

Vol 2 Issue 6 March 2013

ISSN No : 2249-894X

---

*Monthly Multidisciplinary  
Research Journal*

*Review Of  
Research Journal*

---

Chief Editors

---

**Ashok Yakkaldevi**  
A R Burla College, India

**Flávio de São Pedro Filho**  
Federal University of Rondonia, Brazil

**Ecaterina Patrascu**  
Spiru Haret University, Bucharest

**Kamani Perera**  
Regional Centre For Strategic Studies,  
Sri Lanka

## Welcome to Review Of Research

RNI MAHMUL/2011/38595

ISSN No.2249-894X

Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

### Advisory Board

Flávio de São Pedro Filho Federal University of Rondonia, Brazil	Horia Patrascu Spiru Haret University, Bucharest, Romania	Mabel Miao Center for China and Globalization, China
Kamani Perera Regional Centre For Strategic Studies, Sri Lanka	Delia Serbescu Spiru Haret University, Bucharest, Romania	Ruth Wolf University Walla, Israel
Ecaterina Patrascu Spiru Haret University, Bucharest	Xiaohua Yang University of San Francisco, San Francisco	Jie Hao University of Sydney, Australia
Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Karina Xavier Massachusetts Institute of Technology (MIT), USA	Pei-Shan Kao Andrea University of Essex, United Kingdom
Catalina Neculai University of Coventry, UK	May Hongmei Gao Kennesaw State University, USA	Osmar Siena Brazil
Anna Maria Constantinovici AL. I. Cuza University, Romania	Marc Fetscherin Rollins College, USA	Loredana Bosca Spiru Haret University, Romania
Romona Mihaila Spiru Haret University, Romania	Liu Chen Beijing Foreign Studies University, China	Ilie Pintea Spiru Haret University, Romania
Mahdi Moharrampour Islamic Azad University buinzahra Branch, Qazvin, Iran	Nimita Khanna Director, Isara Institute of Management, New Delhi	Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai
Titus Pop PhD, Partium Christian University, Oradea, Romania	Salve R. N. Department of Sociology, Shivaji University, Kolhapur	Sonal Singh Vikram University, Ujjain
J. K. VIJAYAKUMAR King Abdullah University of Science & Technology, Saudi Arabia.	P. Malyadri Government Degree College, Tandur, A.P.	Jayashree Patil-Dake MBA Department of Badruka College Commerce and Arts Post Graduate Centre (BCCAPGC), Kachiguda, Hyderabad
George - Calin SERITAN Postdoctoral Researcher Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	S. D. Sindkhedkar PSGVP Mandal's Arts, Science and Commerce College, Shahada [ M.S. ]	Maj. Dr. S. Bakhtiar Choudhary Director, Hyderabad AP India.
REZA KAFIPOUR Shiraz University of Medical Sciences Shiraz, Iran	Anurag Misra DBS College, Kanpur	AR. SARAVANAKUMARALAGAPPA UNIVERSITY, KARAIKUDI, TN
Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur	C. D. Balaji Panimalar Engineering College, Chennai	V.MAHALAKSHMI Dean, Panimalar Engineering College
	Bhavana vivek patole PhD, Elphinstone college mumbai-32	S.KANNAN Ph.D , Annamalai University
	Awadhesh Kumar Shirotriya Secretary, Play India Play (Trust), Meerut (U.P.)	Kanwar Dinesh Singh Dept.English, Government Postgraduate College , solan

More.....

Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India  
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.isrj.net



## PROBLEMS OF URBANIZATION IN SOLAPUR CITY (MAHARASHTRA)

**KHANDEKAR M.S. , GATADE D.G. AND VHASMANE A.S.**

Assistant Professor, Department of Geography, Chandrabai- Shantappa Shendure College,  
Hupari, Tal. Hatkanagale Dist. Kolhapur, Maharashtra.  
Associate Professor and Head, Department of Geography, A.S.C.College,  
Ramanandnagar, (Burli), Dist- Sangali, Maharashtra.  
Associate Professor and Head, Department of Geography, D.K.A.S.C.College,  
Ichalkaranji, Dist-Kolhapur.

### Abstract:

*In this paper attempt has been made to analyses the study of the problems of urbanization in Solapur city. It has been studied on the basis of primary and secondary data collected and computed by recent research techniques and the results have been brought through tables and maps. This paper tries to investigate the different types of problems with focus on residential, land value, slum, traffic and transport, adequate and purified water supply, unemployment, pollution (vehicular, air, industrial, domestic), swage water, solid waste and air pollution, status of public health hazards, etc problems in Solapur city.*

### INTRODUCTION

The overcrowding of cities reduces the sense of social responsibilities among people and gives rise to socio-racial conflicts. Due to increase in the commercial functions of cities and use of private vehicles, the cities experience a greater strain of traffic. Pollution of air, water, excessive noise-level, careless planning by utilizing best agricultural land for urban and industrial sprawl are other serious problems. Apart from this, to prevent uncontrolled expansions, to finance public services, managing transport system, to police, develop new plans and their implementation there are the administrative problems associated with urbanization. In view of the importance of environmental consequences as a result of industrial development, present study tries to assess the role of various factors, which contribution in deteriorating environmental quality and its impact on health of residents in Solapur city. This city has been selected as the study area because this region offers optimum condition for location of all types of manufacturing activities and is located in an agriculturally productive region.

### STUDY REGION

Solapur city as district headquarters is geographical located on 17° 10' North latitude to 18° 32' North latitude and 74° 42' East to 76° 15' East longitude. The mean height is 460 to 480 M from M.S.L. The population of the Solapur city is 951118 persons (2011). The total area of Solapur city Municipal Corporation is 180.33 Sq.km and the climate of Solapur city is tropical and comes under rain shadow area. The maximum temperature of the city is about 34.100C and minimum 21.70C. The rainfall is uncertain and scanty.. The average annual rainfall of the city is 759.80mm. The entire jurisdiction of SMC is divided in to 98 wards and 6 zones. As per provisional reports of Census India, population of study area in 2011 is

Title: PROBLEMS OF URBANIZATION IN SOLAPUR CITY (MAHARASHTRA) Source: Review of Research [2249-894X] KHANDEKAR M.S. , GATADE D.G. AND VHASMANE A.S. yr:2013 vol:2 iss:6

951,118 of which male and female are 482,194 and 468,924 respectively.

### OBJECTIVE

To objective of this paper is to analyze them problems of urbanization and their impact on environment in solapur city.

### DATA BASE AND METHODOLOGY

The present study is based on primary and secondary data sources. The required secondary data for the present study has been collected from various sources. The primary data have collected with the help of the simple random sampling method and particular house. I have taken interview of one male or female respondent who are heads of the family. For the purpose of this study the observation and detailed interview methods were employed. These have been highly helpful in this study. The methodology adopted for the present study is based on quantitative techniques and cartographic approaches. Simple statistical techniques are used to derive fruitful results and cartographic techniques have been employed to facilitate visual interpretation.

### RESULTS AND DISCUSSION

#### 1) Residential Problem

It shows that the growth of houses has been increasing since seven decade. As we compared the speed of population growth with growth of houses, we came to know that there are more and more demands for houses with facilities. 'Land value' plays an important role in selecting residential area for the people. Because of high prices of land (1.5 lack per/sq. m) the people are going away from the central part of the city area, and they are developing the new residential housing colonies due to comparatively low cost (Avg. Rs. 300 per sq. m) in the fringe zone area e.g. Shelagi, Dahitane, Siregaon of Solapur city. But these person faces inadequate in transport network and other required amenities.

#### 2) Slum problem

There are 158 notified and 62 non-notified slums in the Solapur City with an estimated 218283 population residing in it. This reflects that around 25 percent of the total population of the city lives. Some significant slums are listed here. Most of the slums in Solapur city generating various problems like, congestions, opened sewages, unhealthy condition, inadequate and unpurified water supply these problems are more severe in Ramabai Zopadpatti, Budhawar Peth, Modi-Khana Zopadpatti, Saat Rasta and more or less appeared in other slums in city.

#### 3) Problem of Traffic and transport

Solapur Municipal Transport renders 69 Busses on major heavy traffic routes. Apart from this people uses their own transportation means, in those 2 wheelers (7, 85,500). Auto Rickshaws (10,260), light Motor Vehicles (45,000), Heavy vehicles (68,200) are important. When all those vehicles comes roads, they create various problems in it traffic congestion and transport related problems are important one. Some of the striking problems faced by citizen are listed below.

- i) Heterogeneous traffic condition with limited road capacities which make the segregation of traffic very difficult especially in the areas of Shivaji Chowk, Ambedkar Chowk, Saraswati Chowk.
- ii) Insufficient road carriageway capacities in the congested areas. e.g. Akkalkot Naka (NH-13 crossing), Vijapur Ves, Moti Chowk, Tilka Chowk etc.
- iii) Various encumbrances on road such as encroachments, unauthorized constructions particularly of religious nature etc. e.g. foujdar chaudi, Tilak Chowk, Navi Peth etc.
- iv) Absence of parking facilities at important locations leading to street parking of the vehicles.
- v) The inadequacy of footpaths, their diversions to other uses and joy walking leading to obstruction in the vehicular traffic. eg. Fort road, Kontum Chowk, Rajendra Chowk etc.
- vi) Poor maintenance of tar roads in the city results into maximum number of pits which invites accidents. eg. Vijapur ves, Shivaji Chowk, Gurunanak Chowk, Dayanand College road etc.
- vii) Due to insufficient number of busses large strain imposed on existing transport network on major traffic

roads eg. chincholi MIDC road, Akkalkot MIDC Road, Kumathe MIDC roads etc.

viii) The animals like cow, donkey, pig, buffaloes remain on road are creating traffic problems eg. Shivaji Chowk, Bhaiyya Chowk, Rang Bhavan Chowk, etc.

#### **4) Problem of adequate and purified water supply**

Solapur city comes under rain shadow area rainfall is uncertain and scanty. This city received water supply from Ujanidam and there is a water purified Centre in Pakani (1998). But this huge, purified water supply system collapse in fulfillment of needs of growing urban population. Due to inadequacy of water, newly extension areas especially Dahitane, Shelagi, Bale, Degao suffer from acute problem. These areas get low pressure water supply once after two three days and quality of the water is also not up to the mark. All wards in Solapur city face inadequate, low pressure and untimely water supply. Long quest for water is a very common picture in various parts of Solapur city. Portable water through tanker is supplied to various pockets in urban fringe area of the Solapur city.

There are 42 storage reservoirs at 34 places of total capacity 96.66 ML in the city. 95 percent of the population in the city receives tap water accounting to 110 MLD. The remaining 5 percent population in fringe areas is covered through tankers due to non availability of water distribution network. The total water supplied in the city is 121.03 MLD. Water is supplied on alternate days for 2-3 hours which is around 127 LPCD. Water metering system is prevalent only for commercial establishments (3 % coverage). The extent of non revenue water is around 40 percent. Losses are due to leakages in transmission mains, old distribution network, and free supply to stand posts, Municipal Offices, gardens, dispensaries, swimming tanks and municipal school, Fire Brigade and tankers.

#### **5) Problem of Unemployment**

In Solapur city unemployment problem is very severe, especially in 1957 after closing Non-Singji Girji Manufacturing Co. 4500 workers become unemployed, 6200 workers thrown in the ally of unemployment in 1992 and 1993 after closing Laxmi Cotton Manufacturing Co. and Vishnu Cotton Manufacturing Co., respectively part from this various reasons of unemployment observed in Solapur city are listed below.

- i) Population growth by migration or natural.
- ii) Lack of skill among labour.
- iii) Reducing labour oriented industries and due to computerization and mechanization of industry. Due to unemployment people cannot maintain their standard of living.

#### **6) Problems of pollution**

Due to expansion of city limit the numbers of vehicles were increased and it shows positive relation with vehicular pollution. As per 2010 RTO record the total number of various types of vehicles are 9, 08,900. These are the major source of air pollution in the city. Vehicular pollution is the major contributory sources of air pollution and its impacts are mainly eye irritation, asthma, bronchitis, etc. In Solapur city the condition of ambient air quality is unsatisfactory. The major contributory source of air pollution in Solapur city is mainly.

##### **i) Vehicular Pollution**

The observed pollution load is attributable to the vehicular movement on National highway No. 9 which passes through Solapur city. The observed pollution load is attributed mainly due to the increased vehicular movement at the Shivaji Chowk, Saat Rasta Chowk, Near M.I.D.C. Akkalkot Road (New), Walchand Institute of Technology Campus Ashok Chowk, Chitale Clinic, Saat Rasta, etc. locations in Solapur City.

**Table 2**  
**Number of Vehicles and their contribution to pollution in Solapur City**

Sr. No.	Types of Vehicles	Years			Contribution of pollution
		2000	2005	2010	
1.	Two Wheelers	162371	325950	785500	77.33%
2.	Auto Rickshaws	6403	8500	10260	2.93%
3.	Light Moto Vehicles	16042	34150	45000	7.40%
4.	Heavy Vehicles	283203	414100	908960	12.33%
	<b>Total</b>	<b>213203</b>	<b>414100</b>	<b>908960</b>	

Source: Computed by Author from Maharashtra Pollution Control Board, 2010

It is seen from the table 2 that the number of two wheelers has steeply increased in Solapur city which may be partly responsible for the deterioration of the air quality in the city. The number of other vehicles in Solapur has also increased during last ten years however the road development has not kept pace with these increased vehicles. Besides, the existing roads are having narrow carriageways and hence not capable of taking up this increased traffic volume. This results in the speed reduction of the vehicles and consequent increase in the pollution load.

**Table 3**  
**Air Quality Status at various locations in Solapur City (2010)**

Sr. No.	Name of	SO <sub>2</sub> in ug/m <sup>2</sup>	NOX in ug/m <sup>2</sup>	RSPM (UG/M <sup>3</sup> )	SPM
1.	Shivaji Chowk Area	20.60	38.15	406.70	400
2.	Sat - Rasta Chowk	20.85	32.75	413.50	416
3.	MIDC (Akkalkot Road)	18.10	40.55	346.30	400
4.	NIT Campus Ashok Chowk	21.00	48.00	190	423
5.	Limit	80/120	80/120	100/150	200

Source: Computed by Author from Maharashtra Pollution Control Board 2010.

The survey reveals that the vehicles have to compulsorily run at a low speed during the peak traffic hours due to traffic congestion. The heavy traffic density also aids in further aggravating the already increased pollution in the city. The Air quality status at various locations is given above table 3.

#### ii) Industrial Pollution

The industrial activity in Solapur city and surrounding areas is mostly confined to small scale sector and there are a very few medium and large scale industries located in Solapur city. Solapur city is one of the most important industrial centers of Maharashtra. The major manufacturing industries of the region are based on the agricultural resources and include various industry.

**Table 4**  
**Industries Generating Air Pollution in Solapur City (2004)**

Sr. No.	Name of Industry	SPM mg/Nm <sup>3</sup> (in Per cent)	SO <sub>2</sub> mg/Nm (in Per cent)
1	Kirloskar Oil Engines. Shinshakti, Kumthe	473.89 (12.18)	40.53 (3.38)
2	Siddheshwar SSK ltd. ,Kumthe	285.58 (7.35)	194.13(14.42)
3	S.M. Rubber Industries.Hotgi Road Ind. Estate	657 (16.88)	155.73 (11.54)
4	Laxmi Foundry16,17, Hotgi Road Ind. Estate	695.45 (17.88)	139.73 (10.38)
5	Banda Dyeing. E-105, MIDCAkk. Road	280.29 (7.20)	145.06 (10.77)
6	Precision Cam Shaft ltd. E-90, MIDC Akk. Road	199.37 (5.12)	110.4 (8.20)
7	Aditi Pharmaceuticals. E-MIDC Akk. Road	294.37 (7.56)	12.66 (0.94)
8	Su-vi Chemicals B-10MIDCAkk. Road	26.83 (0.69)	112.3 (8.34)
9	Smurthi Organics 273, MIDC Akk. Road	247.9 (6.37)	158.93 (11.80)
10	Gujarat Reclaim & Rubber Ind. C10/1, MIDC Akk. Road	508.84 (13.07)	128.53 (9.55)
11	Laxmi- Narayan Sizing Works	221.8 (5.70)	148.31 (10.0)

**Source:** Computed by Author from Maharashtra Pollution Control Board 2004.

The table 4 describes the variation industrial air pollution to SPM and SO<sub>2</sub>. Out of SPM accounts 59.93 per cent of all air pollutions follow by SO<sub>2</sub> of 40.07 per cent in the study area. In the study region is highly generating of air pollution in south-east part, east part and south part of respectively in study region. The air pollution have affect on human health.The inventory of the industries prepared by MPCB, it is observed that there are total 633 industries in Solapur city. Out of this 7 are large scale, 4 are medium scale and 622 are small scale industries, respectively. Besides, as per the categorization of the industries there are 157 industries of the Red category (highly polluting), 74 Orange category (medium polluting) and 402 Green category industries (Non-polluting).

#### ii) Domestic Pollution

. A high property price has resulted in growth of slums and shanties on the unprotected land in the city the slum dwellers mostly.Depend on any cheap fuel that becomes readily available to them such as wood, biogases, saw dust, waste paper/ boards or any sundry waste. Since the slum dwellers use any kind of available fuel, it contributes to the air pollutions from the household sources.

#### 7)STATUS OF PUBLIC HEALTH

Increased levels of ambient nitrogen dioxide may be a marker for exposure to industrial related pollution. An independent role of nitrogen dioxide cannot be clearly established because of the high co variation between ambient nitrogen dioxide and other pollutants. Nonetheless, these studies illustrate that adverse respiratory tract effects are seen in urban areas where industries is a dominant source of air pollution. the impacts of air pollution on the health of population residing with Solapur city limits. The results of this surey are given in the table 6 below.

**Table 5**  
**Number of Patients with Various Diseases in Solapur City (1998 to 2010)**

Sr.N	Name of Diseases	1998	2004	2010
1	Pulmonary tuberculosis	770	856	970
2	Malignant neoplasm of lip, oral cavity	002	47	50
3	All other diseases of the respiratory tract	216	191	225
4	Acute bronchitis and bronchiolitis	023	136	200
5	Pneumonia	449	329	465
6	Bronchitis, Chronic and Asthma	410	291	500
7	Pleurisy	01	--	--
8	All other Diseases of the respiratory system	042	109	290
9	Total	1916	1959	2500

**Source:** Computed by Author from Maharashtra Pollution Control Board, 2010

The present study reveals about the impacts of air pollution on the health of population residing within solapur city limits. The results of this study are given in the table 6 above. It is observed that Pulmonary Tuberculosis diseases stood first in all diseases and malignant neoplasm of lip oralcavity patient are very low. In the Solapur city there are 1959 diseases in total with comparatively in other year 2004 observed that diseases are increasing.

#### 9) SEWERAGE:

The sewerage network system consists of underground, pucca and kuccha drainage. The total length of underground drainage is 281.3 kms, that of open gutters is 240.76 kms and kuccha drainage is 233.18 kms. 72.20 per cent of toilet seats are connected to the sewerage network. Out of the total 152240 toilet seats in the city, only 81830 (53.8 per cent) are connected to underground drainage network. 34184 toilet seats (22.45 per cent) are connected to septic tanks, the waste from which are lifted through suction machines and later disposed in the sewerage system and in garbage depot. This method of disposal is unsafe.

Out of the total 146945 households (77 per cent) have individual toilet facilities. The remaining 43655 (23 per cent) households do not have access to individual toilets and rely on 5023 community toilet seats. There are 225 open defecation spots in the city. To cater to a floating population of 19450, there are a total of 272 toilet seats at public places, (145 seats are for men and 127 seats for women). Across the city there are 402 public urinals. They are mostly situated at bus stands, railway station and market areas the operation and maintenance of the community toilets is done by SMC and that of pay and use toilets is handled by private agencies.

About 16 km of natural nallas namely Bidi gharkul nalla, Uppar Landki Nalla, Lower Lendki Nalla, Mill peth nalla, Sadar bajar nalla, Revan Siddheswar Nalla, Shelgi Nalla are passing through the city. There are seven major and six minor water logging spots in the city. There is need to construct approximately 225 km of storm water drainage along with old roads as well as newly constructed roads.

In study area is door to door collection of solid waste is done through 60 hand carts. The total waste collected by these hand carts is 12 MTD. The city has 1527 collection cum storage locations. These include 678 open dumps, 122 containers, 134 concrete round bins & 593 square haudis. 8 Trucks make a total of 16 trips per day to transport the waste collected at disposal sites. The total quantity of waste collected by these trucks each month is 7680 MT. 650 kgs of bio medical waste is generated in the city. Bio Medical Waste is handled by Bio Energy Systems Pvt Ltd on BOOT basis at Bhogaon khath depot, Barshi road for the past 7 years. Currently only waste from the beedi industry is processed and manure is sold to grape cultivators.



The Corporation has two Solid Waste disposal sites, one is on Tuljapur Road and another one at village Bhogaon on old Barshi Road. Unsegregated waste from the city is dumped on these sites. The waste to energy power generation plant of 300 MTD capacity (generating 3MW of power), has been installed and will be commissioned soon on BOOT basis.

### CONCLUSION

The reasons for this can be attributed to the heavy vehicular traffic in that area, floating dust, re-suspension of the dust due to arid and dry climatic conditions prevailing in the city, lack of adequate public transport within the city. The ratio of slum dwellers' to the total population of Solapur city is 25.27 per cent. In the study region is highly generating of air pollution in south-east part, east part and south part of respectively in study region. The air pollution have affect on human health. The effluent is dark colored with alkaline pH. Highly colored liquid effluents are observed under study area. The pH of the effluents is varied from 7.59 to 9.49. The pH variation is primarily caused by different kinds of chemicals used during processing steps in six textile industries. The values are observed to be higher than the standard prescribed by Central Pollution Control Board of effluent discharge. Higher pH is due to use of chemicals like NaOCl, NaOH, surfactants and sodium phosphate.

In study area is depend on any cheap fuel that becomes readily available to them such as wood, bagasse, saw dust, waste paper/ boards or any sundry waste. Since the slum dwellers use any kind of available fuel, it contributes to the air pollutions from the household sources.

### SUGGESTION

- 1) Ban on fifteen year old vehicles.
- 2) The rickshaws stop should be properly arranged.
- 3) The additional licenses should not be issued for the new rickshaw owners.
- 4) Garbage from kachara kundies should be cleaned every day.
- 5) The plastic waste material should be demolished in a proper way.
- 6) Safe disposal of human excreta, solid and liquid waste generated in the city.
- 7) Decentralization of Sanitation Services like solid waste management, sewage treatment plants and pumping stations.
- 8) To provide garbage / debris or such inert material collection & transportation & its disposal facility on Pay and use basis.
- 9) Promoting individual toilets in slums.
- 10) Undertaking immediate steps to remove encroachment on nallas and preventing encroachments in future
- 11) Improving the green cover in the city

### REFERENCES

1. Dickinson, R.E. (1960): City Region and Regionalization, Methuen, London, p.119.
2. Govt. of Maharashtra (1951): District Census Handbook, Solapur District, P.45.
3. Govt. of Maharashtra (1991) "District Census Handbook, Solapur, Series -14, Part XII –A and B, P. 244.
4. Govt. of Maharashtra (2001) "District Census Handbook - CD, Solapur District.
5. Govt. of Maharashtra (2008-09): Socio-Economic Review and District Statistical Abstract of Solapur District, Pp. 6-7..
6. Maharashtra Pollution Control Board (2004): Solapur Action Plan, 2004.
7. Maharashtra Pollution Control Board (2010): Solapur Action Plan, 2010.
8. Mandal, R.B. (2000): "Urban Geography", Concept Publishing Company, New Delhi, P. 273.
9. Govt. of Maharashtra (2010): Regional Transportation Office of Solapur District, 2010.
10. Govt. of Maharashtra (2010): Solapur Civil Hospital Report of Solapur City, 2010.
11. Singh, R.B. (1993): Process of Organization in the Third World et.al. Diddec, J. and Rangaswamy, V., Urbanization Trends, Perspective and Challenges, Rawat Publication Jaipur, Pp. 55-74.
12. <http://www.census2011.co.in/census/city/383-solapur.html>
13. [http://www.urbanindia.nic.in/programme/uwss/CSP/Draft\\_CSP/Solapur\\_CSP.pdf](http://www.urbanindia.nic.in/programme/uwss/CSP/Draft_CSP/Solapur_CSP.pdf)
14. <http://mpcb.gov.in/images/pdf/mptcsola.pdf>
15. [http://www.sadgurupublications.com/ContentPaper/2012/4\\_1453\\_10\(2\)2012.pdf](http://www.sadgurupublications.com/ContentPaper/2012/4_1453_10(2)2012.pdf)

# Publish Research Article International Level Multidisciplinary Research Journal For All Subjects

Dear Sir/Mam,

We invite unpublished research paper.Summary of Research Project,Theses,Books and Books Review of publication,you will be pleased to know that our journals are

## Associated and Indexed,India

- \* International Scientific Journal Consortium Scientific
- \* OPEN J-GATE

## Associated and Indexed,USA

- DOAJ
- EBSCO
- Crossref DOI
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Databse
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database

Review Of Research Journal  
258/34 Raviwar Peth Solapur-413005,Maharashtra  
Contact-9595359435  
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com  
Website : www.isrj.net