have been implemented due to the liberalisation has transformed the Indian banking system and moreover the recommendations of various committees has led to further strengthening banking system. Thus liberalisation has made banking from class banking to mass banking.

References :-

Available at http://en.wikipedia.org/wiki/Swadeshi_movement visited on September 15,2011.

Statutory Liquidity Ratio is the amount of liquid assets, such as cash, precious metals or other approved securities, that a financial institution must maintain as reserves other than the Cash with the Central Bank.

Rajesh Chakrabarti , Banking in India - Reforms and Reorganization

Sullivan, Arthur; Sheffrin, Steven M. (January 2002). Economics: Principles in Action. New Jersey: Pearson Prentice Hall. ISBN 0-13-063085-3.

Available at http://www.scribd.com/doc/53006431/Narasimham-Committee-on-Banking-Sector-Reforms visited on September 15,2011.

Arun, T.G./ Turner, J.D. (2002a): Financial liberalisation in India, in: Journal of International Banking Regulation, 4 (2),p.183;A brief overview of the most important reforms follows.

Available at http://kalyan-city.blogspot.com/2010/09/narasimham-committee-report-1991-1998.html visited on September 15,2011.

Statutory Liquidity Ratio

Ibid

Available at http://kalyan-city.blogspot.com/2010/09/narasimham-committee-report-1991-1998.html visited on September 15,2011.

Current account convertibility refers to freedom in respect of Payments and transfers for current international transactions.

A debt obligation where the borrower has not paid any previously agreed upon interest and principal repayments to the designated lender for an extended period of time. The nonperforming asset is therefore not yielding any income to the lender in the form of principal and interest payments.
Available at http://kalyan-city.blogspot.com/2010/09/narasimham-committee-report-1991-1998.html visited on September 15,2011.
Shirai, Sayuri (2002b): Road from State to Market - Assessing the Gradual Approach to Banking Sector Reforms in India, in: Asian Development Bank Institute Research Paper, No. 32, p. 12
Kamesam, Vepa (2002): Indian Economy - Financial Sector Reforms and Role of RBI, in: RBI Bulletin, May, p. 379
Ganesan, P . (2003): Impact of Priority Sector Advances on Profitability of Public Sector Banks in India, in: Journal of Financial Management and Analysis, 16 (2), p. 15
Arun, T.G./ Turner, J.D. (2002b): Financial Sector Reforms in Developing Countries: The Indian Experience, in: World Economy, 25 (3), p. 437
Deolalkar, G.H. (1999): The Indian Banking Sector: On the Road to Progress, in: (ed.): Rising to the Challenge in Asia: A Study of Financial Markets - India, Manila, p. 60
Arun, T.G./ Turner, J.D. (2002b): Financial Sector Reforms in Developing Countries: The Indian Experience, in: World Economy, 25 (3), p. 439;
Reserve Bank of India (2004a): Report on Trend and Progress of Banking in India 2003-04, p. 167
Ibid,p.24
Kamesam, Vepa (2002): Indian Economy - Financial Sector Reforms and Role of RBI, in: RBI Bulletin, May 2002, p. 377
Shirai, Sayuri (2002b): Road from State to Market - Assessing the Gradual Approach to Banking Sector Reforms in India, in: Asian Development Bank Institute Research Paper, No. 32, p. 26

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Landslide and Soil Creeping and Their Impact: A Case Study of Bhilar Village

Dr. Ananadrao S. Patil
Associate Professor, Chhatrapati Shivaji College, Satara, Maharashtra, India
Mr. A. S. Khade
Associate Professor, Chhatrapati Shivaji College, Satara, Maharashtra, India

1. Introduction:

Man and environment relationship is the core of geography. Man is experiencing different types of natural hazards such as landslides, floods, or a volcanic eruption, earthquakes, large scale slope failures, cyclones and tsunamis etc. Landslides are one of the major natural disasters and most destructive geological process. It is responsible for the destruction of human life and damage of property. Landslides are responsible for considerably greater socio-economic loss and even behavioral pattern of the residents in the affected area.

Most vulnerable zone of landslide disasters is offshoots of Sahyadri in Satara district. It strike almost perennially and occupy a position of major concern. Hence there is an urgent need for micro level planning to identify the landslides prone areas. There is a need of monitoring landslide zones in the Satara district. Present study is deals with such kind of vision and prospect.

2. The Study Area:

The village Bhilar is situated at the eastern part of the Mahabaleshwar tahsil of Satara district. It is located on 17^0 54' 55" N latitudes and 73^0 45' 50" E longitudes. Average altitude of the Bhilar is 1280 m from mean sea level and covered 432.21 hectares of geographical area.

Table No.-I
Land use pattern of Bhilar.

Sr. No.	Category	Area in Hectares
1	Forest area	157.00
2	Village(Gavtahn),Non agricultural land, Wasteland	39.00
3	Cultivable area	236.21
4	Affected area	55.00
5	Total Geographical area	432.00

Source: Report Submitted by P.W.D., Satara.

Bhilar is situated on the slopes of the offshoots of the Sahyadri. It is a marginal part of the "Peninsular Shield", comprises uneven terrain. Area is composed of ancient rocks and "aa" type of lava flows. Dendritic drainage pattern is developed by the river Kudali which originates in this part, near Kedambe.

The study area lies in the tropical humid monsoon climate with average rainfall is more than 6000 mm. Temperature varies from 40^0c and 10^0 in summer and winter respectively. Evergreen forest is dominated with monsoon type of vegetation. Shunted shrubs and bushes are sprinkled on slopes. Red to yellow laterite soil is found in the major part of the Bhilar.

According to the 2001 census population of Bhilar is 2524 and majority people are belongs to farming community. Bhilar is linked by tar road to State Highway No.72 (Mahabaleshwar-Panchgani). It is also linked to Medha by seasonally motor able road. Village possesses modern modes of communication.

3. Aims and Objectives:

1. To identify the causes of the landslides in the study area.

2. To assess the nature of landslides in the study area.

3. To identify the socio-economic impact of landslides on villagers.

4. To suggest measures for minimizing impact of landslides.

4. Data Sources and Methodology:

The present study is based on field visits and interviewing of the villagers. Secondary data is collected from various Government departments viz. Groundwater Survey and Development Agency, Satara, Public Works Department, Satara, Reports submitted by the GSDA Committee, and records from the Gram-panchayat office Bhilar.

Landslide information is extracted from the different photographs of the field. Different types of profiles are developed. Physical survey of terrain is carried out. Using topographical-sheet 47 G/13 gradient is computed. Interpretation on the basis of the analysis is depicted with the help of cartographic techniques.

5. Concept of landslide:

The term "Landslide" describes a wide variety of processes that result in the downward movement of slope forming materials including rocks, soil, artificial fills or a combination of these. Landslide is a one of the type of mass movement.

Soil creep is the slow down slope movement of the surface material of the soil. Soil creep takes place virtually on all slopes and often remains unnoticed because of the slowness of the movement. Soil creep goes on slowly and continuously and over a long period of time may move considerable volume of material to the stream at the bottom of the slope.

5. Types of the landslide:

There are different types of landslides. It includes slide, creep, slumps, topple, fall and flow. Many times term landslide intermingled with the slope movement and creates confusion. Bhilar area is dominated by certain landslide types, creeping, slumping, and

flows. Creeping is very slow movement of mass or materials on a slope downhill. The most common cause of slumping is excess water in the ground whether from heavy rains or from human activities that affects the drainage.

Slope movement is a distinct process cause's destruction when it is more intensive at a particular area. According to Varne's classification of slope movement Bhilar is experiencing Lateral spread movement. Lateral spreads are distinctive because they usually occur on very gentle slopes or flat terrain. The dominant mode of movement is lateral extension accompanied by shear or tensile fractures. In other wards, the slow to rapid lateral extensional movement of rock or soil masses are known as lateral spreads. When coherent material either bedrock or soil, rests on materials that liquefy, the upper units may undergo fracturing or extension and may then subside, translate, rotate, disintegrate or liquefy and flow.

7. Causes of landslide in the study area:

Bhilar is a complex landslide experiencing area. There are different reasons or causes of the landslides or mass movements. The adverse geological setting, mountainous topography, climatic variations and extremities and human induced changes are the main causes of landslides in the study area.

A. Geological causes- The landslide is very much natural process link in the long chain of mass wasting process. Mass wasting is a continuous process operating on the surface of the earth to maintain equilibrium between areas of high and low relief. A landslide can seldom be attributed to a definite cause and therefore it is important that the overall terrain is collapsed and the causative factors and the interrelations among them are distinguished before a potential slope movement can be recognized and identified.

Bhilar is a typical example of landslides attributed to a definite cause. There are difference opinions regarding to the geological formation of Western Ghat. Right from considering it as a marine cliff, some have attributed it to faulting while others have considered recession as the main process latter one considered as plausible explanations.

The thickness of basalt is maximum in Western Ghat and seen goes on decreasing towards the east and south. Is geologically Most of the area is covered by basalt and there exists an overall homogeneity in terms of litho logy. The laterite rocks product of chemical weathering under leaching environments and subsequent indurations are found in this particular area. The Western Ghat is geologically stable but has uplifted plateau margins influenced by neo-tectonic activity.

This whole area is earthquake prone area. According to the A.M.Patwardhan the frequency of earthquake shocks in Koyana region has been lowered in each decade since 1967, but in 1993-94 there had been a spurt in the seismicity. The clustering of epicenters in a small region shows that the small and big earthquakes are causally are related to the regional tectonic stress imparted by the northward drifting of the Indian Plate. It means that the Bhilar area with permeable rock is becoming more susceptible to horizontal compression

and reverses faulting. The small fractures and faults are further responsible for the water infiltration, saturation and seepage process. It leads to the weathering and further leads to the creating more landslide prone areas.

B. Geomorphologic causes-Bhilar is a mountainous area and hence it is a landslide prone area. The southern part of the Bhilar, Kudali river course flows in west-east direction. Bhilar is situated on flat terrace. The general trend of the slope in the area is northwest to east and southwest to east direction. The slope computed for the whole area is about 12^0 or 1/5m it means that for every 5m of horizontal distance 1 m. of inclination is observed. It reveals that the very steep slope in the east.

Contours running north-south direction close towards the east and spaced spars in west to form flat terrace. Contours are bulges in the southern part of the village. It reveals that whatsoever eroded material is in the western part is likely to be deposited in southern part along the river course. It forms deposition loading slope in southern part of the Bhilar near Narli Bavi. It is a kind of natural preparation for landslide process.

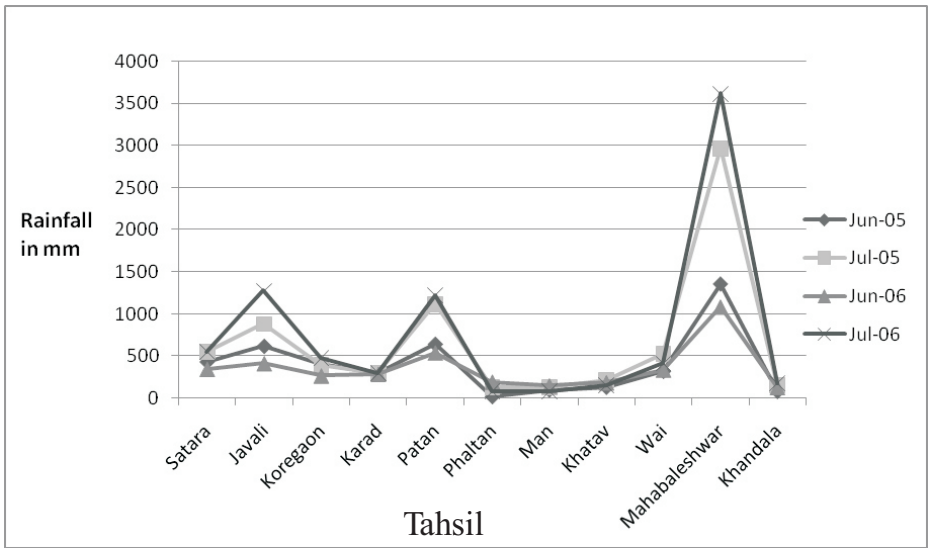
C. Geo-climatic causes- The whole area is covered by laterite capping. The eroded material is a fine laterite soil and regolith. Very thick layer of laterite soil is observed in this are. It is composed of boulders which are not disintegrated. The whole thick laterite covered area is about 70 hectares. The thickness of laterite varies from 3 to 10 meters. The whole soil mass is settled on hard basalt rock. It is exposed near water course.

Laterite soil has distinct characteristic. During dry season it becomes more compact and cohesive. Such soil does not creeps or slides. The soil particles are becomes more cohesive and prohibits for natural collapse. But in Bhilar area with heavy rainfall is creating instability on such deposition loading slopes. Bhilar village is constituted of laterite regolith made up of mixture of laterite boulders and lithomarge clays. Due to heavy rainfall the laterite soil exposed. The seepage of water on the above laying layers does not runaway as runoff water. It percolated in the soil and intensive water saturation of the ground surface takes place. Whole mass of laterite and turbid water converted into a well kneaded mass. Turbid water acts as a lubricant. Even attraction and friction between soil particles is declines. They are becoming cohesion less makes them unrest. The transformation of a well kneaded mass into mudflow started. Such mudflows stated sliding due to gravity on slope.

Many times such flowing creates localized tension surface of the deposition loading slope. It resulted into development of large cracks and fractures on the surface. These fractures are varies in width from 0.20 m to 0.50 meters. It have further increased permeability of the ground surface and facilitated to the water seepage and saturation of the ground mass as well as the lateral spread or mass movement. It further damaged the houses and infrastructure.

Figure No.-I

Bhilar: Rainfall of June and July Months (2005 and 2006)



Source: Author

Climate plays vital and supporting role in landslide process. In general climate is responsible for weathering and erosion. But due to tropical humid climatic conditions the process of mass movement (wasting) increased and intensifies. In Bhilar area the most effective factor caused the landslide includes increased rain coupled. In last two years area receives heavy rainfall. It is beyond the prediction of the Metrological department. Rainfall during the monsoon of 2005 was 8387.90 mm. During the months of June and July 2005 it was 73 % of the total rainfall. Current year also this area is receive 8487.90 mm of rainfall during the monsoon and during the months of June and July 2006 it is 78 % of the total rainfall. It means that this area receives very huge amount of rainfall in short period of time. Other important feature of the rainfall in this area is very heavy spells of rainfall in few hours or days.

The river Kudali has very small catchments area headwords. River cannot able to kept water in its course. It means that the water lodging conditions created on flat terraces. The seepage of water and saturation of water is very high level during such period. It supports to liquefaction and flowage of a weak soil layers. This is further vulnerable to lateral spread.

D. Human Causes- Human induced changes are also responsible for the landslide in the Bhilar area. In recent year cropping pattern in the area is changed. Strawberries cultivation is dominated in Bhilar area. It is commercial horticultural crop cultivated on soil beds.

The land development activities are started in the area. The natural slopes are altered to create flat terraces for cultivation of strawberries. Small embankments on the boundaries of the fields are constructed. The laterite rocks locally named 'Chiras' also excavated for construction of houses. Red laterite soil is also used to smear the walls of houses. Land development activities are seen in large areas of Bhilar. Especially a western part of the village is dominated with such activities. Because of this process loosening of laterite soil takes place. During rainy season rain water does not run away easily as it was happen before the land alteration. Rainwater spreads on fields for longer period and water lodging conditions developed in the area. Water is percolates and saturated in the area. Decomposition of laterite rocks underneath is progressed. The cohesion less decomposed friable heavy strata of laterite falls down. The deposition loading slopes are created in the way of Kudali river course. The overburdening of saturated soil mass creates tension and created a major fracture. A major fracture is developed in north-south direction parallel to easterly slope. Many traverse cracks and fractures created in the southern part of the Bhilar in Naral Bavi area.

8. Impact of Landslide and Soil creeping on Bhilar village:

a. Physical Changes- Physical changes like fractures, cracks, subsidence, fillings, are found in this area. A major fracture is about 800 meter (N-S) developed close to the slope. Parallel and traverse cracks and fractures of varying width (6" to ½ m.) are created. The subsidence of landmass is about 3 to 6 meters in Narali Bavi area. The subsidence of landmass is about 20 to 25 meters from its original location. The flat terrain is intensively torn out and transformed into uneven ups and downs. It increased permeability and porosity of the ground. New spring are developed.

b. Infrastructural Damage- Infrastructural damage is severe. There are 38 families and 330 people suffering from this calamity. Houses collapsed, roads, embankments, small bridges, retaining wall, railings, lampposts, biogas plants, all such infrastructure is damaged. Bhilar-Danavali road, Bhilar-Harijan Vasti road and internal roads are damaged severely. Concrete pavements are broken into pieces. Two water supply wells were buried and filled by debris and the electric pump house, water supply pipeline and tank is uprooted. Many of them are now residing in primary school and in the houses of relatives. The affected people are not still getting their own residence. They got only 1000 rupees of financial aid once in a 2005.Government assured for all kinds of help but there is no concrete steps have been taken by the government.

Table No.-II
Loss of Government and Private Property at Bhilar.

Sr. No.	Type of Damage	Details	Loss in Lakh Rs.
1	Houses	Collapse of houses.	**85.00**
2	Water Supply Scheme	Two Wells, Store tank, Pipeline	**50.00**
3	Agriculture	Bunding and land development schemes in 55 hectares.	**82.50**
4	Agricultural Water Channels	Concrete irrigation channels	**15.00**
5	Bhilar-Danvali road	Mori, Embankment, compound, retaining wall, railings.	**45.00**
6	Bhilar-Harijan vasti road	Mori, compound, retaining wall, water bound Macadown Black tapping.	**20.00**
7	Internal roads	Embankment, concrete gutters, and pavements, W.B.M., Black tapping.	**25.00**
8	Bhilar-Golewadi road	Mori, Concrete gutters, W.B.M., Black tapping.	**10.00**
		Total	**332.50**

Source: Report Submitted by P.W.D., Satara.

c. Agricultural Loss- Farmlands of 55 hectares, i.e. 23% of the total cultivable land torn out by fractures and cracks. The bundings, concrete irrigation channels are destroyed. !53 farmers loss their farms and occupation. Uprooted fruit trees of mangoes and phanas is the addition loss of the property.

Table No.-III
Bhilar: Loss of Farmlands

Sr. No.	Number of Farmers	Affected area in hectares.	Loss in Lakh Rs.
1	153	55.00	182.00
		Total	182.00

Source: Report Submitted by P.W.D., Satara.

Table No.-IV
Bhilar: Loss of Fruit Trees

Sr. No.	Number of Fruit trees	Age of trees.(Approx.)	Loss in Lakh Rs.
1	Phanas- 20	35Years	0.40
2	Mango- 05	30Years	0.10
		Total	0.50

Source: Report Submitted by P.W.D., Satara.

d. Psychological effect- People of Bhilar is experiencing this calamity as havoc in their life. They are experiencing psychological stress and strains. They all are in worry whether they will get their habitat and livelihood or loose their survival. People are having kinship to each other and they do not like to separate from those who are not affected. They are

like to live in same locality. Some of them are loose their whole assets and could not cope with the stress.

e. Negative economic effects- The negative economic effect includes the cost or repairing the structures, loss of property permanently, loss of water availability, quantity and quality, repairing of roads and erection electricity supply etc. Rehabilitated site should posses all the kinds of primary amenities and facilities and to develop this money is required.

9. Conclusions: In recent years Western Ghat is more vulnerable to landslide hazards. Landslides are occurring frequently and becoming very intensive and causing massive damages to property and life. It is essentially concern of geographers like us. Present study makes to come at certain conclusions, such as-

1. Bhilar area is experiencing different types of landslides. It is dominated by creeping, slumping and flows.

2. Bhilar area is also experiencing lateral spread movement.

3. There are different causes behind the landslides and lateral spread movement and hence it can be termed as complex landslide.

4. Neo-tectonic movements in the Koyana basin are responsible for the creating landslide prone area in the Western Ghat.

5. Creation of fractures and faults due to such movements further responsible for intensifying water infiltration, saturation and seepage process.

6. Slope of the terrain is always responsible for the intensifying the landslides. Bhilar has more than 12 degree of slope, always prone to down slope movements.

7. Laterite soil becomes cohesion less, frictionless due to water. Especially in rainy season laterite soil is transformed into a well kneaded mass which can flow on gentle slopes also. Bhilar possess such regolith of laterite.

8. Heavy rainfall spells in few hours to few days are responsible for the intensifying the mass movement process.

9. Alteration of land into flat terraces for cultivation is acts as an obstruction in the runoff of water in rainy season.

10. Human induced changes like creating embankments for field, deforestation for making more land cultivable, all are combine responsible for landslides in the area of Bhilar.

10. Recommendations: After the assessment of the landslide affected area of Bhilar some remedial measures should be consider-

a. Rehabilitation of the affected people should be on firm and static hard terrain.

b. The affected area should be evacuated and do not allow any construction or farming activity in such area.

c. The asses existing cracks and fractures in the area and monitoring of developments is essential to avoid further damages.

d. Monitoring of down slope movement of mass.

e. Construct retaining concrete walls at different levels to avoid subsidence.
f. constructs concrete nalas and channels or gutters along with the slope and avoids percolation of water.
g. Removal of debris in the river Kudali is essential. Removal of concrete remnants of water tank and retaining wall from the river course is essential.
h. Alteration of land and excavation of rocks and soil should be stopped. Adopt a suitable cropping pattern.
k. Don't give permission for over loaded vehicles on the roads of affected area.
l. Create awareness, and disaster management cell should be established at the local level.
m. Landslide zonation map should be prepared. Geological, Geo-engineering, Geomorphic and Geo- Climatology survey should be carried out intensively.
n. A forestation process should be seriously monitoring and made dynamic.

11. References:

1. Editors: (2002), Jaymala Diddee, S.R.Jog, V.S.Kale, V.S.Datye; 'Geography of Maharashtra', Rawat Publication; Jaipur, PP10-11,30-31, 91, 111-112.
2. Kale V.S., & Gupta Abijit: (2001), INTRODUCTION TO GEOMRPHOLOGY, OrientLongman Limited, 3-6-272, Himayatnagar,Hyderabad, 500 029, Andhra Pradesh(India), PP 63-77.
3. Misra R.P. and Ramesh: (2000), Fundamentals Of Cartography, Concept Publishing Company A115-16, Commercial Block, Mohan Garden, New Delhi 110059 , India.
4.Patwardhan A.M.: (1999), THE DYNAMIC EARTH SYSTEM, Printece Hall Of India Private Limited, New Delhi, 110001, PP-365-370.
5. R. L. Singh, P.K.Dutt: (1979), Elements of Practical Geography, Students Friends, Allahabad-3, Vivekanand Marg.
6. Records from Grampanchayat office, Bhilar, Satara District.
7.Records from Public Works Department, P.W.D. Section Zilla Parishad, Satara.
8. Reports submitted by Groundwater Survey and Development Agency, Pune-5, to Government of Maharashtra. (2006).
9. Satara District Gazeteer : (1999)The Executive Editor And Secretary , Gazeteer Department Government Of Maharashtra, Mumbai-20.
10. Savindra Singh :(2006), Physical Geography, Prayag Pustak Bhawan, 20-A, University Road, Allahabad-211002, India, PP.194-212.
11. Tom L. Me Knight and Darrel Hess: (2000), Physical Geography, Prentice Hall Upper Sad land River, New Jersey-075458, PP-432-439.

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Solid Supported Synthesis of Biologically Active N-alkyloxy phthalimides Compounds

H. P. Narkhede
Smt. P K Kotecha Mahila Mahavidyalaya, Bhusawal,
Dist-Jalgaon, (M. S.), India. E-mail: narkhede.hemant@rediffmail.com

Abstract
N-hydroxyphthalimide was dissolved in aqueous Potassium carbonate solution Then adsorbent was added to this solution and stirred well. Then mixture was evaporated in microwave oven for complete removal of water. To this dry contents, alkyl halide was added and irradiated in microwave oven at for 1- 4.5 min. Different, N-alkyloxy phthalimide have been successfully prepared using different solid supports with MW irradiation technique.

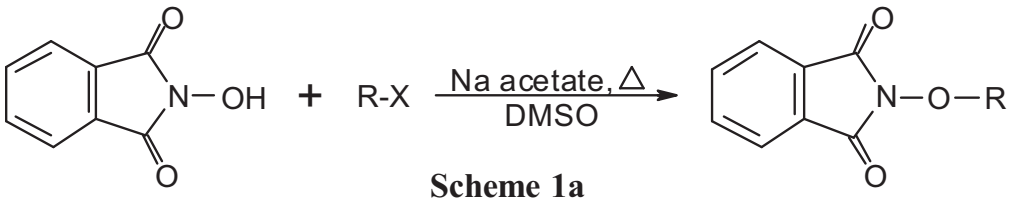
Keywords: N-hydroxyphthalimide , Microwave Irradiation, Alkyl halides, Solid Supports.

INTRODUCTION

Compounds containing a phthalimide moiety are distinguished by their potent fungicidal action.[1,2] N-Hydroxy phthalimides are important intermediates for the preparation of primary amines, O-substituted hydroxylamines, agricultural pesticides and are also used in preservatives, pigments and pharmaceuticals.[1-3] The phthaloyl group is a well-established protective group for primary amines[4] in various types of compounds, particularly peptides,[5] aminoglycosides[6] and E-lactam antibiotics.[7] Derivatives of N-hydroxyphthalimide have been reported to possess good antibacterial efficacy and antifungal potency.[8,9] However, a literature survey has revealed that the N-hydroxyphthalimidedimers requires strictly anhydrous conditions with high temperature and long reaction times[10-12]. Furthermore, the purification of compounds is compulsory and tedious.

Several methods have been reported for the synthesis of For N-alkyloxy phthalimide derivatives:-

Using alkyl halide and sodium acetate in dimethyl sulfoxide (DMSO) solvent[15] **(Scheme 1a)**



Scheme 1a

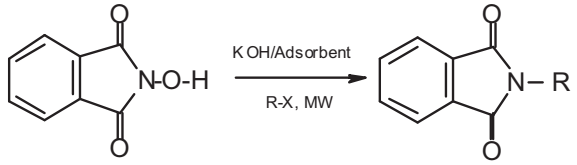
The structural modification of N-hydroxy phthalimide through simple, rapid and environmentally friendly approach is a fundamental requirement in the study of bioassay and then structure-activity relationships (SAR). Derivatives of N-hydroxy phthalimide have been reported to be possess good antibacterial efficacy and antifungal potency.[8-9]

MATERIALS AND METHODS

N-hydroxy phthalimide, Microwave Irradiation, Alkyl halides, Solid Supports such as silica gel,alumina fly ash.

Present work

In continuation of our work on microwave mediated synthesis [8,9,13,14],
we report herein a simple, rapid and environmentally friendly method for synthesis of N-hydroxy phthalimide compounds in better yields with higher purity under mild conditions. The present work includes solid state alkylation of N-hydroxyphthalimide using commercially available silica gel, alumina and fly ash[13]as a solid support. N-hydroxyphthalimide was adsorbed on silica gel, alumina and fly ash using aqueous potassium hydroxide and irradiated with various alkyl and acid halides, D,Z-dibromoalkanes and acid dichlorides to give the desired products **(Scheme 1 b)**.



1 **2**

2a) R=-CH_3
b) R=-CH_2CH_3
c) R=-$CH_2CH_2CH_3$
d) R=-$CH(CH_3)_2$
e) R=$CH_2(CH_2)_2CH_3$
f) R=-COCO-,X = Cl
g) R= CH_2CO_2 C_2H_5
h) R=$CH_2CH{=}CH_2$
i) R=$CH_2C_6H_5$
j) R= CH_2COOH

l

Scheme 1b

Reagents ratio: N-hydroxyphthalimide – 10 mmol, RX – 10 mmol, XRX = 5 mmol, K_2CO_3 (10 mmol), H_2O = 5 ml, Adsorbent = Silica gel / Alumina / Fly ash (1.63 g).

Experimental

All chemicals were of analytical grade (s. d. fines Chem. Ltd., Mumbai, India) and tetrahydrofuran and metylene dichloride was freshly distilled before use. Microwave oven (model OM9918C, 2450 MHz, 900 W) was used to carry out the reactions. The fly

ash was collected from Thermal Power Plant, Deepnagar, Bhusawal, Dist. Jalgaon (M.S.), and India and used as such for the reactions. Silica gel (60-120 mesh) and alumina (60-120 mesh) were of synthetic grade. The reactions were monitored by silica gel TLC using Tetrahydrofuran **:** Ethanol (8:2) mixture. Melting points and boiling points were determined by open capillary method and are uncorrected.

Synthesis of N-alkyloxy phthalimides (1a-j) :

N-hydroxyphthalimide (10 mmol) was dissolved in aqueous Potassium carbonate solution (0.1 N, 5 mL). Then adsorbent (1.63 g) was added to this solution and stirred well. Then mixture was evaporated in microwave oven for complete removal of water. To this dry contents, alkyl halide (10 mmol) was added and irradiated in microwave oven at 20 power level at pulse of 5 sec. for 1- 4.5 min. After completion of reaction (monitored by TLC), the mixture was cooled and extracted with dichloromethane (2 x 25 mL). Then this extract was dried with anhydrous calcium chloride, filtered and removal of the solvent afforded the products **1a-j (Scheme 1b)**

RESULTS AND DISCUSSION

N-hydroxyphthalimide compounds: Synthesis of N-hydroxy phthalimide compounds and physical properties are presented in table 1 and spectral data in table 2.

Table 1. Synthesis of N-Hydroxy phthalimide Compounds and physical properties

Compd. No.	Irradiation Time (min)	Solid support, Yield (%)			mp(bp^{+}/mm) (^{0}C)	lit.[21-25] mp(bp^{+}/mm) (^{0}C)
		Silica gel	Alumina	Fly-ash		
1a	1	88	91	91	132	132
1b	1.2	88	93	89	96	97
1c	1.8	87	87	87	258-260^{+}	260-265^{+}
1d	1.8	81	81	80	255^{+}	252-253^{+}
1e	3.8	79	81	82	278-280^{+}	280-285^{+}
1f	3.7	81	80	83	269-270^{+}	268-274^{+}
1g	4	82	81	82	97	98
1h	4.5	82	83	83	250-251^{+}	250-255^{+}
1i	4	83	81	83	146	147
1j	1.5	84	84	83	104	104

Solid-supported reagents are easily removed from reaction contents by filtration..Excess reagents can be used to drive reactions to completion without introducing difficulties in

purification. Recycling of recovered reagents is economical, environmentally-sound, and efficient. Toxic, explosive, and noxious reagents are often more safely handled when contained on solid support.

Table 2. Spectral data of N-hydroxy phthalimide compounds

Compd. No.	IR (v, cm $^{-1}$)	^{1}H NMR (δ, ppm)
1c	2960,2880,1790, 1730 and 690 cm^{-1}	1.10(s, 3H,-CH_3) ,2.10-1.40 (m, 2H, CH_2),4.15 (t,2H,0CH_2),7.81(s,4H, Ar-H).
1e	2960,2880,1790, 1730and 690 cm^{-1}	1.08(t,3H,-CH_3),1.91-1.92(m,4H,-CH_2 CH_2),4.21(t,2H,0CH_2), 7.9(s, 4H, Ar-H).
1g	2980,1810,1780,1730,1223	1.30 (t, 3H, CH_3), 4.25 (q, 2H, CH_2), 4.91 (s,2H,CH_2CO),7.9 (s, 4H, Ar-H).
1h	1780,1720,1420,980,920 and 690 cm^{-1}	4.85 (d, 2H,- OCH_2),5.48 (m, 2H, =CH_2), 6.11(m,1H,=CH), 7.9(s, 4H, Ar-H).
1i	2880,1790,1720,750 and 690 cm^{-1}	5.25 (s, 2H, CH_2), 7.5(s,5H,Ar-H),7.9(s, 4H, Ar-H).

Characterization: The synthesized N-hydroxy phthalimide compounds were characterized by their physical constants, comparative TLC and spectroscopic (1H NMR and IR) techniques. The spectral data of the synthesized compounds were found to be satisfactory with reported data.

APPLICATIONS

Microwave chemistry has opened up several new avenues in organic synthesis. Many reactions that previously were not possible, or resulted in a low yield, can now often be performed quickly, safely and efficiently in a few minutes. In summary, MAOS has changed the world of organic chemistry and drug discovery, and it would be wise to embrace this new technology or be left lagging behind with conventional heating methodologies .

CONCLUSIONS

MW methodology in chemical synthesis produces clean, high performance reactions in minimum time. It leads to clear improvements and simplifications of procedure compared with conventional methods. Microwave assisted solventless, alkylation, acylation and dimerization of Carbazole . Very faster reaction, higher yields, easy work-up, purity of the products and thus eco-friendly approach .Silica gel, alumina and fly ash are used as a solid support . Importantly, fly ash was found to be new solid support for organic reactions in dry media as efficient as commercial ones such silica gel and alumina.

References

1. G. S Gruzdyes., V. A. Zinchenko & R. I.Slovtsov, in The Chemical Protection of Plants, by G. S. Gruzdyes, Mir Publishers, Moscow, **1983 ,**272 .
2. Sree Ramulu U. S., *in Chemistry of Insecticides & Fungicides*, 2nd Ed., Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi, **1995** ,246,
3. *Ullmanns Encyclopedia of Industrial Chemistry*, Editors B. Elvers, S.Hawkins, Sehulz G., 5th Ed., **1991,** Vol. A 20, 190-191.
4. T. W. Greene and P. G. M. Wuts *Protective Groups In Organic Synthesis*, 2nd Ed., Wiley: New York, **1991**.
5. M. Bondanszky and A. Bondanszky, *The Practice of Peptide Synthesis*, 2nd Ed., Springer: Heidelberg, **1994**.
6. P. J.Kocienski, *Protective Groups*, Thieme: Stuttgart, **1994**.
7. (a) T. Kamiya, M. Hashimoto, O.Nakaguchi and T.Oku, *Tetrahedron*, **1979,** 35, 323,. (b) C. A.Townsend, L. T.Nguyen, *Tetrahedron Lett.*, 25, 4859, **(1982)**.
8. N.S.Pawar, , S.B.Attarde, , D.S.Dalal, , G.R.Sonar, , U.R.Kapadi, , D.G.Hundiwale, and P.P. Kumbhar (alias Mahulikar), , *J. Indian Coun. Chem.*, **2001,***18 (2)*, 29.
9. N. S.Pawar, U. R.Kapadi, D. G.Hundiwale and P. P. Kumbhar (alias Mahulikar), *J. Sci Ind. Res*, **2002,** 61, 454, , Chem. Abst. **2003**, 137: 196937.
10. L.Bauer and K. S.Suresh, *J. Org. Chem.*, **1963,** 28, 1604**.**
11. E.L. Schumann, *J. Med. Chem.*, **1964,** *7*, 329,.
12. L., Bollyky *J. Org. Chem.*, **1968**33, 4266,.
13. H. P.Narkhede, U. B.More, D. S.Dalal, N. S. Pawar, D. H. More and P . P.Mahulikar, *Synth. Commun.,* **2007,** 37(4), 575-579,.
14. D. S.Dalal, N. S. Pawar and P. P.Mahulikar, *Org. Prep. Proced. Int.,* **2005**37, 539,**.**
15. A.Rougny & M.Daudon, Bull. Soc. Chim. Fr., **1976,** 5-6, 833,.
16. E. Grochowski & J. Jupczak, Synthesis, **1976,** 683,.
17. E. Grochowski & J. Jupczak, Synthesis, **1977,** 277.
18. O.Miitusunobu, Synthesis, **1981,**1.
19. L.R.Baue & K. S.Suresh, J. Org. Chem., **1963,** 28, 1604,.
20. P.P Kumbhar (*alias* Mahulikar),., U.R.Kapadi, , D.G.Hundiwale, , S.B. Attarde, , P.M. Dewang, and N.S.Pawar, , *Org. Prep. Proc. Int.,* **2000,** 32 (6), 600.
21. *Dictionary of Organic Compounds*, 5th and 6th, Ed; Chapmann and Hall, London, **1982** and **1997**.
22. Beilstein Handbook of Organic Chemistry, EII H VI, 526-531.
23. D. S .Dalal, N. S. Pawar and P. P. Mahulikar, Org. Prep. Pro. Int., **2007,** 39, 81-85,
24. H. P. Narkhede, Journal of Applicable Chemistry **March 2014, 3 (2): 678-682**
25. H. P. Narkhede ,International Journal of Recent Scientific Research , **June, 2013,** Vol. 4, Issue, 6, pp. 855 -857.

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Geo-Economic Study of Agricultural Density in Jalgaon District (Maharashtra) : A Spatio-Temporal Analysis

Dr. S. N. Bharambe,
Associate Professor, Department of Geography, M. J. College, Jalgaon.

Introduction :

Agricultural density helps us in understanding nature of distribution of population and agricultural land of the given region.It is quite useful tool in understanding the nature of man-land relationship in the region whose economies are based on agriculture.

The importance of the study of the population situation of the district is self evident. As a matter of fact human beings are the real assets of a district. The economic life, growth and prosperity of a district are to a very large dependent upon the size and the composition of its population e.g. population is the real size of labor, organization and enterprise in the district. It is the human resources that he keeps other factor of production (land capital) employees. Again it is the human factor that is instrumental in the promotion of new techniques and new products in the agricultural sector of the district. Thus the contributions of human factor to the volume of agricultural production are of extraordinary significance .It is obvious that population has a crucial role to pay in determining economic welfare and agriculture development of a district. Here it should be noted that it is not merely a factor of agricultural production. The different agricultural goods that are produced are meant to satisfy various current and future demand of the population. In other worlds, population is both a mean and an end of agricultural production. As such, the study of population becomes more significant .In the context of agriculture situation of Jalgaon district. Such a study is particularly essential because conditions relating to population become very complex and is causing various kinds of obstructions in the way of agricultural development.

Keywords : Geo-economics, spatio-temporal, Agricultural Density

Aim and Objectives :

1. The present study aims at tracing the importance of Agricultural Density in the district.
2. The study is devoted to study the spatio-temporal variation in Agricultural density of Jalgaon district.

Study area :

Jalgaon district is the Northern most part of Maharashtra State covering about 11765 sq km. area. The district lies between 20^0 and 21^0 North latitude and 74^0 55' and 76^0 28' East longitude. Northern part of the district is surrounded by Sapura ranges, a mountain tract of 40 to 60 km wide and bordered by M.P. State. A major part North Western boundry is marked by tributary Aner which separates district of Jalgaon from the district of Dhule till its junction with Tapti. Toward south, the Ajanta, Satmala and Chandor ranges may roughly be said to mark territory. On the west, Jalgaon shares its boundary with Nasik district over a stretch about 40km and then with Dhule district for about 80 km,The Panjhara river being the only natural feature demarcating it over a major stretch in the East and South East without any marked natural boundary separates Jalgaon from the Buldhana of Vidarbha.

Data source:

The present study is based on secondary data source. The secondary data covers all published materials and unpublished records which were preserved in the office of Census of India. Besides this, the published records like Socio-economic abstract of Jalgaon district & District Census Hand book for the year 1961 to 2001of Jalgaon district, literature, etc. Season and crop reports of the district for the year 1961 to 2001 were also the important source of data related to agricultural aspects.

Methodology:

Agricultural density is very useful tool in understanding the nature of man-land ratio in the region where economy is based primarily on agriculture. It can be expressed by the following formula

$$\text{Agricultural density} = \frac{\text{Number of people engaged in agriculture}}{\text{Total area under agriculture}}$$

Agricultural Density:-

Agricultural density is the ratio of population engaged in agriculture and the area under agriculture. It is very difficult to calculate the agricultural density precisely because it is not easy as to how to decide the exact number of people engaged in agriculture is a big challenge. Agriculture density is very useful tool in understanding the nature of man-land ratio in the region where economy is based primarily on agriculture.

Table No. 5.1

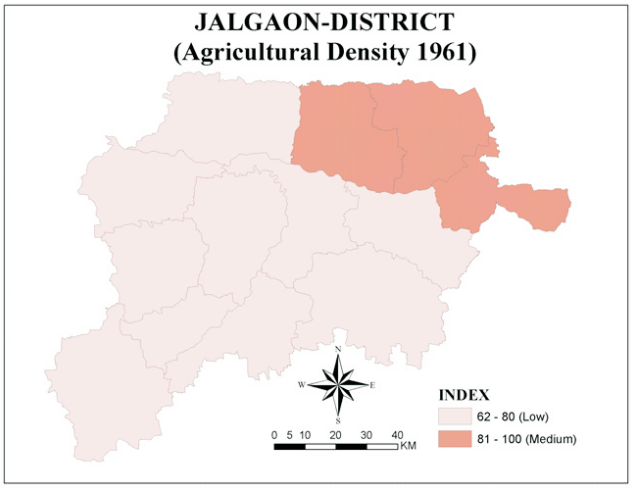
Agricultural Density in Jalgaon District

TALUKA	1961	1971	1981	1991	2001	Change
Chopada	73	73	93	96	128	55
Yawal	91	85	98	98	121	30
Raver	100	95	109	110	143	43
Amalner	72	71	73	81	105	33
Erondol	74	75	94	95	131	57
Jalgaon	76	77	75	88	110	34
Bhusawal	79	78	85	87	105	26
Muktainagar	83	85	96	106	143	60
Parola	62	60	62	79	102	40
Bhadgaon	75	71	94	98	118	43
Pachora	75	76	83	93	113	38
Jamner	77	73	78	90	111	34
Chalisgaon	66	66	71	95	107	41
Total	77	76	85	94	118	41

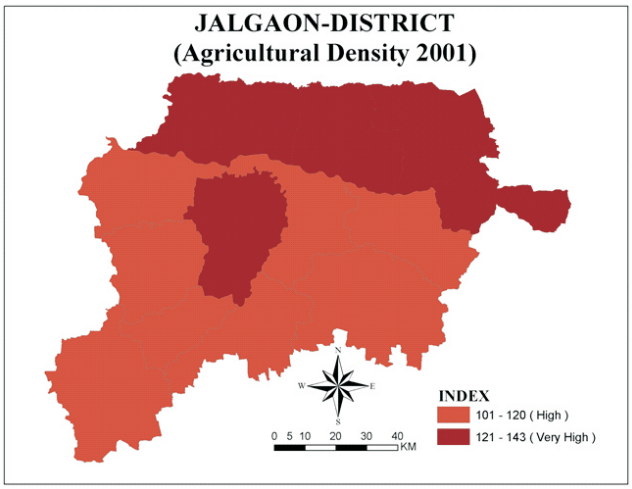
Source:- Compiled by Author

The real picture of pressure of agricultural labours and cultivators on per unit cultivated land is known as agricultural density. In general, the agricultural density of Jalgaon district was about 77 persons per sq. unit area in 1961 while it was 118 persons per sq. unit area in 2001.

During 1961, the tahsils of Yawal (91), Raver (100) and Muktainagar (83) had agricultural density above the district average (77). Rest of the tahsils recorded agricultural density below the district average (Map No.5.1).



Map No. 5.1



Map No. 5.2

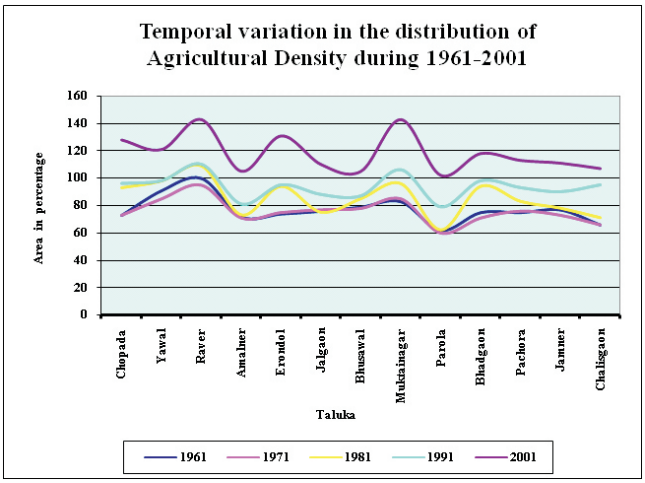


Fig. No. 5.1

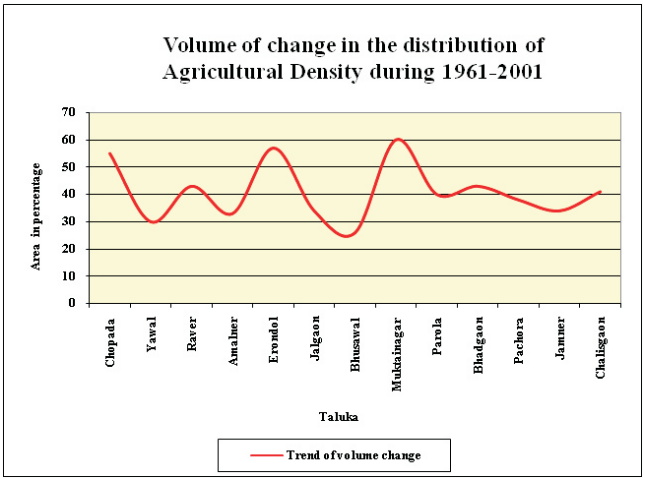


Fig. No. 5.2

During 1981 and 1991, the average agricultural density was 85 and 93 respectively. It slightly increased from 1961. But during 2001, the average agricultural density got accelerated to 118 person per unit area. North tahsils of the district viz. Chopda (128), Yawal (121), Raver (143), Muktainagar (143) and the Erandol (131) had more agricultural density than the district average i.e. 118 persons. The rest of the tahsils recorded the agricultural density between 100 to 118 persons. (Map No.5.2)

Fig. no.5.1 reveals the graphical representation of temporal variation in the agricultural density during 1961-2001. Except Raver tahsil, throughout the district, agricultural density was below 100 persons per unit area from 1961 to 1991. In 2001, agricultural density of all tahsils was more than 100 persons per unit area. The highest change was recorded by Muktainagar (143) and by Erandol (131). The Overall agricultural density was increased in each decade gradually.

The volume of change in actual agricultural density during 1961 to 2001 is shown by fig. No. 5.2 Overall average volume of change in actual agricultural density throughout the period of investigation was 41 persons in 2001. The highest change of 60 persons per unit area was recorded in Muktainagar taluka and 57 persons per unit area in Erandol taluka. The lowest volume of change i.e. 26 persons per unit area was recorded by Bhusawal taluka from 1991 to 2001.

References:

1. Ali Mohamad (1978): Studies in Agricultural Geography" Rajesh Publication, New Delhi PP 15-45

2. B.L. Sharma (1991): "Applied Agricultural Geography" Rawat Publications, Jaipur,, PP 4-28.

3. Chouhan T.S. (1987):" Agricultural Geography- A case study of Rajastan State" Academic Publisher, Jaipur PP 237-253.

4. Pal B.N. (1961): "Economic Survey of Agriculture" Kitab Mahal, (W.D.) Private Ltd, Allahabad, PP 102-107.

5. S. N. Bharambe, A. S. Bhole (2013): Spatial Distribution of Arable land in Jalgaon District; A Geographical Analysis in The research Journal of Social Sciences, Jalgaon M.S. www.issrdjagaon.coVol 1,Issue 5,April., 2013. ISSN - 0976-061X.

6. S.N.Bharambe, C.D.Mahajan (2012): " Change detection of land use and land cover of Yawal, raver, Bhusawal and Muktainagar tahsils using remote sensing ans GIs techniques", Journal of Chemo and Biosphere, Issue-3, Vol-2, Aug-2012.

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Phytochemical Screening and Antimicrobial Studies of Some Indigenous Plants.

Patole S. S.
Department of Zoology, V. V. M's S. G. Patil ASC College, Sakri Dist- Dhule.
SAKRI - 424 304. Email: sspatole63@gmail.com
Bhoi S. S
Uttamrao Patil Arts and Science College Dahivel Tal - Sakri Dist- Dhule.
Patil M. U.
Vimalbai Uttamrao Patil Arts and Late Dr. Bhaskar Desale Science College, Sakri.
Email: rajmany155@gmail.com

ABSTRACT
In present study, aqueous extract of 60 indigenous plant species were subjected for phytochemical studies. Amongst, 24, 17 and 15 plants showed positive test for alkaloid (Dragendorff's and Mayer's test), cardiac glycosides (Molisch's and Keller-killiani test) and saponin (foam and haemolytic test) respectively. These plants extract further screened for their *in vitro* antimicrobial activity against microbes like *Bacillus substilis, Escherichia coli* and *Aspergillus niger* by disc diffusion method. The results revealed that of the 60 plants, 27, 14 and 19 plant extracts inhibited growth of *B. substilis, E. coli* and *A. niger* respectively. Higher zone of inhibition were reported in 11 plants, whereas 32 plants exhibited negligible potential. Among the plants evaluated, *Allium sativum* Linn, *Azadirachta indica* A. Juss, *Curcuma longa* Linn, *Sphaeranthus indicus* Linn and *Tridex procumbens* Linn showed potential broad spectrum antimicrobial activity.
Key words: Indigenous plants, phytochemical, antimicrobial, alkaloid, saponin, glycosides, broad spectrum.

INTRODUCTION
The plant world comprises a rich storehouse of phytochemicals that could be trapped as eco-friendly pesticides (Ignacimuthu, 2004). The toxic constituents present in the plant represents the secondary metabolites, they have an insignificant role in primary physiological process in plants that synthesizes them; instead their major role is reportedly defensive (Sharma, 1982; Arora and Dhaliwal, 1994; Chaman and Verma, 2006). Some of secondary metabolites viz., alkaloids, glycosides, saponins, terpenoids and tannin etc causes behavioral and physiological effect on pest (Maheshwari et al., 2001; Ghosal et al., 2005; Patole et al., 2010). In present era of chemotherapy, use of herbal medicines have been developed many folds not only as a way to improve ancient traditional therapeutics, but also as an alternative solutions for health problems. In traditional

medicines, various herbal preparations are being used for treatment of various ailments (Chhajed et al., 2008; Maunnissamy et al., 2008). In many developing countries, 80 % of the available allopathic medicines are obtained from indigenous medicinal plants (Leven et al., 1979; Rani and Khullar, 2004).

Medicinal plants have broad spectrum antimicrobial potential, but only 5-10 % of existing plant species in India have been survey for biologically active compounds (Raju et al., 2004). In present study efforts has been made to screen some locally available indigenous plants for the confirmation of phytochemical constituents responsible for pharmacological and antimicrobial activities. Further, in *vitro* effect of aqueous extract of these plants was screened against two bacterial species like *Bacillus substilis* and *Escherichia coli* and single fungi, *Aspergillus niger*. These microbes are common infectious agents, particularly skin and mucosal infections are common in a wide range of hosts. Thereafter, their zone of inhibition was compared with standard antibiotics like tetracycline and gentamycin.

MATERIALAND METHODS

Plant material and extract preparation

The indigenous plant materials were collected locally, in and around Sakri (Dist- Dhule, M. S.) city, in the months of October and November and it was identified and authenticated in our college Botany Department. The part of plant were clean with tap water and cut into small pieces; dried in shade and finally powdered by a mechanical grinder. For preparation of aqueous extract, 30 g powder of plant material was individually soxhlet extracted in 300 ml distilled water (1:10 w/v) at 95 ^{0}C for 48 h. the extract was concentrated in vacuum evaporator at 30 ^{0}C and stored in dessicator until use. For phytochemical and antimicrobial screening, 1 % extract was prepared freshly.

Phytochemical screening

The phytochemical test were carried out for the phytoconstituents like alkaloids, glycosides and saponin by preliminary phytochemical screening using some reagents as described by Khandelwar, 2000. The tests used for phytochemical screening are presented in table-1.

Test organisms and antimicrobial screening

Two clinical strains of bacteria i.e. *B. substilis* and *E. coli* and single fungi, *A. niger* were used for assessing the antimicrobial activity. They were obtained from the Department of Microbiology, Mooljee Jaitha College, Jalgaon (M.S.). The culture were maintained and stored in nutrient and potato dextrose agar medium (Himedia, Mumbai) at 4 ^{0}C respectively. 1 % inoculums were prepared using fresh culture media prior to testing their activity. The antimicrobial activities of aqueous extract of plants were assayed separately using disc diffusion method (Bauer et al., 1996). Petriplates containing approximately 15 ml of medium were seeded with suspension containing microbial species and sterile filter paper discs (6 mm diameter) were impregnated with 10 µl of 1% extracts placed on the surface

of medium. The untreated control and the standard antibiotics were used for comparative study. Incubation was done for 24 h at 37 ^{0}C for bacterial species and for fungi, the plates was incubated at 26 ± 2 ^{0}C till the fungus growth. The assessment of antimicrobial activity was based on the measurement of diameter of inhibition zones formed around the disc. Three replicas were conducted for each extract.

RESULTS AND DISCUSSION

The preliminary phytochemical screening for phytoconstituents like alkaloids, glycosides and saponin from aqueous extract of test plants as well as antimicrobial activities against bacteria and fungi are presented in table-2. The table shows that amongst 60 plants; 24, 17 and 15 plants showed presence of alkaloids, glycosides and saponin respectively. This table also represents *in vitro* antimicrobial activities, the results from disc diffusion method revealed that 27, 14 and 19 plants inhibited growth of *B. substilis, E. coli* and *A. niger* respectively.

This study reveals, the aqueous extract of some plants exhibited promising activity against test organisms. The plants, which were antimicrobial potential, are also acts as biocidal agents like piscicidal, insecticidal or larvicidal and haemolytic or vice versa. These findings are corroborating with statement made by Chopra et al (1949) and Ekanem et al (2003). The plants viz., *Acacia concinna* D. C., *Annoma squamosa* Linn*, Balanites roxburghii* Planch*, Citrullus colocynths* Schard, *Sapindus trifoliatus* Linn*, Sphaeranthus indicus* Linn and *Tridex procumbens* Linn etc were common biocidal plants. Extensive work on indigenous plants were reported by earlier researchers and these were used to eliminate predatory fish from fish nursery (Roy and Munshi, 1988; Patole and Mahajan, 2004 a) or acts as insecticidal (Ignacimuthu, 2004) or larvicidal agents (Anuradha et al, 2000; Patole and Mahajan, 2007) or haemolytic (Patole and Mahajan, 2004 b) to eradicate nuisance agricultural pest, stored grain pest and mosquito larvae etc. These toxic effects of phytoconstituents may cause some physiological changes like rate of respiration and haemolysis etc is probable reasons and ultimately results in death. In our findings, the plants like *A. sativum, A. indica, C. longa, M. azadirachta, M. arvensis, O. sanctum, S. indicus* and *T. procumbens* were found to be highly potent against test organisms.

CONCLUSION

Medicinal plants are local heritage with global importance, world is endowed a rich wealth of medicinal plants. These play an important role in lives of tribal people of this region; where the people suffered from many infectious diseases with other social and hygienic problems. They use these plants a traditional therapy parallel to allopathy. In present piece of research, few indigenous plants were found to be potent as antimicrobial agents. Our findings suggest that searching and evaluating the prototype of natural products is essential. These prototypes in the plant can provide new resources for chemotherapeutics.

ACKNOWLEDGEMENTS

Authors are thankful to principal, S. G. Patil, Arts, Science and Commerce College, Sakri for providing necessary laboratory facilities. Thanks to Head, Department of Microbiology, M. J. College, Jalgaon for providing microbial culture.

REFERENCES

1. Arora, R. and Dhaliwal, G. S., (1994). Botanical pesticides in insect pest management. In: G. S. Dhaliwal and B. D. Kansal (eds) *Management of Agricultural pollution in India*. Commonwealth pub., New Delhi, India. 213-245.

2. Bauer, R. W., Kirby, M. D. K., Sherris, J. C. and Truck, M., (1996). Antibiotic susceptibility testing by standard single disc diffusion method. *Am. J. Clin. Pathol.*, 45: 493.

3. Chaman, L. and Verma, L. R., (2006). Use of certain bio-products for insect-pest control. *Indian J. Tradi. Knowledge*. 5(1): 79-82.

4. Chhajed, M., Jain, A., Hariharan, A. G. and Gupta, S., (2008). Phytochemical investigation and antimicrobial and anthelmintic activity of *Solanum xanthocarpum* Sehrad and Wendl. *Adv. Pharmacol. Toxicol* . 9(3): 45-49.

5. Chopra, R. N., Badhwar, R.L. and Ghosh, S., (1949). *Poisonous plants of India*. The ICAR, Manager Publication, Dehli. (India).

6. Ekanem, A. P., Meinelt, T., Kloas, W. and Knopf, K., (2003). The effects of the extracts of two African fish poison plants (*Asystasis vogeliana* and *Tephrosia vogelli*) on embryos of Zebra fish (*Danio rerio*). Sustainable management of freshwater ecosystems. 115-123.

7. Ghosal, T. K., Senapati, S. K. and Deb, D. C., (2005). Pesticidal effect of edible and non-edible oils on pulse beetle, *Callosobruchus chinensis* (Coleoptera: Bruchidae). *J. Ecobiol.,* 17(4): 321-327.

8. Ignacimuthu, S., (2004). Green pesticides for insect pest management. *Curr. Sci.,* 86(8): 1059-1060.

9. Khandelwar, K. R., (2000). *Practical "Pharmacognosy" Techniques and experiments*. Nirali Prakashan, Pune- 411 002.

10. Leven, M., Dirk, A., Venden Berghe, V., Francis, M., Vlietinck, A. and Lammens, E., (1979). Screening of higher plants for biological activities-I, Antimicrobial activity. *Planta Medica*, 36: 311- 321.

11. Maheshwari, V. L., Kotkar, H. M., Mendki, P. S., Sangeetha, S., Jha, S. R. and Upasani, S. M., (2001). Antimicrobial and Pesticidal activity of partially purified flavonoids of *Annona squamosa*. *Pest Management Sci*., 58: 33-37.

12. Mounnissamy, V. M., Ravikumar, S., Balu, V. and Darlin, Q. S., (2008). Preliminary phytochemical screening of *Cansjera rheedii* J. Gmelin (Opilaceae). *Int. J. Pharmacol. Biol. Sci*. 2(3): 157-160.

13. Patole, S. S. and Mahajan, R. T., (2004 a). *Phytotoxicity in Fishes*. In: Advances in fish research Vol – IV, 299-312. Ed. Datta Munshi and H. R. Singh, Narendra Prakashan house, New Delhi.
14. Patole, S. S. and Mahajan, R. T., (2004 b). *In vitro* haemolytic activity of some ichthyotoxic indigenous plants. *J. Comp. Toxicol Physiol*. 1(3-4): 216-224.
15. Patole, S. S. and Mahajan, R. T., (2007). Evaluation of some indigenous plants of Khandesh region as mosquito larvicides. *Him. J. Env. Zool*. 21(2): 257-264.
16. Patole, S. S., Patil, S. K. and Shaikh, M. H., (2010). Antimicrobial potential of some plant extracts of Charanmal ghat, Dist- Dhule (M.S.). *J. Adv. Sci. Technol* . 13(3): 69-72.
17. Raju, V. R. R., Ram, A. J. and Bhakshu, M. L. (2004). *In vitro* antimicrobial activity of certain medicinal plants from Eastern Ghats, India, used for skin diseases. *J. Ethanopharmacology*. 90: 353-357.
18. Rani, P. and Khullar, N., (2004). Antimicrobial evaluation of some medicinal plants for their antienteric potential against multi-drug resistance *Salmonella typhi*. *Phytother Res*., 18(8): 670-3.
19. Roy, P. K. and Datta Munshi. (1988). Toxicity of biocidal plant extracts to air-breathing fishes. *Environ. Ecol*., 6(1): 184-187.
20. Sharma, R. N., (1982). Development and utilization of plant products for insect control- A comprehensive approach. In: *Cultivation and utilization of medicinal plants.* (ed.) Atwal, C. K. and Kapur, B. M.; RRL, CSIR, Jammu-Tawi. 657-667.

Table-1: Preliminary phytochemical test for phytoconstituents.

Phytoconstituent	Test	Experiment and observation
Alkaloids	Dragendorff's	To 2-3 ml of filtrate (extract) + few drops of reagent. Orange brown precipitate was noted.
	Mayer's	To 2-3 ml of filtrate + few drops of reagent. Cream colored precipitate was noted.
Cardiac glycosides	Molisch's	To 2-3 ml extract + few drops of 10 % alcoholic alpha napthol solution + Conc. H_2SO_4. Violet ring was appeared at junction of two liquids.
	Killer-killiani	To 2 ml extract + 0.5 ml Glacial acetic acid + one drop of 5 % $FeCl_3$ + Conc. H_2SO_4. Reddish-brown color appeared at the junction of two liquids and upper layer was bluish-green colored.
Saponin	Foam	On vigorously shaking the extract with water, persistent foam was observed.
	Haemolytic	On glass slide, placed a drop of blood with extract. Haemolytic zone was appeared.

Table-2: Phytochemical and antimicrobial screening of some indigenous plants.

Sr No	Plant species	Phytochemical tests						Antimicrobial activity		
		Alkaloids		Glycosides		Saponin		*B. substilis*	*E. coli*	*A. niger*
		A	B	C	D	E	F			
01	*Acacia concinna* D.C	+	+	--	--	+	+	--	--	--
02	*Acorus calamus* Linn	--	--	+	+	--	--	+	--	+
03	*Adhatoda vasica* Ness	+	+	--	--	--	--	+	+	+
04	*Agave americana* Linn	--	+	--	--	+	+	--	--	--
05	*Allium sativum* Linn	--	--	--	--	--	--	+++	++	+
06	*Anagallis arvensis* Linn	--	--	+	+	+	+	--	--	--
07	*Anamirta cocculus* Linn	--	+	--	--	--	--	--	--	--
08	*Andropogon schoenthus* Linn	--	--	--	--	--	--	+	+	+
09	*Annona muricata* Linn.	+	+	--	--	--	--	--	--	--
10	*Annona squamosa* Linn	+	+	--	--	--	--	++	+	+
11	*Azadirachta indica* A. Juss	--	+	+	+	--	--	+++	++	+
12	*Balanites roxburghii* Planch	--	--	--	--	+	+	+	+	--
13	*Barringtonia racemosa* Linn	--	--	+	+	+	+	--	--	--
14	*Brassica nigra* Linn	--	--	+	+	--	--	--	--	--
15	*Butea monosperma* Linn	--	--	+	+	--	--	--	--	--
16	*Capsicum annum* Linn	--	+	--	--	--	--	--	--	--
17	*Citrullus colocynthis* Schard	--	--	+	+	+	+	+	--	--
18	*Clerodendrum phlomidis* Linn	--	--	--	--	--	--	--	--	--
19	*Clerodendrum serratum* Linn	+	+	+	+	+	+	--	--	--
20	*Cocculus hirsutus* Linn	--	--	--	--	--	--	--	--	--
21	*Coriandrum sativum* Linn	--	--	--	--	--	--	--	--	--
22	*Croton tiglium* Linn	--	--	--	--	--	--	--	--	--
23	*Curcuma longa* Linn	--	+	--	--	--	--	+++	++	+
24	*Datura metal* Linn	--	+	--	--	--	--	--	--	+
25	*Dodonaea viscosa* Linn	--	+	--	+	+	+	--	--	--
26	*Duranta repens* Linn	--	+	--	--	+	+	+	--	+
27	*Echinops echinatus* Roxb.	--	--	--	--	--	--	--	--	--
28	*Eucalyptus globule* Labill	--	--	--	--	--	--	+	--	+
29	*Euphorbia tirucalli* Linn	--	--	--	--	--	--	++	--	--
30	*Gardenia lucida* Roxb.	--	--	--	--	--	--	--	--	--
31	*Gloriosa superba* Linn	+	+	--	--	--	--	--	--	--
32	*Jatropha curcas* Linn	--	--	--	--	--	--	--	--	--
33	*Lantana camera* Linn	--	--	--	--	--	--	++	+	+
34	*Lycopersicon esculentum* Mill	--	--	--	--	--	--	--	--	--
35	*Madhuca indica* Roxb	+	+	--	--	+	+	+	--	--
36	*Melia azadirachta* Linn	+	+	--	--	--	--	++	+	+
37	*Mentha arvensis* Linn	--	--	--	--	--	--	++	+	+
38	*Murraya koenigii* Spreng	--	--	+	+	--	--	+	--	--
39	*Nerium oleander* Linn	--	--	+	+	--	--	--	--	--
40	*Nicotiana tabacum* Linn	+	+	+	+	--	--	--	--	--
41	*Ocimum sanctum* Linn	--	--	--	--	--	--	++	+	+
42	*Parthenium hysterophorus* L.	--	--	--	--	--	--	--	--	--
43	*Peganum harmala* Linn	+	+	--	--	--	--	--	--	--
44	*Phyllanthus niruri* Linn	--	--	--	--	--	--	--	--	--
45	*Polygonum hydropiper* Linn	--	--	+	+	--	--	--	--	--
46	*Pongamia glabra* Linn	--	--	--	--	--	--	++	--	+
47	*Randia dumetorum* Lamk	--	--	--	--	+	+	--	--	--
48	*Ricinus communis* Linn	+	+	--	--	--	--	--	--	--
49	*Sapindus trifoliatus* Linn	--	--	--	--	+	+	--	--	--
50	*Sphaeranthus indicus* Linn	+	+	+	+	--	+	+++	++	+
51	*Spilanthes acmella* Murr	--	--	--	--	--	--	--	--	--
52	*Tagetes minuata* Linn	--	--	--	--	--	--	+	--	+
53	*Tephrosia purpurea* Pers	--	--	+	+	+	+	++	--	--
54	*Thevetia nerifolia* Juss	--	--	+	+	--	--	--	--	--
55	*Trigonella foenum graecum* L.	+	+	--	--	+	+	--	--	--
56	*Tridax procumbens* Linn	--	--	--	--	--	--	+++	++	--
57	*Vinca rosea* Linn	+	+	--	--	--	--	+	--	+
58	*Vitex negundo* Linn	+	+	+	+	--	--	+	+	+
59	*Withania somnifera* Dunal	--	+	--	--	--	--	+	--	--
60	*Zingiber officinale* Rosc	--	--	--	--	--	--	+	--	--
	Untreated control	--	--	--	--	--	--	--	--	--
	Tetracycline (Anti-bacterial)	--	--	--	--	--	--	+++	++	--
	Gentamycin (Anti-fugal)	--	--	--	--	--	--	--	--	+++

Phytochemical test -	1) Alkaloids	-	A: Dragendorff's	B: Mayer's
	2) Glycosides	-	C: Molisch's	D: killer-killiani
	3) Saponin	-	E: Foam	F: Haemolytic

Positive test + Negative test —

Antimicrobial activity-	—	=	No activity
	+	=	Zone of inhibition (5-8 mm)
	++	=	Zone of inhibition (9-12 mm)
	+++	=	Zone of inhibition (13 mm on words)

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

Prospects for Tourism Industry in Konkan, Maharashtra.

Ms. Dhanashree Pramod Sawant,
Assistant Professor, Department of Economics, Sheth N.K.T.T.College,
Thane.Maharashtra. e-mail :- dpssawant@gmail.com

Introduction :

Tourism has increasingly been regarded as a prime force for the development at the countryside in many developing as well as developed countries. Many governments have recognized the importance of tourism in economic development with the falling employment opportunities in traditional regions on account of advent of technologies and migration of the young to the cities. Consequently, more and more governments are moving to the labour-intensive techniques, which are found in tourism business activities. Among the fast growing business activities, the tourism industry has occupied a fair position in terms of employment and foreign exchange earning throughout the world as well as India. Available data on tourism in India indicated that around 9% of the people in the economy are employed in this sector. The foreign exchange earnings from this sector were 5931 million US dollars in 2005-2006. India is blessed with a wide and diverse Climatic conditions, culture, history, beautiful coastline. There is much scope for medical tourism, religious tourism, rural tourism, etc. in our country.

Indian government has announced new tourism policy in 2002. Considering this, India has attempted to implement necessary steps, which promotes economic growth.

Tourism in Maharashtra has tremendous potential for growth, given the availability of infrastructure. Maharashtra has rich historical and cultural heritage which has been remained unexplored by the tourism industry.

Understanding the growing importance of Tourism industry, the state of Maharashtra has established Maharashtra Tourism Development corporation (MTDC) in 1956. Eventually, Maharashtra Government announced its Tourism Policy on 1st October, 1993. Under this, Maharashtra Government has declared special Tourist Areas. The government has undertaken various steps to promote the development of tourism in the state. The Tourism Policy also includes Human Resource development, mega project and drafting a sketch of Tourism Industry's development.

Objectives:

1. To study the growth of Tourism in Konkan.
2. To understand the factor conditions necessary for the growth of Tourism in Konkan.

Hypotheses:

1. Factor conditions in Konkan are favorable for the growth of Tourism.

2. Demand conditions are favorable for the growth of Tourism in Konkan.

Research Methodology:

The researcher has reviewed books, periodicals and magazines on the given topic as a part of secondary data. Personal interviews, observations and visit to the places of Konkan form as primary data.

Review of Literature:

G. Radhakrishna (2010) stated that as per World Trade and Tourism Council (WTTC), India will rank sixth in the world in terms of real growth of international tourist spread in the period of 2006 to 2015. It expected that Indian tourism will grow at an impressive rate of 8.6% for the same period.

Bhatia A.K. (2007) has mentioned the definition of tourist by the United Nations, which defined 'tourist', as "a person who stayed in foreign country for more than 24 hours and less than 6 months for any non-immigrant purpose." The author differentiated between domestic tourism and international tourism based on the jurisdiction of travel. He further gave the classification of travelers based on the purpose of tourism. He discussed the cases of tourism in various countries like Italy, Japan, India, Russia & others. The author further narrated the objectives or special interest, types of tourism such as Adventure Tourism, Health Tourism & Sports Tourism. Thus, his writings explain the business of tourism with respect to concepts involved and strategies undertaken.

Bhatia A.K. (2010) has discussed various dimensions of modern tourism. He examines the tourism services and tools available to assist industry professionals and students in understanding tourism activity. The chapters focused on various services for the travelers like Planning and Development, research and measurement, marketing and tourism policy.

ArunShenoy, (2010) discusses how despite its huge potential both in generating revenue and employment, Indian Tourism Industry could not occupy its designated place in the Indian plans because of policy lapses. He also stated new initiatives taken by the Indian Government to tap the potential of the Indian Tourism industry as a huge employment generator and the foreign exchange earner of the nation and the proposed definite initiatives give a boost to the tourism industry. Union Budget of 2003-04 has given "Infrastructure Status" to the tourism industry. TDPS Budget allocated Rs.225 crore to the industry and also withdrew the expenditure tax. Further, the "Incredible India" campaign was launched in December, 2002. In 2003, India witnessed an increase in the tourist inflows by 15.3%. It is estimated that total direct employment in the tourism sector is around 20 million. The foreign exchange earnings increased from Rs.16,429crores to Rs.21,828 crores during the period of 2004 to 2005. The growth rate of tourism industry was 17.3%. This shows the tourism policy intend to develop tourism industry in India. The state tourism policy attempts to undertake the intensive development of tourism in the state and thereby increase employment opportunities.As mentioned by the editor Gautam Jain in "Tourist Road Guide and Political, Maharashtra", the state of Maharashtra covers a surface area of

307,690 sq.km. It is divided into 35 districts and 306 talukas. The coastal strip is about 720 kilometers long and 80 km wide which comes under Konkan region. According to 1991 census, Maharashtra's size of population was 78,937,187. The general Literacy rate was 63.10%. Administratively, Maharashtra is divided into 35 districts and 306 talukas. Konkan region is divided into four districts – Thane, Raigad, Ratnagiri and Sindhudurg. Ratnagiri is famous for mangoes, coconut, cashewnut and fishes like pomfrets and oysters. Minerals such as, dolomite, manganese, silica, limestone and china clay are rich in supply. Another important district of Konkan is Sindhudurg which was originated in May 1, 1981. This district is famous for sea-fort at Malvan and Alphonso mangoes. There are number of temples scattered all over this region.

As mentioned by the editor Gautam Jain in "Tourist Road Guide and Political, Maharashtra", the state of Maharashtra covers a surface area of 307,690 sq.km. It is divided into 35 districts and 306 talukas. The coastal strip is about 720 kilometers long and 80 km wide which comes under Konkan region. According to 1991 census, Maharashtra's size of population was 78,937,187. The general Literacy rate was 63.10%. Administratively, Maharashtra is divided into 35 districts and 306 talukas. Konkan region is divided into four districts – Thane, Raigad, Ratnagiri and Sindhudurg. Ratnagiri is famous for mangoes, coconut, cashewnut and fishes like pomfrets and oysters. Minerals such as, dolomite, manganese, silica, limestone and china clay are rich in supply. Another important district of Konkan is Sindhudurg which was originated in May 1, 1981. This district is famous for sea-fort at Malvan and Alphonso mangoes. There are number of temples scattered all over this region

Scope and Limitations:

The scope of the research can be extended to the areas other than districts namely Sindhudurg and Ratnagiri. There are many places in other districts of Konkan which have same geographic features like Ratngiri and Sindhudurg. These places can be explored for research. The availability of an accurate data is the main hurdle for research.

Tourism Industry in Konkan (Ratanagiri and Sindhudurg Districts)-A Review.

Maharashtra Government has declared Sindhudurg district as tourist district in 1997. Tata Consultancy Services Report stated that, out of 50 tourist spots, 22 spots need to be developed with priority. The Government of Maharashtra divided theRatnagiri district, into Ratnagiri and Sindhudurg district in 1981. Sindhudurg district is at extreme south east of Maharashtra State. While Ratnagiri district is situated at upper side to Sindhudurg district. Both districts have a very long coastline of 122 kilometers along with SahyadriMoutain range to the east side of the districts. This has made the districts extremely beautiful in terms of natural wealth. Thus, Konkan districts fulfill all the preferences of tourist in aces, museums and waterfalls. Similarly there is more scope for different types of tourism like agro-tourism, adventure tourism, medical tourism and eco-tourism in Konkan region. The region can utilize the advantages like natural beauty,

forest wealth, entertainment, local fruits, and marine wealth to promote its economic development.

The economic development of towns and villages is neither automatic nor a natural corollary of growth of rural population. It is conditional upon the availability of rural infrastructure that provides access to basic standard of living, facilitates agricultural and services sectors growth which eventually help to develop the area in other aspects such as social, environmental and cultural.

Tourism has been playing vital role in the economic development certain isolated and rural region because of the attraction of scenery, natural advantages, religious significance, and investment opportunities at lower prices. In many developing economies tourism is increasingly seen as a valid and important means of sustaining and diversifying rural economies. However, economic conditions must be suitable for the development of tourism in this region.

In Konkan region, people sell their land and move to cities nearby like Mumbai, Pune, Thane and Kolhapur in search of jobs. It has been observed that, though there is an absolute increase in employment at national level, there has been decline in the employment in the regionally based economic activities like agriculture, fishing, mining etc. hence it is needed that the regions should find alternative ways to increase the competitiveness and yield of small business of the region.

Findings:

1. It has been found that factor endowment consisting of land, labour and other necessary resources are favourable for the growth of tourism in Konkan.
2. It has also been observed that Konkan can become Tourists' spot as Goa if the tourism policy is modified accordingly.
3. The growth of Tourism can bring a new source of income to local unemployed people.

Conclusion:

Thus it is concluded that the 'Tourism Policy' at state level in general and Konkan in particular, has to be effective in terms of utilizing the natural and other factors supported by appropriate marketing, advertisement and peoples' participation. Tourism should be viewed as managing a port-folio of business and hence it should decide as to which business to build, maintain, phase down, phase-out. In other words it should discard the poor and weak activities and develop promising activities. With good vision of Konkan Tourism Development and mission to explore the scenic beauty and factor conditions of Konkan, tourism certainly has a great prospect in near future.

REFERENCES :

1) A.P.J. Abdul Kalam and Y.S. Rajan, AbhaySadavarte, (2003) - भारत २०२०- नव्यासहस्रकाचा भविष्यवेध - – RajhansPrakashan P4une

2) Bhatia A.K. (2007) "The Business of Tourism – Concept and Strategies" Sterling Publishers Pvt. Ltd., New Delhi.

3) Bhatia A.K. (2009) "Tourism Development (Principles and Practices) "Sterling Publishers Pvt. Ltd., New Delhi.
4) DeshpandeAruna (2000) "India Travel Guide" Crest Publishing House, New Delhi
5) Batra G.S. and Basal S.P. (2001) "Tourism Towards 21 stCenture, New Delhi, - Deep and Deep Publishers.
6) Singh KulwantPathania andArun Kumar (2008) " Tourism in India," Regal Publication, New Delhi.
7) G. Radha Krishna, (2010) – "Tourism- Promotional Perspectives and Issues" – (Ed.) – Icfai Univ. Press, Hyderabad.
8) MungekarBhalchandra (2003) "The Economy of Maharashtra : Changing Structure And Emerging Issues" Dr. Ambedkar Institute of Social & Economic Change.
9) कोंकण गौरव, Monthly (Periodicals) January, 2011
10) आपल पर्यावरण Vol – VII, No.7 – Dec. 2010
11) आपला पर्यावरण Vol.- VI No.6 – Dec., 2010

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

मालेगाव शहरातील यंत्रमाग उद्योगातील मालक वर्गाचे दोष आणि समस्यांवर दृष्टीक्षेप

प्रा.डॉ. जे.बी. मोरे
संत मुक्ताबाई आर्टस् ॲण्ड कॉमर्स कॉलेज, मुक्ताईनगर, जि. जळगाव
प्रा. अनिल देविदास भावसार
व्ही.एस.नाईक कला, वाणिज्य व विज्ञान महाविद्यालय, ता. रावेर, जि. जळगाव

प्रस्तावना :

मालेगांव शहरात १९ व्या शतकापासुन हातमाग व्यवसाय सुरु आहे. मालेगांव शहरात १९३५ मध्ये पावर हाऊस सुरु करण्यात आले तेव्हा पासुन मालेगांव शहरात हातमागाचे रुपांतर यंत्रमागामध्ये फार झपाट्याने होऊ लागले. भारतात यंत्रमागाची संख्या सुमारे २३,००,००० आहे. महाराष्ट्रातील यंत्रमागाची संख्या सुमारे १२,००,००० आहे. तर मालेगांव शहरात यंत्रमागाची संख्या सुमारे २,५०,००० आहे. (लोकसत्ता ३० मार्च २०१४) साधारणतः २०,००० यंत्रमाग धारकांचे कारखाने आहे. मालेगांव शहरांची लोकसंख्या ८,००,००० दरम्यान आहे. या लोकसंख्येपैकी ७०% लोकांचा उदरनिर्वाह यंत्रमाग व्यवसायावर व या व्यवसायाला पुरक असलेल्या व्यवसायावर अवलंबुन आहे.

त्यामुळे यंत्रमाग व्यवसायातील प्रमुख घटक यंत्रमाग धारक यांच्या कोण कोणत्या अडचणी व समस्या आहे. ते जाणून घेणे त्या समस्यांवर उपाय-योजना सुचविणे .त्यामुळे मालेगांव शहरातील यंत्रमाग व्यवसायाचा विकास होण्यास सहकार्य होईल. या हेतुने मालेगांव शहरातील यंत्रमाग व्यवसायातील यंत्रमाग व्यवसायाचे मालक (यंत्रमाग धारक) यांच्या समस्या व अडचणी यावर दृष्टीक्षेप टाकण्याचा प्रयत्न केला आहे.

* मालक वर्गाचे दोष :

१) मालेगाव यंत्रमाग उद्योगातील बहुसंख्य यंत्रमाग धारक अशिक्षीत आहे. त्यामुळे ते खरेदी-विक्री, उत्पादन खर्च, मजुरांचे रजिस्टर जमाखर्च इ. कुठलीच नोंद ठेवत नाही. सर्व तोंडी ठेवतात. त्यामुळे व्यवसायात नफा किंवा तोटा आहे याची कल्पना येत नाही.

सरकार कर्ज वाटपाच्या निरनिराळ्या योजना (स्मॉल स्केल इंडस्ट्रिज करिता) चालवितात. ह्या योजनेचा फायदा मालेगावातील यंत्रमाग धारकांना घेता येत नाही. कारण की, योजनेचा फायदा घेण्यासाठी व्यापार खाते, तेरीज, नफा-तोटा पत्रक, ताळेबंद इ. कागदपत्र सादर करावी लागतात. मालेगावातील यंत्रमाग धारक जमाखर्चाची नोंद ठेवत नसल्यामुळे त्यांना सरकारच्या योजनेचा फायदा घेता येत नाही. थोडक्यात जमा खर्चाची नोंद न ठेवणे हा मालेगावातील यंत्रमाग धारकांचा सर्वात मोठा दोष आहे.

२) ज्या समाजाच्या हाती विशिष्ट व्यवसाय असतो. त्या समाजाचे परिणाम व्यवसायात दिसून येतात. मालेगावातील यंत्रमाग व्यवसायावर मुस्लीम समाजाची मक्तेदारी आहे. मुस्लिम समाजाची परंपरा, मूल्य व्यवस्था, जीवनाकडे पाहण्याचा दृष्टीकोन परंपरागत आहे. त्यामुळे मालेगावातील यंत्रमाग व्यवसाय परंपरागत पद्धतीने चालतो. त्यात सुधारणा झाल्या नाही. तसेच उत्पादन मालाचा दर्जा सुधारलेला नाही. उत्पादनात विविधता नाही. हा मालेगावातील यंत्रमाग धारकांचा दोष आहे. असे म्हटल्यास वावगे ठरणार नाही.

३) मालेगावातील यंत्रमाग व्यवसायात मुस्लिम समाज मोठ्या प्रमाणात आहे. मुस्लिम धर्मानुसार व्याज देणे व घेणे पाप समजले जाते. त्यामुळे यंत्रमाग धारकांजवळ भांडवल कमी असतांना देखील व्याजाने कर्ज घेत नाही. त्यामुळे उद्योगातील प्रगती खुंटते. हा सुध्दा व्यवसाय प्रगतीच्या दृष्टीकोनातून यंत्रमागधारकांचा दोष आहे.

४) मालेगावातील यंत्रमाग उद्योगातील यंत्रमाग धारक व्यवसायास आधुनिक पध्दतीचे व्यवस्थापन, नियोजन, नियंत्रणाचा अभाव दिसून येतो. हा एक यंत्रमाग धारकांचा दोष आहे.

५) पक्क्या सुताऐवजी कच्चे सुत तसेच पक्क्या रंगाऐवजी कच्चा रंग अवलंब करण्याची प्रवृत्ती जास्त आहे.

वरील सर्व दोषांमुळे त्याचा व्यवसाय मागे येण्यास कारणीभूत ठरतात.

* यंत्रमाग धारकांच्या समस्या :

१) विक्री बाजारपेठेचा अभाव :-

मालेगावातील यंत्रमाग धारकांनी तयार केलेल्या पक्क्या मालाकरिता विक्री बाजारपेठ नाही. ही सर्वात मोठी यंत्रमाग धारकांची समस्या आहे. बाजारपेठ नसल्यामुळे यंत्रमाग धारकांच्या मालाला योग्य किंमत मिळत नाही. त्यामुळे यंत्रमाग धारकाचे मोठे नुकसान होते. व उत्पादक आणि ग्राहक यामधील मध्यस्थ या उणीवांचा फायदा घेतो व मोठ्या प्रमाणात नफा मिळवीत आहे.

२) भांडवलाचा तुटवडा :-

मालेगाव शहरातील यंत्रमाग व्यवसायात लहान यंत्रमाग धारकांची संख्या जास्त आहे. आर्थिक परिस्थिती गरीबीची आहे त्यांना बँक किंवा पतपेढ्यांकडून कर्ज मिळविण्यास बऱ्याच अडचणी येतात. यंत्रमाग उद्योगाकरिता भांडवलाचा तुटवडा असतो. ही एक मोठी समस्या आहे. त्यामुळे यंत्रमाग धारकांना तेजी-मंदीचा फायदा घेता येत नाही.

३) अनियमित विज पुरवठा :-

मालेगावातील यंत्रमाग व्यवसायासाठी अनियमित वीज पुरवठा ही एक डोकेदुखी होऊन बसली आहे. अनियमित वीज पुरवठ्यामुळे उत्पादनात नियमित व्यतत्य येत असतो. त्यामुळे उत्पादनात खंड पडतो. त्याचा परिणाम उत्पादन कमी होते. त्यामुळे यंत्रमागधारकांचे नुकसान होते.

तसेच वीजपुरवठ्याच्या अनियमित पुरवठ्यामुळे उत्पादनात खंड पडू नये म्हणून काही यंत्रमाग धारक जनरेटरचा व काही यंत्रमाग धारक डिझेल इंजिनचा उपयोग करतात पण त्यामुळे उत्पादन खर्चात वाढ होते. त्या प्रमाणात बाजारात किंमत वाढवून मिळत नाही. त्यामुळे यंत्रमाग धारकाचे नुकसान होत असते. थोडक्यात अनियमित वीजपुरवठा ही सुध्दा यंत्रमाग धारकांची समस्या होऊन बसली आहे.

४) यंत्रमाग उद्योगातील सुताचा पुरवठा :-

यंत्रमाग उद्योगातील सूत (कच्चामाल) एक महत्वाचा घटक आहे. मालेगावातील यंत्रमाग धारकाला सुताचा पुरवठा नियमित, योग्य भावात होत नाही. यंत्रमाग धारकाला नियमित या प्रसंगाला सामोरे जावे लागते. अधिक किंमत देवून सूत खरेदी करावे लागते. त्यामुळे उत्पादन खर्चात वाढ होते. त्या प्रमाणात बाजारात किंमत वाढवून मिळत नाही. त्यामुळे यंत्रमाग धारकाचे नुकसान होत असते. यंत्रमाग धारकाला सुत नियमित, स्वस्त भावात मिळणे ही एक समस्या झाली आहे.

५) कामगाराविषयी यंत्रमाग धारकांच्या समस्या :-

१) कामगार नियमित वेळेवर येत नाही.

२) मालेगावातील कामगार एका मालकाकडे जास्त दिवस काम करीत नाही. कामगार नेहमी जागा बदलत असतो.

३) हेतु पुरस्सर उत्पादन माल खराब काढणे.

४) पगारापेक्षा जास्त पैसे आगावू मागणे व पैसे मिळाल्यावर काम सोडून जाणे.

५) नेहमी वेगवेगळ्या प्रकारच्या मागण्या करणे उदा. पगार वाढ, बोनस, रजा इत्यदि.

६) गैरहजर राहणे

मालेगावातील यंत्रमाग धारकांना वरील त्रास कामगारांकडून नहेमी होत असतो. त्यामुळे व्यवसाय वाढीच्या विषयावरून लक्ष विकेंद्रीत होते. त्याचा परिणाम व्यवसायावर होतो. त्यामुळे यंत्रमाग धारकांच्या पदरात नुकसान येते. कामगार वर्गाला सांभाळणे ही एक यंत्रमाग धारकांपुढे समस्या आहे.

६) यंत्रमाग धारकांविषयी गैरसमज आपल्याकडून जास्त काम करून घेतात व पगार (मजूरी) कमी देतात.

७) अधिक नफ्याचा अभाव :-

कुठल्याही वस्तुच्या मागणीपेक्षा पुरवठा जास्त असेल तर वस्तुला किंमत कमी येते व मागणीपेक्षा पुरवठा कमी असेल तर वस्तुला किंमत जास्त येते. या सिध्दांताप्रमाणे मालेगाव येथील यंत्रमाग धारकांची स्थिती आहे. मालेगावात

यंत्रमाग धारक जास्त आहे. त्यामुळे मालाचे उत्पादन मोठ्या प्रमाणात होते व माल खरेदी करणारे व्यापारी कमी आहे. त्यामुळे एवढ्या मालाची यंत्रमाग धारकांना किंमत कमी येते. उलट ज्यावेळी त्याच मालाची बाहेर गावी विक्री करतात. त्यावेळेस ग्राहक जास्त व विक्रेते कमी त्यामुळे वस्तुंची किंमत अधिक येते. थोडक्यात आडत व्यापाऱ्यांना अधिक फायदा मिळतो आणि यंत्रमाग धारक अधिक फायद्यातून वंचित राहतो. ही एक समस्याच आहे.

८) तांत्रिक प्रशिक्षणाच्या सोयी उपलब्ध नसल्याने तो या व्यवसायात प्रगती करू शकत नाही.

९) यंत्रमाग धारक स्वतः सुत विकत घेणे आणि यंत्रमागावर कापड तयार करून विक्री करणे अशक्य झाले आहे. व्यापारी वर्ग कच्चा माल (सुत) वेळेवर उपलब्ध करून देत नाही. तसेच जास्त किंमतीने सुताची विक्री करतात. तसेच कापड तयार झाल्यावर योग्य किंमतीत खरेदी करीत नाही. तर कमी किंमतीला कापड खरेदी करण्याची तयारी दाखवितात. यंत्रमाग धारकांची आर्थिक परिस्थिती हलाखीची असल्यामुळे योग्य किंमत मिळते. तो पर्यंत माल सांभाळून ठेवणे शक्य नसते. त्यामुळे यंत्रमाग धारकांनी स्वतः कापड तयार करून विक्री करणे फार कमी प्रमाणात होत आहे. तो व्यापाऱ्याकडून मजूरी घेऊन (जॉब वर्क) कापड तयार करून देतात. त्यामुळे यंत्रमाग धारकांना नाईलाजाने यंत्रमाग व्यवसाय चालवावा लागतो आहे.

१०) मुलांना या व्यवसायात आणण्याची बहुतेक यंत्रमागधारकांची इच्छा नाही. आणि मुलांना सुध्दा या व्यवसाय आकर्षून घेण्याची स्थिती दिसत नाही. ही एक गंभीर समस्या आहे.

निष्कर्ष :-

१) यंत्रमाग उद्योगातील यंत्रमाग धारकांनी यंत्रमाग व्यवसायाविषयी शिक्षण व प्रशिक्षण घेतले पाहिजे.

२) यंत्रमाग व्यवसाय यंत्रमाग धारकांनी आधुनिक पध्दतीचे व्यवस्थापन नियोजन आणि नियंत्रण आणण्याचा प्रयत्न केला पाहिजे.

३) यंत्रमाग धारकांनी बाजारपेठेचे संशोधन केले पाहिजे.

४) यंत्रमाग व्यवसायातील कामगारांच्या समस्या समजून घेऊन त्या सोडविण्याच्या दृष्टिने प्रयत्न केला पाहिजे. कारण कामगार हा या व्यवसायातील एक महत्वपूर्ण घटक आहे.

५) यंत्रमाग धारक व कामगार यांनी आपल्या अडचणी व समस्या सोडविण्यासाठी स्वतंत्र संघटना स्थापन केल्या पाहिजे. संघटनामार्फत व्यवसायाला अनुकूल असे वातावरण निर्माण करून आपले कर्तव्य आणि जबाबदाऱ्या याची जाणवी करून दिली पाहिजे.

संदर्भ :-

१) विभागीय झोपडपट्टी परिषद, मालेगांव

२) डॉ. प्रभाकर देशमुख, इकॉनॉमिक ऑफ लेबर.

Journal of Research & Development
Vol. 4 (Issue 04), May-June, 2014
(ISSN-2230-9578)

शैक्षणिक वर्ष २०१३-१४ मधील इ. ८ वी च्या विद्यार्थ्यांचा सहशालेय उपक्रमामध्ये सहभाग वाढविण्यासाठी उपाय-योजना करुन त्यांची परिणामकारकता अभ्यासणे

डॉ. संध्या पटेल
प्राचार्या, सावित्रीबाई फुले माध्यमिक विद्यालय, सोरापाडा ता. अक्कलकुवा जि. नंदुरबार

प्रस्तावना :-

विद्यार्थ्यांचा सर्वांगिण विकास साधणे हे शिक्षणाचे सर्वमान्य ध्येय आहे. सर्वांगिण विकासामध्ये शरीर, मन, बुद्धी व आत्मा यांचा विकास अपेक्षित आहे. शरीर, मन, बुद्धी व आत्मा हे सर्व विद्यार्थ्यांच्या व्यक्तिमत्वाचे घटक आहे. परंतु प्रत्येक विद्यार्थी श्रीर, मन, बुद्धी व आत्मा यांच्या बाबतीत भिन्न असतो. त्यांच्या विकासाची सद्यस्थिती व विकसनक्षमता ही प्रत्येकाची भिन्न भिन्न असते. त्यामुळे एका विशिष्ट बाबतीत, विशिष्ट परिस्थितीत किंवा विशिष्ट पद्धतीने सर्वांचा सारखा विकास साधणे शक्य होत नाही. त्यामुळे विद्यार्थ्यात असलेल्या विविध शारिरीक, मानसिक, बौद्धिक व आत्मिक क्षमतांच्या प्रकटीकरणाकरिता व विकासाकरिता संधी व मार्गदर्शन उपलब्ध करुन देणे हे आवश्यक ठरते. याकरीतांच विविध अभ्यासपुरक व सहशालेय कार्यक्रम आखावे लागतात व ते क्रियान्वित करावे लागतात.

संशोधन शीर्षक :-

सावित्रीबाई फुले माध्यमिक विद्यालय, सोरापाडा ता. अक्कलकुवा जि. नंदुरबार शैक्षणिक वर्ष २०१३-१४ मधील इ. ८ वी च्या विद्यार्थ्यांचा सहशालेय उपक्रमामध्ये सहभाग वाढविण्यासाठी उपाय-योजना करुन त्यांची परिणामकारकतेचा अभ्यास.

संशोधन समस्येचे महत्व व गरज :-

विद्यार्थ्याचा सर्वांगिण विकास करणे हे शिक्षणाचे मुख्य उदिष्ट आहे. ही उदिष्टे लक्षात घेवुनच पाठ्यक्रमाची रचना असते. असे असले तरी अध्यापनातुन केवळ ज्ञान, आकलन, उपयोजना व कौशल्य ह्यासारखी प्राथमिक उदिष्टेच साध्य होत असतात. अभिरुची, अभिवृत्ती व दुष्टिकोन इ. उच्च स्तरावरील उदिष्टे साध्य करण्यासाठी पाठयक्रमाव्यतिरिक्त काही गोष्टी करणे आवश्यक आहे, आज प्राथमिक स्तरासाठी लागु झलेली सातत्यपुर्ण सर्वकष मुल्यमापन पद्धती योग्य प्रकारे राबविल्यास देखील विद्यार्थ्यांचा सर्वांगिण विकास होवु शकतो, यासाठी शाळेतुन विद्यार्थ्यांच्या सुप्त गुणांना वाव व संधी मिळेल अशा कार्यक्रमाचे आयोजन झाले पाहिजे.

सहशालेय उपक्रमाचे सर्व शिक्षकांनी एकत्र येवुन मुख्याध्यापकांच्या मार्गदर्शनाखाली करावयाचे असते व त्या प्रमाणे उपक्रम कार्याविन्त करावयाचे असतात. आवश्यकता वाटल्यास विद्यार्थ्यांना प्रतिनिधित्व देवुन उपक्रम राबवायचे असतात.

बरेचसे विद्यार्थी विशेषत: ग्रामीण भागातील विद्यार्थी हे बुजरे असतात. त्यामुळे ते स्वयंप्रेरणेने उपक्रमात सहभागी होत नाही. अशा वेळी शिक्षकांनी त्यांना प्रेरणा व प्रोत्साहन द्यावयाचे असते. विद्यार्थ्याशी प्रेमाने वागल्यास विद्यार्थ्याच्या मनात असलेली शिक्षकांबद्दलची भिती देखील कमी होते. त्यांच्या आत्मविश्वास वाढतो. विद्यार्थ्यांच्या क्षमता, कला, गुणांना व अभिरुचीला अनुसरुन शिक्षण दिल्यास त्यांच्या सुप्त गुणांचा विकास होतो. त्यांसाठी सहशालेय उपक्रम हे पोषक ठरतात. म्हणून संशोधन समस्येला महत्व आहे.

संशोधिका सावित्रीबाई फुले माध्यमिक विद्यालय, सोरापाडा ह्या शाळेत गेल्या १४ वर्षापासून मुख्याध्यापिका या पदावर कार्यरत आहे. शाळेत विद्यार्थ्याच्या विकासाला सहाह्यभुत ठरणारे विविध उपक्रम राबविले जातात. परंतु विद्यार्थ्याचा या सहशालेय उपक्रमातला सहभाग कमी असण्याचा कारणांचा शोध घेण्याचे ठरविले. विद्यार्थ्याचा सहशालेय उपक्रमातला सहभाग कमी कसण्याचा कारणांचा शोध घेतल्यावर त्यावर उपाययोजना करुन विद्यार्थ्याचा सहभाग वाढविता येईल तसेच विद्यार्थ्यांच्या सहजप्रवृत्तीला वाव

दिल्यास त्यांच्यामधील सुप्त गुणांचा विकास होवुन व्यक्तिमत्व विकास होईल म्हणून संशोधन समस्येची गरज आहे.

संशोधनाची उदिष्टे :-

१) सावित्रीबाई फुले माध्यमिक विद्यालय, सोरापाडा ह्या शाळेतील शैक्षिणिक वर्ष २०११-१२ मधील इ. ७ वी च्या विद्यार्थ्यांचा सहशालेय उपक्रमामधला सहभाग अभ्यासणे.

२) सदर शाळेमधील शैक्षणिक वर्ष २०१२-१३ मधील इ. ८ वीच्या विद्यार्थ्याचा सहशालेय उपक्रमामधील सहभागाचा शोध घेणे.

३) शैक्षणिक वर्ष २०१२-१३ मध्ये सदर शाळेतील इ. ८ वी च्या विद्यार्थ्यांचा सहशालेय उपक्रमामधला सहभाग वाढविण्यासाठी उपाय योजना सुचविणे.

४) सहशालेय उपक्रमामधला सहभाग वाढविण्यासाठी सुचविलेल्या उपाययोजनांची अंमलबजावणी करुन त्यांची परीणामकारता अभ्यासणे.

गृहीतके :-

१) शाळेमध्ये सहशालेय उपक्रम राबविले जातात.

२) सहशालेय उपक्रम राबविण्याविषयी पुर्वसुचना दिल्या जातात.

३) काही शिक्षक विद्यार्थ्यांना उपक्रमात सहभाग घेण्यास प्रेरीत / प्रोत्साहीत करतात.

४) काही शिक्षक विद्यार्थ्यांना सहशालेय उपक्रमात सहभाग घेण्याविषयी प्रेरणा / प्रोत्साहन देत नाही.

परिकल्पना :-

विद्यार्थ्यामधील न्युनगंडाची भावना कमी करुन त्यांना वेळावेळी प्रेरणा व बक्षिसे दिल्यास त्यांचा सहशालेय उपक्रमामधला सहभाग वाढतो.

सहशालेय कार्यक्रम-संकल्पना :-

शालेय उदिष्टांना धरुन परंतु शालेय अभ्यासक्रमाबाहेरील व शालेय कार्यक्रमास सहाह्यभुत होणारे उपक्रम की ज्याद्वारे विद्यार्थ्याच्या सुप्त गुणांना वाव देता येतो असे उपक्रम म्हणजे सहशालेय उपक्रम.

शालांत परीक्षेसाठी नेमलेला सैद्धांतिक अभ्यासक्रम पुर्ण करण्याव्यतिरिक्त विद्यार्थ्याची सर्वांगीण उन्नती करण्यासाठी अनेक कार्यक्रमाचे आयोजन केले जाते अशा कार्यक्रमांना अभ्यासपूरक कार्यक्रम सहशालेय कार्यक्रम, अभ्यासानुवर्ती कार्यक्रम असे संबोधिले जाते.

अभ्यासक्रमाप्रमाणेच असे कार्यक्रम हे शालेय कार्यक्रमाचा अविभाज्य भाग आहे आणि त्यांचे संयोजन करीत असतांना तितकीच काळजी घ्यावी लागते आणि दुरदृष्टी वापरावी लागते.

संशोधन पद्धती व जनसंख्या निवड :-

संसोधन पद्धतीची वैशिष्टे लक्षात घेवुन प्रस्तुत संशोधनासाठी सर्वेक्षण संशोधन पद्धतीची निवड केली. प्रस्तुत संशोधनातील सर्वेक्षणात सावित्रीबाई फुले माध्यमिक विद्यालयातील सांस्कृतिक कार्यक्रम प्रमुख व क्रिडा प्रमुख असे दोन शिक्षक व इ. ८ वी चे विद्यार्थी यांचा समावेश जनसंख्या निवडीत केला.

सामग्री संग्रहाची साधने :-

प्रस्तुत संशोधनासाठी संशोधिकेले इ. ८ वी च्या विद्यार्थ्यासाठी प्रश्नावली, क्रिडाशिक्षक मुलाखत प्रारुप, सांस्कृतिक विभाग प्रमुख मुलाखत प्रारुप व उपक्रम राबवितांना घेतलेल्या नोंदी या साधनांचा वापर केला.

प्रत्यक्ष कार्यपद्धती :-

संशोधिकेने माहितीचे स्त्रोत म्हणून निवडलेल्या इ. ८ वी च्या विद्यार्थ्याकडून प्रश्नावली भरुन घेतली. त्याबरोबरच क्रिडा शिक्षक व सांस्कृतिक विभाग प्रमुख यांचेही मुलाखत प्रारुप भरुन घेतले. ह्या माहितीची विश्लेषण केल्यानंतर विद्यार्थ्यांचा सहशालेय

उपक्रमांत सहभाग कमी असण्याची कारणे जाणुन घेता आली. ती सर्व कारणे दुर करता येणे शक्य होते. म्हणून संशोधिकेने त्या कारणांना लक्षात घेवुन उपयायोजना आखल्या व त्यांची नियोजनाप्रमाणे प्रत्यक्ष अंमलबजावणी केली. त्यात पालक सभांचे आयोजन, विद्यार्थ्यांना वेळोवेळी प्रेरणा व मार्गदर्शन, विद्यार्थ्यांना सहशालेय उपक्रमांत सहभाग घेण्याचे महत्व पटवुन देणे, विद्यार्थ्यांचा सुप्त गुणांना वाव देण्यासाठी आंतरशालेय क्रिडा स्पर्धा, वक्तृत्व स्पर्धा, सामुहिक कार्य इ. चे आयोजन, परीपाठात सक्तीचा सहभाग, विजयी विद्यार्थ्यांचे कौतुक व बक्षिश इ. उपक्रमाचा समावेश होतो. हे उपक्रम राबवित असतांना प्रत्येक कार्यक्रमात किती विद्यार्थी सहभागी झाले याची नोंद घेतली. प्रत्येक पुढच्या कार्यक्रमात विद्यार्थी कसा सहभागी होईल यासाठी विद्यार्थ्यांना वेळोवेळी प्रोत्साहन दिले. विद्यार्थ्यांचा न्युनगंड कमी होवुन आत्मविश्वास कसा वाढेल ह्यासाठी संशोधिकेने शिक्षकांच्या मदतीने जाणीवपुर्वक प्रयत्न केले. त्यांच्या अडचणी समजुन घेवुन त्या दुर करण्याचा प्रयत्न केला. ह्याचा परीणाम लक्षणीय आढळला.

ह्यावरुन असा निष्कर्ष काढता आला की विद्यार्थ्यांमधील न्युनगंडाची भावना कमी करुन त्यांना वेळोवेळी प्रेरणा व बक्षिसे दिल्यास त्यांचा आत्मविश्वास वाढून सहशालेय उपक्रमामधला सहभाग देखील वाढतो.

निष्कर्ष :-

१) विद्यार्थ्याची अभ्यासातली प्रगती समाधानकारक आढळली.

२) बहुतांशी विद्यार्थ्यांना शालेय वेळेव्यतिरिक्तचा वेळ घरकामासाठी द्यावा लागत असल्याचे आढळले.

३) विद्यार्थ्यांची प्रामुख्याने ठराविक खेळातच रुची असल्याचे आढळले.

४) ५०% विद्यार्थ्यांचा कोणत्याही क्रिडा स्पर्धेत सहभाग नसल्याचे आढळले.

५) विद्यार्थ्यांनी क्रिडा स्पर्धेत सहभाग न घेण्याची कारणे लक्षात घेता त्यावर उपाययोजना करता येण्याजोग्या आढळल्या.

६) थोर पुरुषांच्या जयंत्या-पुण्यतिथ्या साजऱ्या होतात त्यात व इतर सांस्कृतिक कार्यक्रमात २०% विद्यार्थी केव्हा ना केव्हा सहभागी झाल्याचे आढळले.

७) ६३% विद्यार्थ्याचा सहभाग चित्रकला व रांगोळी स्पर्धा ह्यात सहभाग आढळला.

८) केवळ ७% विद्यार्थ्यांचा सहभाग विज्ञान प्रदर्शनात आढळला.

९) सर्व सहशालेय उपक्रम लक्षात घेता सांस्कृतिक कार्यक्रम व विज्ञान प्रदर्शन ह्यातील विद्यार्थ्यांचा सहभाग फारच कमी आढळला.

१०) विद्यार्थी समुह कामात उत्साहाने काम करीत असल्याचे आढळले.

११) विद्यार्थ्यांचा आत्मविश्वास वाढून सहशालेय उपक्रमातला सहभाग वाढल्याचे आढळले.

शिफारशी :-

१) शाळेने पालक सभा घेवुन पालकांचे अज्ञान दुर करुन त्यांच्या पाल्याबद्दल असलेली त्यांची जबाबदारीची जाणीव करुन द्यावी.

२) शिक्षकांनी पालकांशी वेळोवेळी संपर्क करुन विद्यार्थ्यांच्या अडचणी समजुन घ्याव्यात व त्या कमी करण्यासाठी प्रयत्नशील रहावे.

३) शिक्षकांनी विद्यार्थ्यांशी जवळीक करुन विद्यार्थ्यंना प्रेमाची वागणुक द्यावी.

४) शिक्षकांनी विद्यार्थ्यांना वेळोवेळी प्रेरणा तसेच सहशालेय उपक्रमात सहभाग घेण्यासाठी प्रोत्साहन द्यावे.

५) उपक्रमात यशस्वी होणाऱ्या विद्यार्थ्यांचे कौतुक करावे.

६) विद्यार्थ्यांना त्यांच्या आवडीचे खेळ खेळता येईल अशी संधी उपलब्ध करुन द्यावी.

७) आंतरर्वीय व आंतरशालेय स्पर्धाचे आयोजन करावे.

८) विद्यार्थ्यामध्ये गटाने काम करण्याची क्षमता निर्माण व्हावी म्हणनु सामुहिक कामे विद्यार्थ्यांना करण्याची संधी द्यावी.

९) विद्यार्थी स्वतः एकटा एखाद्या उपक्रमात सहभागी होवु शकेल अशाही कार्यक्रमांचे आयोजन शालेय स्तरावर करावे.

उदा. एकपात्री प्रयोग

१०) विद्यार्थ्यांचा आत्मविश्वास वाढविण्यासाठी शिक्षकाने आपल्या कौशल्याचा वापर करावा.

११) विद्यार्थ्यांचे धाडस व आत्मविश्वास वाढविण्यासाठी शाळेने अभ्यासानुवर्ती व अभ्यासानुवर्ती व अभ्यासपुरक उपक्रमांचे आयोजन जास्त प्रमाणात करावे.

१२) मुल्यशिक्षण तसेच परिपाठातुन विद्यार्थ्यांना प्रेरक बोधकथा सांगुन त्यांच्या मनात जिद्द निर्माण करावी.

१३) विद्यार्थी नेहमी सकारात्मक दृष्टिकोन बाळगतील यासाठी शिक्षकांनी जाणीवपुर्वक प्रयत्न करावा.

१४) विद्यार्थ्यांच्या अंगी असलेल्या कौशल्यांची माहिती मिळवुन विद्यार्थ्यांचा त्याविषयी विशेष मार्गदर्शन देवुन प्रेरणा द्यावी.

संदर्भ :-

१) डॉ. सौ. किरण नागतोडे, शालेय व्यवस्थापन, शैक्षणिक संरचना आणि आधुनिक विचार प्रवाह, नागपुर

२) रा. ना. घोटाळे, समाजशास्त्रीय संशोधन तत्वे व पद्धती, नागपूर

३) वि. रा. भिंताडे, शैक्षणिक संशोधन पद्धती, पुणे, नुतन प्रकाशन

Journal of Research & Development
Vol. 4 (Issue. 04), May-June, 2014
(ISSN-2230-9578)

हिसार जनपद में वनों का वितरण

डॉ. उर्मिला सभ्रवाल
Ass. Prof . Pt. NRSGC Rohtak, Haryana, email. rajvirsabharwal@yahoo.in

क्षेत्र का परिचय

हिसार प्रशासनीक दृष्टि से हरियाणा राज्य के प्रमुख कृषि प्रधान जनपदों में से एक है जो राज्य की उतरी-पश्चिमी सीमा पर स्थित है। हिसार जनपद को १४वीं शताब्दी में फिरोजशाह तुगलक ने बसाया था। इसका पूराना नाम हिसार-ए-फिरोजा था जो अब हिसार के नाम से जाना जाता है। जनपद में कुल ४ तहसीलें है - हिसार, आदमपुर, हाँसी व नारनौंद है। ९ विकास खण्ड व २७४ गाँव सम्मिलित है।

हिसार जनपद चार तहसीलों से मिलकर बना है। इसका आक्षांशीय विस्तार २८° ३८' २०'' उत्तर तथा देशान्तरीय विस्तार ७५° २१' १०'' पूर्व से ७५° १८' ४५'' पूर्व तक कुल क्षेत्रफल ३७८७.९० वर्ग किलो मीटर है पश्चिम में राजस्थान राज्य उत्तर में हरियाणा का फतेहाबाद जनपद, पूर्व में जींद जनपद तथा पूर्व में रोहतक व द० में भिवानी। इसकी सीमायें बनाते है। हिसार जनपद हरियाणा राज्य का लगभग ११.६८ प्रतिशत भू-भाग को घेरे हुए है तथा प्रदेश की १४ प्रतिशत जनसंख्या निवास करती है।

प्राकृतिक संसाधन :- प्राकृतिक व मानवीय तत्व जो मानव की इच्छाओं व आवश्यकताओं की पूर्ति करते है वे संसाधन कहलाते है।

किसी भी देश के प्राकृतिक संसाधनों में वनों का अत्यनत महत्वपूर्ण स्थान है। 'वन' शब्द का प्रयोग वृक्षों एवं झाड़ियों के लिए किया जाता है। वन भी मानव के लिए प्राकृतिक संसाधन है इसका उपयोग यह विभिनन रूपों में करता है। जैसे - फल, लकड़ी, छाया तथा अन्यानेक वस्तुएँ प्रदान करते है। सन् १९८३ ई० में भारत की ७५१ लाख हैक्टेयर भूमि पर वन उगे हुए थे जोकि २००५ ई० में देश के कुल ६,७७,०८८ वर्ग कि०मी० वन क्षेत्र है

जिसमें हरियाणा का वनाच्छादित क्षेत्र १५८७ वर्ग कि०मी० है अर्थात् ३.५९ प्रतिशत है। जोकि बहुत ही कम है। और इसमें हिसार का वन क्षेत्र २००५-०६ में ६३ वर्ग कि० वर्ग ही है जोकि बहुत ही कम है।

वनों का महत्त्व व उपयोगीता (Utility and Importance of Forest)

प्राचीन काल से ही वन मानव के लिए उसकी मूलभूत आवश्यकताओं की पूर्ति करते आए है आदिकाल से ही मानव अपनी आवश्यकताएँ पूरी करता आया है खाने से लेकर रहने व पहनने तक। परन्तु अब धीरे-धीरे इनका क्षेत्रफल घटता जा रहा है और इसका मुख्य कारण बढ़ती हुई जनसंख्या व बढ़ता हुआ औद्योगिक क्षेत्र। अगर पृथ्वी पर वन ना हो तो मानव व किसी भी जीव का जीवन सम्भव नही है। वहीं दूसरी और वन विदेशी मुद्राजन, रोजगार, सृजन, जलवायु को समुचित बनाये रखने में भू-रक्षण व रेगिस्तान के विस्तार को नियंत्रित करते है। वनों से हमें प्रत्यक्ष लाभ व परोक्ष लाभ प्राप्त होते है।

प्रत्यक्ष लाभ :- (क्पतमबज च्तवपिज): - राष्ट्रीय आय का एक प्रतिशत योगदान वनों से प्राप्त होता है और लगभग एक लाख व्यक्तियों को प्रत्यक्ष रूप से काम मिला हुआ है व तीन लाख से अधिक लोगों की आजीविका वन पर निर्भर करती है। व तीन करोड़ से अधिक पशुओं का चारा मिलता है। इसके अतिरिक्त वनों से अनेकों छोटी-२ चीजें प्राप्त होती है। जैसे - बांस, बैंत, गोंद, विरोज, शहद, लाख, मोम, खालें, चमड़ा रंगने का सामान, घास व बीड़ी बनाने के पत्ते आदि।

परोक्ष लाभ (प्दकपतमबज च्तवपिज) - वन हमारे पर्यावरण का सन्तुलन बनाये रखते है व वर्षा लाने में सहायक होते है। वनों से भेमिगत जलस्तर ऊँचा बना रहता है। वनभूमि अपरदन को रोकते है।

हिसार जनपद का तहसील वाईस क्षेत्र

हिसार जनपद में जनसंख्या वृद्धि के कारण कृषि योग्य भूमि प्राप्त करने के लिए वनों को साफ किया जा रहा है। सन् १९९८-९९ में वन भूमि १०३ वर्ग कि०मी० थी जो २००५-२००६ में घटकर ६३ वर्ग कि०मी० रह गई।

जनपद हिसार : तहसीलवार वनों के अन्तर्गत भूमि क्षेत्र की प्रतिशतता तथा प्रतिलाख व्यक्ति वनों का क्षेत्रफल (वर्ग कि.मी. में)

तहसील	कुल वनों का क्षेत्रफल (वर्ग कि०मी०)	कुल भौगोलिक क्षेत्रफल (वर्ग कि०मी०)	कुल भौगोलिक क्षेत्रफल में वनों के क्षेत्रफल की प्रतिशतता	वनों का क्षेत्रफल प्रति लाख व्यक्ति (वर्ग कि.मी.)
हिसार	४	२०८६	१.१५	२.५७
आदमपुर	१०	४८४	२.०६	७.२५
हाँसी	१८	९८०	१.८३	५.२७
नारनौंद	११	४३३	२.५४	८.६८
योग जनपद	६५	३९८३	१.५८	४.१०

हिसार जनपद वनों की दृष्टि से एक निर्धन क्षेत्र है जहाँ पर केवल ६३ वर्ग कि०मी० पर वन है जोकि भौगोलिक क्षेत्रफल का १.५५ प्रतिशत है यह प्रतिशत देश एवं प्रदेश का तुलना में बहुत कम है हिसार जनपद की नारनौंद तहसील में जनपद से अधिक क्षेत्र पर वन है इस तहसील में २.५४ प्रतिशत क्षेत्र वनों से आच्छादित है। आदमपुर तहसील में २.०६, हाँसी तहसील में १.८३ है। सबसे अधिक वनों के अर्न्तगत क्षेत्रफल हिसार तहसील का है जो २४ कि०मी० पर वन पाए जाते है परन्तु भौगोलिक दृष्टि से कम है जोकि १.१५ प्रतिशत क्षेत्र है।

वनों का क्षेत्रफल कम होने का कारणः- हिसार जनपद में वनों का क्षेत्रफल कम होने का प्रमुख कारण है जनसंख्या वृद्धि। इसके अतिरिक्त बढ़ता हुआ नगरीकरण के कारण भी वनों को काटकर नगरों का विकास किया जा रहा है। जिसके कारण जनपद में अनेक समस्याएँ जन्म लेती है। इसके अतिरिक्त वनों की कटाई का कारण फर्नीचर उद्योग

भी है जो अधिक संख्या में शीशम के पेड़ों की कटाई की जा रही है। सड़कों के निर्माण के लिए भी पेड़ों की कटाई की जा रही है।

एक वृक्ष से मिलने वाले विभिन्न प्रतिदानों का पचास वर्षों में मूल्य

विवरण	मूल्य (रू.)
१०० किलो प्रति वर्ष की दर से ५० वर्षों में उत्पन्न ५०,००० किलोग्राम आक्सीजीन	२.५० लाख
वायु प्रदूषण पर नियन्त्रण	५.० लाख
जल का पुनः पंजीकरण तथा आर्द्रता पर नियन्त्रण	३.०० लाख
भू-रक्षण की रोकथाम तथा उर्वरा शक्ति में बढ़ोतरी	२.५० लाख
पत्तियों से प्रोटीन व वसा का निर्माण	०.२० लाख
पशु-पक्षी, कीड़ों तथा पौधों का सरंक्षण	२.५० लाख

वनों की कटाई से दुष्परिणामः- इस भोगवादी उपभोक्ता संस्कृति ने वनों की अंधाधुंध कटाई से हमें यह विचारधारा निरन्तर पतन के गर्त में ले जा रही है। व्यक्तिगत स्वार्थों की पूर्ति हेतू वनों का दोहन Ecology System को अव्यवस्थित कर रहा है। यह हमारे जीवनको अशक्त एवं अल्पजीवी बना रहा हैं
राबर्ट चेवर्स का कथन है -

"वन नष्ट होते हैं तो जल नष्ट होता है मत्स्य और शिकार नष्ट होते हैं, पशु नष्ट होते हैं, उर्बरता विदा ले लेती हैं और तब यह पुराने प्रेत एक के नीचे एक प्रकट होने लगते हैं- बाढ़, सूखा, आग, अकाल, महामारी।"

विश्व पर्यावरणीय प्रदूषण की दृष्टि से भारत बुरी तरह से प्रभावित है इसलिए भारत सरकार ने अधिनियम बनाकर भिन्न-२ क्षेत्रों में बढ़ रहे प्रदुषण को रोकने के लिए प्रभावी उपाय किये है। इस दृष्टि से वनों का विनाश पर्यावरणीय प्रदषण एम.एम. चतुर्वेदी की पुस्तक लॉ प्रोटेक्शन ऑफ इन्वायरमेन्ट एण्ड प्रोवेन्शन ऑफ पाल्यूशन" के (Law Protection of Environment and Prevention of Pollution) अनुसार भारत सरकार ने अत्यन्त कठोर अधिनियम बनाकर लागू किया है। जिसे हम 'द फारेस्ट कंजरवेशन एक्ट १९८०' (The Forest Conservation Act 1980) के नाम से जानते है।

वर्तमान में आवष्यकता इस बात की है कि पूरे जनपद में इस कार्यक्रम को जन-आन्दोलन के रूप में चलाया जाये। वृक्षारोपण कार्यक्रम में जनता की भागीदारी सुनिश्चत करने तथा वनों के प्रति जन-साधारण की रूचि बढ़ाने के लिए ग्राम वन समीतियाँ व वन चेतना केन्द्रों की स्थापना की जाए। "वन योजना" के अन्तर्गत सरकार द्वारा आरक्षित स्थानों पर कोई भी व्यक्ति विशेष अवसरों - जैसे - विवाह, पुत्र जन्मोत्सव व अन्य विशेष अवसर पर पेड़ लगा सकता है। वनरोपण कार्य को सम्पन्न कराने हेतू सामाजिक वानिकी कार्यक्रम की एक पंचवर्षीय योजना बनाई जाये व जिन क्षेत्रों में अनुपयोगी व कम महत्व की वनस्पति उगी है उन्हें साफ करके उपयोगी पौधों की प्रजातियों को उगाया जाए।

वन रोपण के साथ-२ वन सरंक्षण भी आवश्यक है इसके लिए लकड़ी के स्थान पर वैकल्पिक पदार्थो का उपयोग किया जाये। जलाने के लिए गोबर गैस तथा सौर उर्जा आदि। वैज्ञानिक सौर उर्जा स्त्रोतों का विकास किया जाये तथा इमारती कार्यों व फर्नीचर के निर्माण में लोहे या प्लास्टिक का प्रयोग किया जाये। लकड़ी के शवदाह गृहों के स्थान पर विद्युत शवदाह गृहों का विकास किया जाये। त्यौहारों पर जिसमें अधिक लकड़ी का उपयोग किया जाता है - जैसे - लोहड़ी, होली पर कम से कम लकड़ी का उपयोग किया जाये। इस तरह से वनों की कटाई को न्यूनतम किया जायें।

References:

1- Agarwal, V.S. Pahini Kalina Vharatavarsha (Hindi) Sam. 2012 – (P-86).
2- R.L. Singh India – A Regional Geography (P-14).
3- Krishna, M.S. Geology of India, Pakistan and Burma, Page- 511.
4- Singh S. "Rural Development and Planning" Page – 23.
5- Sample, R.C., "Indluesrees of Geographic Environment".
6- Bishnoi, O.P, The Agricultural Climate of the Hisar Area – Deptt. Of Agricultural Metrology, C.C. H.A.U., Hisar.
7- District Gazetteer 1987, page – 13
8- अलका गौतम और बी.एस. चौहान - भौतिक भूगोल जैवमण्डल, Page-32
9- बी.एस. नेगी - संसादन भूगोल - Page 128.

Membership Form

(Journal of Research and Development)

ISSN-2230-9578

Name : _____

Date of Birth : _____ **Educational Qualification :** _____

Designation : _____ **Department/Occupation :** _____

_____

Name of College/University/Instituion : _____

_____

Residential Address : _____

_____

Phone : _____ **Mobile :** _____

Office/Institution Address : _____

_____

_____**Phone :** _____

Membership Individuals is Rs. 1500/- (Printing Charges of One Research paper and membership for One issue)
Membership for Institute is Rs. 2500/- (Only for One year)
Price for One Issue is Rs. 250/-
Membership will be paid in favour of Dr. R. V. Bhole, Journal of Research and Development, C/o Dr. V. J. Patil, 'Prajyot', Plot No. 8, Survey No. 101/2, Mundada Nagar, Jalgaon (M.S.) 425002 by money order, D.D. only.

Date **Signature**

Important Instructions :

1) It is necessary to send the research paper prints along with a C.D. Paper should be typed in Pagemaker 7.0. For Marathi/Hindi font use Shree-Dev-0714 and for English use 'Times New Roman'.
2) Research paper should be computer typed properly on A4 size paper and should not be more than six pages including the Reference and Bibliography. We reserve the right to edit the paper if it contains more than six pages.
3) Photocopy of this membership form can also be used.
4) For further details and enquiry contact the editor on following Mobile No.
   Dr. R. V. Bhole-09325665856