

International Multidisciplinary  
Research Journal

Golden Research  
Thoughts

Chief Editor  
Dr.Tukaram Narayan Shinde

---

Publisher  
Mrs.Laxmi Ashok Yakkaldevi

Associate Editor  
Dr.Rajani Dalvi

Honorary  
Mr.Ashok Yakkaldevi

---

## Welcome to GRT

RNI MAHMUL/2011/38595

ISSN No.2231-5063

Golden Research Thoughts 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.

### *International Advisory Board*

Flávio de São Pedro Filho Federal University of Rondonia, Brazil	Mohammad Hailat Dept. of Mathematical Sciences, University of South Carolina Aiken	Hasan Baktir English Language and Literature Department, Kayseri
Kamani Perera Regional Center For Strategic Studies, Sri Lanka	Abdullah Sabbagh Engineering Studies, Sydney	Ghayoor Abbas Chotana Dept of Chemistry, Lahore University of Management Sciences[PK]
Janaki Sinnasamy Librarian, University of Malaya	Ecaterina Patrascu Spiru Haret University, Bucharest	Anna Maria Constantinovici AL. I. Cuza University, Romania
Romona Mihaila Spiru Haret University, Romania	Loredana Bosca Spiru Haret University, Romania	Ilie Pinteau, Spiru Haret University, Romania
Delia Serbescu Spiru Haret University, Bucharest, Romania	Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Xiaohua Yang PhD, USA
Anurag Misra DBS College, Kanpur	George - Calin SERITAN Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	.....More
Titus PopPhD, Partium Christian University, Oradea, Romania		

### *Editorial Board*

Pratap Vyamktrao Naikwade ASP College Devrukh, Ratnagiri, MS India	Iresh Swami Ex - VC. Solapur University, Solapur	Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur
R. R. Patil Head Geology Department Solapur University, Solapur	N.S. Dhaygude Ex. Prin. Dayanand College, Solapur	R. R. Yalikal Director Management Institute, Solapur
Rama Bhosale Prin. and Jt. Director Higher Education, Panvel	Narendra Kadu Jt. Director Higher Education, Pune	Umesh Rajderkar Head Humanities & Social Science YCMOU, Nashik
Salve R. N. Department of Sociology, Shivaji University, Kolhapur	K. M. Bhandarkar Praful Patel College of Education, Gondia	S. R. Pandya Head Education Dept. Mumbai University, Mumbai
Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai	Sonal Singh Vikram University, Ujjain	Alka Darshan Shrivastava Shaskiya Snatkottar Mahavidyalaya, Dhar
Chakane Sanjay Dnyaneshwar Arts, Science & Commerce College, Indapur, Pune	G. P. Patankar S. D. M. Degree College, Honavar, Karnataka	Rahul Shriram Sudke Devi Ahilya Vishwavidyalaya, Indore
Awadhesh Kumar Shirotriya Secretary, Play India Play, Meerut (U.P.)	Maj. S. Bakhtiar Choudhary Director, Hyderabad AP India.	S.KANNAN Annamalai University, TN
	S. Parvathi Devi Ph.D.-University of Allahabad	Satish Kumar Kalhotra Maulana Azad National Urdu University
	Sonal Singh, Vikram University, Ujjain	

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.aygrt.isrj.org

“vafagalyaa KayaatIla Bahal ]pyaaj ana, ipkaltlo pkar AiNa %yaaltlaa Anakima”



AaSaa baalarama maDaval  
saaD nalyalata[- ramachal jagatapamahila mahaiValaya ,]balyla.

Short Profile

Asha Budharam Madavi is working as an Assistant Professor at Department of Geography in Mrs. Nangalatari Jagatapamahila Ramachandra College, ubranja.



SaaraBla :

Baart ha kikal pOana dSa Aaho yaqao kikalcao paqaimak kayae ]drptl- Aahq jao Aivalkarapasana Ajahl jasaaya tsaolahila Aaho jyacaa ]\_Sa pkril pd%t ]%paadnaacaa ]pyaaga k\$na manavalya garjaaltal pttl- krNao haya. yaa saBlaDana Altgat- “vafagalyaa KayaatIla Bahal ]pyaaj ana, ipkaltlo pkar AiNa %yaaltlaa Anakima” ha ivalaya inavaDnyaat Aalaa Aaho kikalaa ivakisat krNyacaa dRVTnao kikal ivaiBannatacao AQayana, ivaSladana AiNa ivakasaacyaa dRVTnao AavaSyak ]pyaacaa Saala Aaja AavaSyak zrlaa AahqAiNa nhNana kikalaa lahanalahana pdSaar ivaBaet k\$na %yaaltlaa saKala AByaasa krNao AavaSyak zrlaa Aaho va nhNana kikalcyaa saKala AByaasaazl

vafagalyaa Kayaacal inavaD kOal. yaa ivalayaavar laGausaBlaDana krNaoAamcaaa pimK ]\_Sa Aaho

vyaa#yaa :Bahal ]pyaaj ana, Bahal ]pyaaga, ipk saalyaj ana, ipk pa\$ p, ipk Anakima.

µ Pastavanaa :

yaa saBlaDanaatM- “vafagalyaa KayaatIla Bahal ]pyaaj ana, ipkaltlo pkar AiNa %yaaltlaa Anakima” yaa ivalayaavar laGausaBlaDana krNao Aamcaaa pimK ]\_Sa Aaho yaat Bahal ]pyaaj ana, ipkaltlo pkar va %yaaltlo Anakima yaa ivalayal AiQakaiQak maihtl jaalana Galyaacaa p%yana kOaa Aaho kalyaahl izkalyacyaa kikalcyaa dRVTnaoBapilzcal ranaa AiNa hvanaana hodana GaTk AitSya mh%aacaaAsatat AiNa nhNana kikal dRVTnaoAdl Kayaacaa pdSa ivaSala mh%aacaa zrt Asatao yaa saBlaDanaacaa AByaasaacyaa dRVTnaoivadBaetIla puakDIIa 12 talakoinavaDlad yaa Aaht . pSasakIya dRVTnao pu-ivadBaet 5 ijahaltla yaat samavaSa hatao kikalaa lahanalahana pdSaar ivaBaet k\$na %yaaltlaa saKala AByaasa

Article Indexed in :

- DOAJ
- Google Scholar
- DRJI
- BASE
- EBSCO
- Open J-Gate

"vafagayha KayaatIla Bahal ]pyaajana,ipkaltla pkar Aaina %yaatlaa Anakima"

krNaoAavaSyak zrlaoAaho

μ saBaaanaacal garja va mah%va:

SatIlaa ivaksalt krNyaacyaa dRTnao ipk pkaratIla iBamatcaa AByaasa,ivaSlalala Aaina ivakasaasaazi AavaSyak ]pyaacaa saBaaana Aajacal garja Aaho SatIcaa saBaaana AByaasa krNaoAavaSyak Aaho SatIcyaa saBaaana AByaasaazi vafagayha KayaatIla inavaLlaoAaho

μ saBaaanaacal vyaptI :

IaGausaBaaanaacyaa AByaasaacyaa dRTnao ivadBaatIla 12 thsalla inavaDladya Aaho vafagayha Karo homaharaITatIla pua idSat Aaho yaala pua ivadBa- saBaaana ninau Saktao pSaasakIya dRTnao pua ivadBaat 12 talakaltla samavaSa hatao yaatla saBaaana xae FL 40440. 55caad ik. ml . Aaho

μ saBaaanaacal pQdtI :

1. salmaa inaiScatI.
2. maihtI salkIana.
3. savaxalla pQdtI

μ ivaQaltNa : IaGausaBaaanaacyaa AByaasaacyaa dRTnao vafagayha KarIcal salmaa savapqana inaiScat krNyaat Aalal. %aa natI %aa xae atIla Bahal ]pyaajana ,ipk ]%padna ,ipk pa\$ ,yaacal maihtI xae Iya saBaaana Ikyaa ivaBaaga naagapir yaqana gaala krNyaat Aalal Aaho

μ saBaaanaacal Ji\_YTo : vafagayha KayaatIla Baina ]pyaajana sva\$ pacal maihtI jaalana Galao plk pa\$ baGanaova %yaat hablaayaa badlaacaa AByaasa krNao SatIlaa paqaimk kayapNaalal badla hablaayacyaa dRTnao AByaasa krNao SatIlaa ivaksalt krNyaacaa dRTnao saBaaana krNao padisak ,BaagaaIak ,sammai jak Aaina Aaiqak AnallalNao AByaasa krNao

1. Bahal]pyaajana : "jatha janamalcaa vaapr manava AapIyaa garjanaasaar krtao tuha tao Baaga Bahal]pyaajana ninau ]pyaagaat Aalalaa jaatao Bahal ]pyaajanaat manaval pikiyaa mah%aacal Asato

"Land Utilization is the process of exploiting the land use that is applied to specific object. "

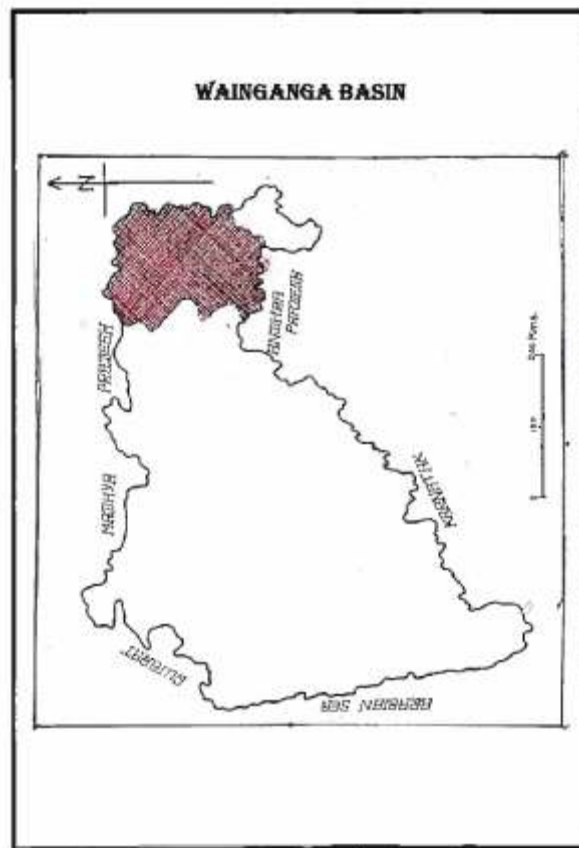
Bahal ]pyaaga : Bahal ]pyaaga ha BaagaaIak AByaasaacaa ek pimaK Aha Aaho

"Land use is the actual and specific use to which the land source is put in terms of inherent land use characteristics. " [R.N.Sing and Tiwari page No.76]

2. ipk pa\$ : ipk pkar ikMa ipk pQdt yaatla Aqa SatIlaa ipk ]%padnaat pyaet SatI prpralal Aaho ipk pQdtI saBaaana ipk %aa ipkaltla Anakima va ipk pkar samavaT kooa jaatao tsaa ipk lagavaDicaa kinaacal vyavasqaalaa saBaaana ipk pa\$ ninaat .

"Cropping pattern means proportion of area under various crops at point of time. " ipk ]%pachaat ]pyaagaat Aaialal jaalaa r saanaava ivaiSaT Paikyaalaa ipk ivaal nhNatat .

2. Location and Extend of Wainganga Basin:-vabagalyaa KaromaharaTaa pua Baaga Asana yaacaeKNa xae fL 40440.55 cao ik. ml. Aaho vabagalyaa Kayaaca sqaana ivastar zriValyaasaazl 1"Ä 4m0a AsaladyasqaLdSak nakaSaaca ]pyaaga k0aa. yaa sqaladSak nakaSaava\$na vabagalyaa Kayaaca AMaiSya ivastar 19° 31']%tr to21° 42' ]%tr AxaaNa [tka Aaho tr rKallSya ivastar 78° 45' pua to80° 31' puaAaho vabagalyaa Kayaaca ]%tr0aa Aiina puat0aa m0yap06a isqat Aaho Aagnayalaa isarablaa, dixalalaa Aad06a, naP0yalaayavatnaL, piScam0aa va0aa Aiina vaayayalaa kaT0aa talaka isqat Aaho



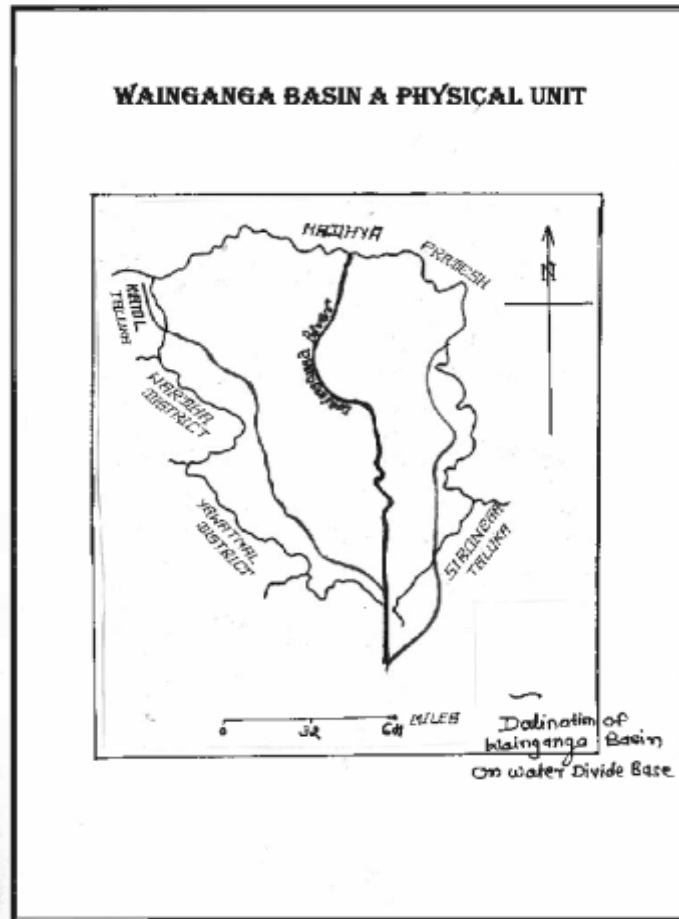
2. ZisamakM Delimitation of Wainganga Basin:-

vabagalyaa hi pua maharaTatIla pimK nacl Aahojal m0yap06aatIla TkDyaal00yao]gana pavatova piScamokDo295 ik. ml. vaahT yaava va0aa nadIlaa imLto 'naci KaromNajao%yaa p06aatIla ma%ya naclsa yaava imLNaayaa sava lahana maazyaa jala pvaahacyaa AMt na salma haya. ' yaa AMt na isampyaM jaoBaaga yat ad%yaa laa %yaa naclcaoKaroAsamhNatat .

vabagalyaa nadicaoisamaalkna krtval\_l p0ana vabagalyoyaa pvaah pNaalalcaa AByaasa k0aa. %yaan0tr vabagalyoyaa ]pnadya0baa ivaiBama ]gana xae-aca Baaga Aiina puakDIIa [0lavatl va piScam0kDIIa va0aa-]gana xae- jyaa jala ivaBaajaka WarovagaLohat at . %yaatba m0yab06aGavana salma r0aa kaZlal. jyaa talak0baa 25% p0aa jaast Baaga yaa salma r0ayaa Aat yat ad%yaa talak0baa samavaSa pSaasakIya ivaBaagaacyaa dRVTk0baatua vabagalyoyaa Kayaat k0aa Aiina jyaa talak0baa 25% p0aa knal Baaga yat ad%yaatba vagaLna TakIao %yaanaaar vabagalyoyaa Kayaat naagap0t, saavara, ranaTk, ]marD, Ba0Dara, gaal0yaa, saak0bal, cal0pir, varava, bah0pir, gaDicarad0al, rajara yaa sava- talak0baa samavaSa yaat

हाताने बांधण्यात आलेल्या कायान्तर्गत प्रदेशाचा

महाराष्ट्र : स. दि. ६/१०/१९५९



## 2. 3. वाङ्गंगा प्रदेशाच्या भू-वैज्ञानिक स्थितिचा आढावा

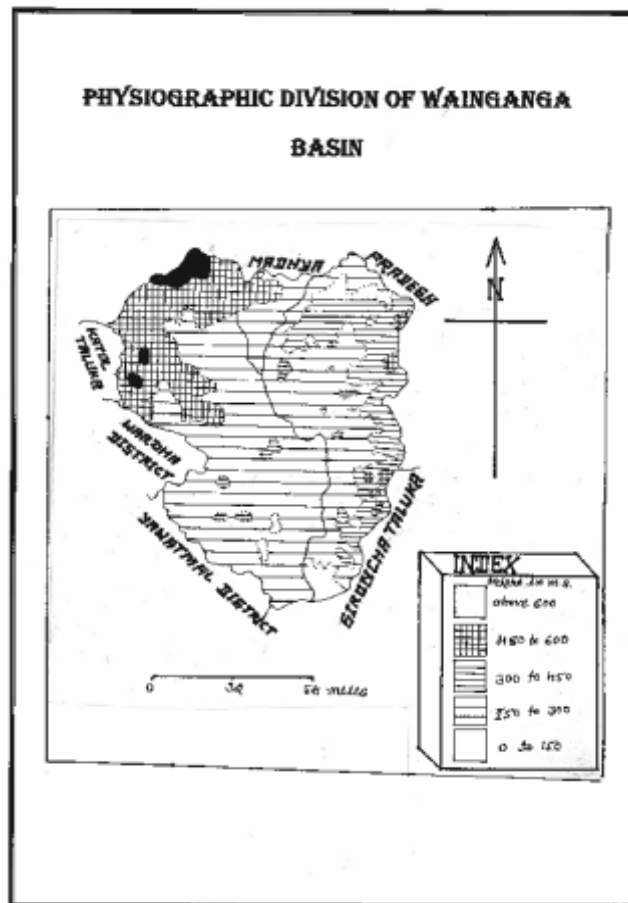
**A] Relief of Wainganga Basin:** - वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो.

**B] Physiographic Division of Wainganga Basin:-** वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो. वाङ्गंगा नदीच्या कायान्तर्गत प्रदेशाचा आढावा घेण्यासाठी या प्रदेशाचा आढावा घ्यावा लागतो.

ivaBaagaat ivaBaajalt krtaya[la.

1. वाङ्गंगा कयात्तल्ला वायायवला कयात्तल्ला सवााक ]ललाका बागा यात् आसा रान्तक्या ]तरला 600 मल. पका जात् ]लला आहो तर नागपूर आिना सावान तलायात् ]लला 450 to 600 मल. आहो या बागात जामालका ]तर दकिला जात् आहो ताला ]तर 3° to 4° प्यात आहो
2. हा पदला कयात्तल्ला सामान्या ]ललाका पदला आहो हा बागा कयात्तल्ला पुा-िकनायावार ]तरदिल्ला पTVयाया \$pat psar ladaa आसा यात् पान्#यागात्तल्या पुा-साकाला वा गाडिाराल यात्तला सामावाडा हाता
3. वाङ्गंगा कयात्तल्ला आकाल्ला बागा हा या पकर्तक पदलायाप लाला आसा याता हा पदला काल ]ललाका इवतर आिना मल ]तरका आसा याता राजारया पुाकडिला गाडा बागा साडिला साडिला पकर्तक पदलाका ]लला 150 मल. to 300 मल ट्रया द्रया आहो वाङ्गंगा नाल दकिला याका बागात वाहता आिना आसा याता

[Maharashtra Joshi and Arunachalam page No. 110 to119]



## 2. 4PavaahpNaalal [Drainage system of Wainganga Basin]

कालायाह पदलात्तल्ला पवाहपनालाल हा बारकाया सापुआ आसाल तर दकिला नद्यात्तल्या कयात्तल्ला बावा \$पवार पDNAरा पBaava आिना सापुआ आसा

"The network of the drainage lines has had important effect in sloping of the natural land scope of region. "

nadl Kayaacaa pd6a kRlal dRVTnaoivaSalla mah%aacaa Asalyaanotiqala pivaahpNaalalcaa ivacaar krNaomah%apNa-Asato vabagalyacyaa Kao yaat vabagalya hl pimaK va baaranahl vaahNaarl nadl Asana hl nadl maharalTat BalDayaatIla calhaD yaa gaavaajavaL piva6a krtova yaqana BalDara talakapyatI [Saanya tonalPyakDovah to nadl pUakDonad Gao} na bahpirl gaavaapyatI vaayavya Aagnaya idSat vahto bahpirl togaDicarad al ]%trdixalva vaahua pUzorajara pyatI itcaoKaro\$hl hatanaa idsana yat o ranaTk talaka kDua sar nadlhl piScanpUa-vaht yaana vabagalyaa BalDara javal piScanada yaana imLto Kanazl kDua yalNaarl knhana nadl piScanpUa-vaht yaana icablaGat yaa gaaval piScana Baagaa la yaana yaa naidIaa imLto sar nadl hl sanagaavajavaL vabagalyaa imLto calaballa hl nadl vabagalyacyaa puada ]%trdixalva vahto Anagaavacyaa ]%trdaa Asaladyaa Alybal gaavaat vabagalyaa ]%tr idSat imLto mal nadl hl vabagalyacyaa piScanakDIIa ]%trdixalva vaahNaarl nadl Asana vabagalyaa piScanaa imLto yaaiSavaaya yaa Kayaat Alha, palyad al, paqarl, AlNaarl [%aadl lahana naazyaa nadyaa pNa vahtat. vabagalya Kayaacal pivaah pQdtI hl vakaakar pNaalal Aaho jyaaval nadyaa Aaina ]pnadyaa vakaacyaa FalyaapmaNaoivaiBama idSaakDha mah%ya nadlIaa yaj na imLtat %yala vaKaakar pNaalal nhNatat. yaa Baagat vabagalya nadl hl piZavasqat idsana yat okarNa sabhyana ikya jaast idsana yat o

2. 5 matI[Soil of Wainganga Basin] SatI yaa GaTkacaa AByaasa krtanaa matI yaa mah%apNa-GaTkacaa AByaasa krNaAavaSyak zrto BaartIya SatI hl matIcyaa valSalTYaavarca Avalabha Asato

yaa baabatI Da: @laapstnacyaa nto: "Most of Indian Soil and reached their maximum state of impoverishment hundreds of year age and would not get and poorer it cropped without moaners for hundreds of year more. "

nadl Kayaacyaa Baagat saipk gaalacal matI Asato saipk gaalacal matI ]varttoyaa dRVTnaomah%aacal Asato Sat jainamalIla matIcaa pat, rcanaa tl matI kablatI AavaltI gahNa krtovaavar inaBar Asato kRva dRVTnaomatalcal saipk ta yaa tIla GaTkavar Avalabha Asato 1' naayaTajana, 2' fasFansa, 3' patoSayana

muQyana kaLI matI Aaina saKada kaLI matI :-

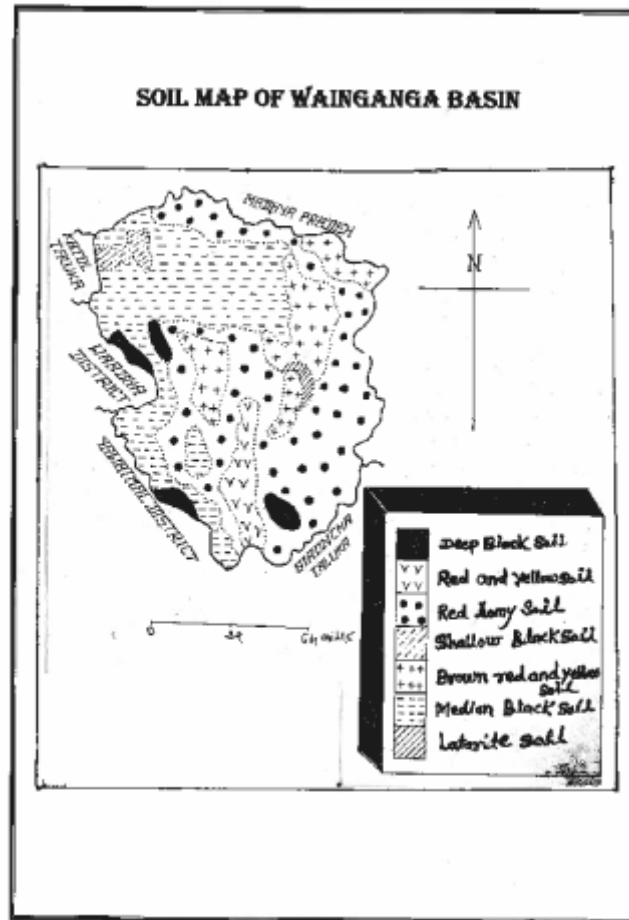
Kayaacyaa piScana Baagat hl matI AazLto hl matI basaalT saar#yaa AITaisailak KDKacyaa Apxaya ikjanaanamaNa hat o yaa matI Atyainamayana, kTaisayana Aa@saa[D AiQakpinaalaa Asana rly ha laah salagaavar inaBar Asato palyaanao hl matI fgatoAaina kapsaacyaa laagavaDicyaa dRVTnahI matI ivaSalla mah%aacal Aaho

muLaala laamal matI :-

hl Kayaacaa puva-mQya Baagat jaast pinalaat AazLto hl matI kRlal dRVTnaomah%aacal Asana yaa matI vaalwa matI yaablaopinaNa samana Asato yaa iSavaaya vabagalyacyaa Kayaat laTora[T, laalaipvalI, tPKlrl [%aadl pkarcal matI AazLto pNa yaa matI Alngat-xaer-farca knal Aaho



•BaartIya SatIcaoAqaSaas~ : Da: pBaakr. dGanaK. pja naM 114¥



2. 6. hvaamana[Climat of Wainganga Basin¥ kalla%yaahI pdGaacal ipk pNaalal va ipk salhagI ana hvaamana yaa GaTkavar inaBa- r Asalyaanaokabla%yaahI pdGaatiIla kRva BaIjaad aacaa AByaasa kr%yaavali I toqala hvaamanaacaa ivacaar krNaomah%yaacozrt Asato tapmana, pja- nya Aaina Aad-ta hohvaamanaapinaK GaTk Aahit. vafagafyaa Kayaat tapmanaacyaa baabatIt jarI xae-lye ANR kmI Asala tri dKIIa pja- nyaacyaa baabatIt ma~ iBannata AaZLna yat o

µtapmana:- tapmana ha GaTk kRva dRVTnaoivaSalla nah%yaacaa Asalla yaqala ihvaal\_yaacasarasari tapmana 13° saM to16° saM Aaina dthak tapmana 31° saM to43° saM Aaho ]nhaLa SaIk Asana maca-mihnyaa pasana tapmana namihnyaa pyat vaaZt jaato yaa ?ItitIla ]ccatna dthak tapmana ho46° saM pyaht Asatotr ikmana tapmana 25° saM pyaht Asato

### Average Mean Monthly Range of Temperature

Sr.No.	Month	Maximum Tem .c. g.	Minimum Tem.c.g.	Range of Tem.in.c.g.
1	January	31.23	09.0	22.2
2	February	34.	11.1	22.9
3	March	39.3	13	26.3
4	April	42.8	17.3	22.5
5	May	46.8	23	23.8
6	June	45.8	22.6	23.2
7	July	36.6	23.3	13.3
8	August	34.4	23.4	11
9	September	34.3	21.7	12.6
10	October	34.2	16.7	17.8
11	November	33.5	09.6	23.9
12	December	31.6	06.6	25

Source: - Department Regional Office Nagpur Year 1999-2000

eipla, mo jana mihnyat tapmana 42. 8° sabl to 46. 8° sabl Aho nomihnaa ha savaaiQak tapmanaaca Asana yaa mihnyatIla ]ccatna tapmana 46. 8°sabl gao Aiina nyanatna tapmana 23. 0° sabl gao Aho naohMbr Aiina iDsabr ha mihnaa knal tapmanaaca Aho yaa mihnyat jaastit jaast tapmana 33. 5° sabl gao. tr ikmana tapmana 6. 6° sabl gao Aho yaa vaVal- savaat jaast tapmana 46. 8° sabl gao Aiina savaat knal tapmana 6. 6° sabl gao Aho

**mpjanya:-** vaahgajha Kayaaca pdSatIla kkal dKlla plapNaopjanyavar inaBar Aho manasana vaayaapasana papt hat oAsalyaanal oAimaiScat Aho yaa Baagaat pjanya ivatrNaat Kp frk idsata callpbt yaiqala vaaiYak sarasari pjanya 1178. 9ml. ml. va naagapir 1161. 7 ina. ml. Asana BalDayaaca 1376. 3 ina. ml. Aho yaa iSavaaya drvaVal- imLNaaya pjanyat badla hatatna idsana yat o pavaaacaopinaNa Kao yaacya pUa-Baagaat jaast Asana piScanak Doknal knal hatanaa idsato yaa Baagaat pa} sa ha jana, jala, AqasT, saPTMbr yaa caar mihnyat papt hatatna

**pjanyaacal gahnata:-** pavaaaca kalaaval Aiina %yaacaopinaNa yaava\$na pjanyaacal gahnataAqaat Ganata kaZnaoinaBar Asato kRva dRVTnaopjanyaacal gahnata ha ek mah%apUla-GaTk AahokarNa pjanyaacya gahnatovar %ya izkallacaipk va %yaacaoka- Avalatna Asato jyaa izkallal pjanyaacal Ganata knal Asada ASaa Baagaat kRva krta pjanyaacal pyaPttta knal AaZLna yaqIa va ASaa Baagaat jalaisabana saaga kRva dRVTnao ]pyaet zrto pjanyaacal savaat AiQak Ganata Kayacya puadaa saakalal va ivaSabat: gaZicarad al yaa Baagaat idsana yat otr savaat knal Ganata saavanar, ]narD, varara yaa izkallal idsato jyaa izkallal pjanyaacal Ganata knal Aho%ya Baagaat pallyaacal pyaPttta hl knalAsadaASaa Baagaat kkal ivakasaacya dRVTnaojalaisabana saaga AavaSyak zrto  
 pjanyaacal Ganata kaZNyasaazi Kalal la sa- aca vaapr krta yat o

$$I = \frac{A}{N}$$

I = Average Rainfall Intensity  
 A = Average Total Rainfall  
 N = Number of Rainy Days

$$I = \frac{1230.8}{78}$$

$$I = 15.77$$

### RAINFALL

Sr.No.	Center	Rainfall	Rainy Day	Total Rainfall	Intensity
1	Nagpur	1161.7	78	1230.8	15.77
2	Ramtek	140.3	78	1138.8	14.58
3	Saoner	148.3	99	915.70	9.3
4	Umred	1228.8	84	1070.1	12.73
5	Gadchiroli	1162.4	91	1550.7	17.04
6	Chandrapur	1178.9	82	1052.2	12.83
7	Warora	1096.1	65	109.8	13.99
8	Brahmapuri	1360.8	83	1317.1	15.86
9	Rajura	1178.9	66	1037.1	15.71
10	Bhandara	1376.3	93	1366.1	14.68
11	Gondia	1577.8	81	1280.8	15.81
12	Sakoli	1557.1	80	1711.7	21.39

3. 1. वाहगय्या Kayaataa saanya Bahal ]pyaaga : kkal Bahal aaca AByasa krNyasaazl %aa xaa-atIla saanya Bahal ]pyaagaca ivacaar krNaa mah%aaca zrto karNa yaaca A Qyanaana Aaplyalaa kkal ivalyal naitI ]plaba ha} Sakto Baivalya kaLat jainalca kdaa jaavaara ]pyaaga va ipk pNaal alvar ksabadIla GaDha yaava Saktila yaaca Amlaja laavata yatao

### General Land Utilization

Sr.No	Station	Total Geographical Area.	Forest	Not Available for cultivation	other uncultivated area	Fallow Land	Net Shown Area
1	Nagpur	2050	184	246	307.5	143.5	1189
2	Ramtek	1145	57.25	126	172	22.9	778
3	Saoner	2539	964	177	228	25.39	1040
4	Umered	2511	451	176	351	25	1406
5	Bhandara	2606	573	286	391	26	1355
6	Gondia	2688	511	268	484	161	1532
7	Sakoli	3986	1475	438	797	119	1236
8	Chandarapur	3367	1380	236	336	101	1245
9	Warora	3321	930	332	299	99	1395
10	Bramhapuri	2610	1200	157	261	26	861
11	Gadchiroli	7229	4409	361	578	434	1301
12	Rajura	1621	324	113	227	16	891

### General Land Utilization

Sr.No.	Station	Total Geographical Area.	Forest	Not Available for cultivation	other un cultivated area	fallow Land	Net Shown Area
1	Nagpur	299	-	10	60	95	134
2	Ramtek	1147	558	48	100	37	404
3	Saoner	619	-	67	25	14	513
4	Umered	979	156	54	23	125	621
5	Bhandara	644	88	63	60	47	386
6	Gondia	626	62	21	26	61	456
7	Sakoli	716	129	55	45	93	394
8	Chandrapur	994	316	258	-	02	420
9	Warora	1184	304	26	70	17	767
10	Bramhapuri	943	397	12	94	96	344
11	Gadchiroli	765	442	45	19	27	232
12	Rajura	1010	259	68	38	9	636

varIla danhImsaarNaVa\$Na spYT hatosana 1979-1980 to 1999-2000 yaa vaVaacyaa sarasarit gaDicaradal, bahnpurI, calIpt, varara, ramTik Aaina saavanar talaeYamaQyao jafal aacaopinalla jaast Aaho tr naagapit maQyao jafal aacaopinalla savaat knal Aaho varIla jainmalcaox savaat jaast xae- BalDara, gaadIlya, naagapit yaa talaeYaat idsata yato tr bahnpurI Aaina ]narD yaa talaeYaat pDIK jainmalcaoxae- 1%Aaho kIkal Allgat xae-aacosavaat jaast pinalla naagapit, ramTik, varara, yaa talaeYaat AaZL to tr savaat knal kIkal yaagya jainana gaDicaradal Aaina saakadal yaa talaeYaat idsata yato calIptir talaeYaa maQyao kIka Ayaagya xae-aacaopinalla savaat jaast 258 Aaho yaa jainmalcaoxae- 26% Aaho savaat knal kIka Ayaagya xae- Allgat naagapir ha talaka yatao yaigala xae- 1.27 % Aaho pDIK jainmalcaosavaat jaast xae- 125 ]narD maQyao Aahotr savaat knal pDIK xae- naagapir yaqao Aaho ASaa pkar vabagalyaa KaryatIla Bahal ]pyajana laxaat yatao

### 3. 2. vabagalyacyaa KaryatIla ipk pa\$P

"eKadyaa kIka pd\$aat Anak ipkatalyaa xae-lya ivavarNaapasana banalalyaa pa\$palaa ipk pIlaal AsanINat at. " yaat eKadyaa xae-at ekapraa jaast ipkoGatIal jaatat. Pa\$yak ipkacal gallanaa ekIla potadyaa xae- fLaSal kadal jaat Aaho %yaat Pa\$yak ipkatal gallanaa TeKuarit krta yato vabagalyaa Karyat 1980 Aaina 2000 yaa danhImlaVaacyaa AByasa kIlyaa natir yaa BaagatIla ipk pa\$P laxaat yato

1979?1980 yaa vaVaat rajara yaa talaeYaat JCPOS tr naagapir maQyao JCWOS ipk pa\$P idsana yato calIptir talaeYaa Allgat JROSP va BalDara talaeYaat RWJPOS ipk pa\$P Aaho ramTik talaeYaat PJWROS ipk pa\$P idsana yato ]narD talaeYaat PJWOSR tr gaadIlyaa maQyao ROSPWJC va saakadal maQyao RPWOSJC ipk pa\$P idsana yato varara yaa talaeYaat JOSWRCP tr bahnpurI maQyao RJPOS va gaDicaradal maQyao RJPOSWC ipk pa\$P idsana yato saavanar talaeYaat JCPWOSR ipk pa\$P idsana yato

1999?2000 yaa vaVaat saavanar yaa talaeYaat JC ipk pa\$P idsana yato gaadIlyaa talaeYaat RPW tr BalDara talaeYaat RWJP ipk pa\$P idsana yato calIptir talaeYaa Allgat JRWCP ipk pa\$P Aaho bahnpurI yaa talaeYaat RWJP ipk pa\$P idsana yatorajara talaeYaat CJWR tr. ]narD talaeYaat CJRPW ipk pa\$P Aaho gaDicaradal maQyao RJPW ipk pa\$P idsana yato tr naagapir maQyao JWRPC ipk pa\$P idsana yato saakadal maQyao RWPJ ipk pa\$P idsana yato

valsa valaathoAByasa kOyanaoipkat badla idsana yat ao naagapur talaeayat Agaadr JCWOS ipk pa\$pat hada %yaat badla hao} na JWRPC ipk pa\$pat idsana yat o BalDara talaeayat RWJPOS ipk pa\$pat badla hao} na RWJP ipk pa\$pat idsana yat o tr gaadlyaat ROSPWJC pa\$pat badla hao} na RPW va saakadal maQyaoRPWOSJC pa\$pat badla hao} na RWPJ ipk pa\$pat idsana yat o 1999?2000 yaa valaath savaat maaza badla niNaj ayaqaat d albayaa yaa ipk acaopimNa naahIsaidsana yat o

### Crop Combination in Wainganga Basin: - ipk salhaajana

kaha%yaahl pdisaat ek ikIha dana ipkopimK Asalal trl dIKIha %ya pdisaat kahl gaadla ipkoAsatat. %yaaml oipk pa\$pacan AOyayana mah%apDla-zrto

pa. pl. Aaya. jansa Aaina sal. ef. jansa yaadlyaa natq"ipk pa\$pcyaa AOyayanaacyaa ABaaval AapNaasa %yaa xae-acal ivaSalata caadlyal sanj auSakt maahl. "tsacasal. bal. manairyaa yaadlyaa natq

"Cropping Pattern means proper ation of area under different crops a particular period of the time and a changes in Cropping pattern means the changes in proporation under different Crops. "

eka imaiScat val d aa %yaa ivaiSalT xae-at javaZI ipkoGatat %yaa valSalTYaava\$naaca %yaa xae-acal ipk pNaalal saabatca ipka salhaajana spYT hat o ipk salhaajanaat eka ipkabarabar [trhl mah%aacyaa ipkaltlyaa ivacaar kOaa jaatao ipk salhaajana spYT krmyaasaazi Daq; ivavar, qaahsa, [%yaadli ivalVanaadlyaa pOdtl ] IlaKinaya Aah to jao sal. ivavar Aaina Daq-yaadhoipk salhaajana kaZNYaacasa- savananya Aaho

$$\text{Formula : } \frac{E-d^2}{N}$$

E = Total

D = difference between actual Crops % in a given and appropriate in the article Crop.

N = Number of Crops.

Reference:- Majid Husain "Agriculture Geography"  
C.B.Mamoriya "Agricultural problems of India" page No. 107

vabagalya Kayaacoipk salhaajana baiGatIyaavar 1979?1980 yaa valaath gaadlyaa, gaDicaradal, varara, baithpurl, saavanar, BalDara, ranaTik, naagapur, calDpur yaa talaeayat paca ipk saimEalNa idsana yat ao saakadal, ]narD, rajara yaa Baagaat caar ipk saimEalNa idsana yat o saakadal, gaDicaradal, naagapur, varara yaa Baagaat pa} saacoopimNa jaast Aaho ranaTik va saavanar yaa Baagaat pa} saacoopimNa kml Aaho varara, BalDara, gaadlyaa, calDpur, rajara yaa Baagaat tabhL mahya ipk Asana barabarInaoAny gaadla ipkoGat lal jaatat. tr naagapur, saavanar, ranaTik yaa Baagaat jvaarl mahya ipk Aaho

1999?2000 yaa valaath vabagalya Kayaacoipk salhaajana baiGatIyaavar Asaolaxaat yat oik saakadal, gaDicaradal, gaadlyaa, baithpurl, BalDara yaa talaeayat ek ipk saimEalNa idsana yat ao yaa Baagaat pavasaacoopimNa jaast Aaho Kayaacyaa pua-Baagaat pavasaaml otadhl hoipk mahya Aaho tr saavanar, rajara yaa Baagaat dana ipk pa\$pat salhaajana Asana yaqaopam mahyaanojvaarl ipk Gat laojat o ranaTik, naagapur, ]narD maQyaojvaarl va kapaah mahya ipk Aaho calDpur va varara yaa Baagaat tIna ipk salhaajana idsana yat o

varIla valaatho tInaahak AOyayana kOyasa Asaidsana yat oik naagapur va ranaTik yaa dana talaeayatIla plk salhaajanaat kahla badla Jaaladaa maahl. gaDicaradal, BalDara, gaadlyaa yaa talaeayatIla paca plk salhaajanaat badla hao} na pQana ipk salhaajana idsana yat ao tr

saavanar, rajara yaa Baagaat paca plk salhajaat badla ha)- na dana ipk pa\$ p salhajaat idsana Aalaa Aaho callpir va varara yaa Baagaat plk salhajaat badla ha)- na tlna ipk salhajaat idsana yat o ekNaca 1979?1980 cyaa kalaavaQaltIla naagapur va ranaTk yaa talae yaalaa saadna baakI sava-KayaatIla pdGaata badla ha)- na pqaam ipk salhajaat jaast pmaNaat idsana yat o

### Crops Ranking in Wainganga Basin: - ipk Anakina

vabagalya Kayaat 1980 Aaina 2000 yaa danhiMvaacyaa AByaasa kOyaa nallr yaa BaagaatIla ipk pa\$ p laxaat yat ova %yaatIla ipk Eabla ivaYal ivaStalaa Kalala pmaNaAaho:?

**Ayqama ipk Eabla A** vabagalya Kayaat pqama ipk Eabla cyaa ipkat pama#yanao tablu jvaar Aaina kapsa yaatlaa sanaavaSa Asana BaDara, saakadal, gaabiyaa, gaDicaradal, bahnpurI, yaa talae yaat ma#ya ipk tablu haya. yaa 20 vaacyaa kalaavaQalt kabataca badla Jaaladaa idsat maht. tr naagapur, saavanar, callpir, varara, yaa talae yaat jvaarI hom#ya ipk Aaho AaQarvala-1979-1980 naQyajvaarI hom#ya ipk Aaho Aaina caalavaVal-varara, rajara Aaina JnarD talae yaat ma#ya ipk kapsa Aaho

**ba#iWtIya ipk Eabla A** vabagalya Kayaat iWtIya ipk Eabla caa tilanaaAak AOyayana kOyaa Asaidsana yat oik yaa Baagaat gahU jvaarI Aaina kapsa hom#ya ipkoAahd. gahUpama#yanao ranaTk, BaDara, saakadal, bahnpurI, varara yaqaidsana yat o gaabiyaa talae yaat DaLI tr callpir talae yaat tablu ma#ya ipk Aaho rajara, naagapur Aaina saavanar talae yaat kapsa hoIWtIya xablarvar Aaho bahnpurI, gaDicaradal, JnarD yaa talae yaat jvaarI hoipk iWtIya Eablarvar AaZLaa yat o saakadal, bahnpurI, ranaTk \*yaa talae yaat jvaarI yaa ipkaevajal 1999-2000 yaa vaLaat gahUhoipk iWtIya Eablarvar idsata yat o yaa va\$na Asaolaxaat yat ik 1999-2000 yaa vaLaat ipkaltlarvar pirNaam ha)- na badla Jaaladaa Aaho

**kYtIya ipk Eabla A** vabagalya Kayaat tIya ipk Eabla caa AOyayana kOyaa Asaidsana yat oik yaa Baagaat gahUAaina daLI hom#ya ipko Aahd. gaabiyaa, callpir, saakadal, varara, saavanar, ranaTk va JnarD yaa talae yaat gahUhoipk ipk tIya Eablarvar Aaho gaabiyaa, saakadal, bahnpurI, gaDicaradal, Aaina rajara yaa talae yaat daLI hoipk tIya xablarvar Aaho BaDara yaa talae yaat jvaarI hoipk tIya Eablarvar idsata yat o

**DY catqa ipk Eabla A** vabagalya Kayaat ipk kinabho AOyayana kOyaa Asaidsatoik Baagaat tOabayaa Aaina daLI hom#ya ipkoAahd. gaabiyaa va bahnpurI yaa talae yaat gahUhoipk catqa Eabla t idsatotr gaDicaradal, saakadal va JnarD yaa talae yaat tOabayaa hoipk catqa Eabla t idsata yat o BaDara, varara, rajara, naagapur yaa talae yaat naQyana sva\$pacavacalana idsana yat o 1979-1980 yaa vaLaat JnarD, saavanar, gaDicaradal, rajara, gaabiyaa, saakadal, yaa Baagaat tOabayaa pimaK ipkohatI tr 1999-2000 yaa vaLaat tOabayaa ipkaltI badla ha)- na daLI hoipk ipk yaa Baagaat idsana yat o

**DY pblana ipk Eabla A** vabagalya Kayaat kapsa, tablu Aaina daLI ho ma#ya ipko Aahd. 1979-1980 yaa vaLaat gaDicaradal, saakadal, gaabiyaa, BaDara va bahnpurI yaa talae yaat kapsa hoipk pblana Eabla t idsato 1979-1980 yaa vaLaat gaDicaradal, saakadal, gaabiyaa, BaDara, callpir va bahnpurI yaa Baagaat kapsa pimaK ipk Asana 1999-2000 yaa vaLaat ipk Eabla t badla Jaaladaa idsana yat o naagapur yaa xae-at kapsa hi pblana kinabkacal ipk Aaho kalayaahtI pdGaatIla kIkaI pOdttIlaa sanajana Gahyaasaazi sava ipkaltla ekaca vaLI AOyayana krNann%aacazrto

**Changing in Crops Ranking:-** vabagalya KayaatIla ipk kinabho AOyayana kOyaa nallr Asaolaxaat yat oikI yaa vala vaLaat ipk

Eablat hl badla Jaaladaa idsana yato naagapur talaeayat yaa valsa valaat qanda badla Jaaladaa idsana yato 1979?1980 AaiNa yaa 1999?2000 yaa valaat jvaar va kapsa yaat badla Jaaladaa naahl. tr dal, gahwa tabili yaat badla ha} na Eablat hl badla Jaaladaa idsana yato saavanar talaeayat badla Jaaladaa naahl. tr 1979?1980 yaa valaatIla catqa ipk Eablat Asaladyaa tdaibayat badla ha} na 1999?2000 dalI hoipk catqa ipk Eablat idsana yato ranaTk yaa talaeayat ipk Eablat badla Jaaladaa idsana yato 1979?1980 yaa valaatIla pqam ipk Eablat Asaladyaa dalIit badla ha} na 1999?2000 yaa valaat hoipk pacavyaa ipk Eablat idsana yato ]narD yaa talaeayat ipk Eablat badla Jaaladaa idsana yato 1979?1980 yaa valaatIla pqam ipk Eablat Asaladyaa dalIit badla ha} na 1999?2000 yaa valaat hoipk pacavyaa ipk Eablat idsana yato BalDara yaa talaeayat 1979?1980 AaiNa yaa 1999?2000 yaa valaat ipk pa\$P Eablat badla Jaaladaa naahl. gaabliya, saakadal yaqoipk pa\$P Eablat badla Jaaladaa idsana yato

ipk Eablat Jaaladaa badla hoptlapNaonabaigak GaTkallir Avalabha Asato AaiNa yaa ivaiSalT kalaavaDalI Jaaladyaa pivratnaaca pirNaam Aaplyalaa idsana Aaladaa Aaho

vafagalya KayaatIla Bamal ]pyaajanaavar pirNaam krNaaroGaTk-vafagalya Kae-yaatIla Bamal ]pyaajanaavar pirNaam krnaaroGaTk ho naabaigak, Aaiqak sva\$pacaa Aaho kRAdRTKabaatua pjanya mah%aacaaGaTk Aaho tabili hyaa ipkabyaa dRTNaon paNyaaal inayimtta AavaSyak Aaho matIlla Aabaava AaiNa hvatIla Aadta yaa ipkavar AavaSyak Asalaa-ya GaTkavar pjanyaacyaa ivatrNaaca va kalaavaDal yaatIla pBaava pDtaonhNaar pjanya ha GaTk ipkallir inaya-Na rakNyacyaa sava-GaTkap@kl pBaaval GaTk Aaho vafagalya Kae-yaat pjanyaacaa Asanaa ivatrNa idsana yat Aaho yaaca pBaava mah%yaat: ipk pa\$P va ipk Eablat var Jaaladaa Aaho jya Baagaat pjanya pimaNa jaast Aaho Asaa Baagaat tabili hoipk pqam Eablatcal ipk AahokarNa tabiLacyaa ipkasa jaast pjanyaacaa AavaSyak ta Asato knal pavasaacyaa pdGaata kapsa va jvaarl saar#yaa ipk idsana yatat. pjanyaacaa pimaNa jasajasaokml hat jaatotsatsaayaa talaeayatIla iWtIya va tRtIya Eablat Alligat ipk@GatIal jaatat. hvanaanaaca AivaBaajya va paqaimk sva\$pacaa GaTk Aaho janalmacyaa ] taraca pirNaam matIvar hatava matImal@Sati inayall-t hat Asato matI yaa GaTkanaal oipkat vagal pNa idsana yato tabili yaipka saazi laamal matI AavaSyak Aaho tr kapsa saar#yaa ipka saazi rgar maBla ]%na Asato

inalkYa AaiNa ]paya :

vafagalya Kae-yaatIla kRvaca inaNyaaak AaiNa saxm Aqyanaacyaa dRTkanaatna k@alyaa kRva Baalaaacyaa AByaasaava\$na ha inalkYa inagataaik yaigala kRva Bamal ]pyaaga, ipk pa\$P va ipk Eablat [%aadI var naabaigak GaTkabha pBaava ha mah%apIla Aaho vafagalya Kae-yaacyaa pua Baagaat ijaqaa Bamalcal ]lital va ]tar saanya Aaho pNa pa]sacaa pimaNa jaast Aaho ASaa talaeayat tabili ho mah%ya ipk Aaho calipir, gaDicaradal, bahipiri yaa talaeayat kRal xanata hl naagapur ijahyaacyaa tilanat knal Asalal tri kRva xae ho jaast Aaho naagapurat kRal xae acaopimaNa knal Asalal tri kRal xanata hl jaast Aaho sapik kaLi matI naagapur yaigala sava Baagaat idsana yato pavasaacaa pimaNa knal Aaho kRal xanata hl jaast idsana yato yaa Baagaat ipk iBannata ma~ jaast idsana yato vafagalya Kae-yaacyaa piScana Baagaat pjanyaacaa pimaNa knal hat jaat Asalyaanal oya BaagaatIla hvanaanapNa s@t hatanaa idsana yato yaa Baagaat tabili hogaBla ipk Asana gahy kapsa, jvaarl va dalI hl ipkopiimk haya. jal rbbal hlyamaatIla ipkoAahd. vafagalya Kae-yaaca s@tIla Baaga ha naabaigak GaTkanaa pBaivat Jaaladaa Aaho vafagalya Kae-yaatIla kRvaca dRTKabaanaohoxae Kp mah%aacaa Aaho yaa Kae-yaak Dojar ivaSaba laxa idlaotr Sati AiQak pimaNaat ]%kRtir%yaa krta yaqIa. ivaSabat: calipir kDolaxa dnoamh%aacaa Aaho jar yaa Baagaat Aadainak Sati caonh%a pTvana idlaava Anya ipkall kDokIa idlaotr yaa xae-atIla Sati caa ivakasa Kp Cana haqIa.

s@tIba-s@tIal

Article Indexed in :

- DOAJ
- Google Scholar
- DRJI
- BASE
- EBSCO
- Open J-Gate

•Kikal Batjanda	:-	Aar. ena. isajh À itvaarl
•Kikal Batjanda	:-	jao ena. pallo À Aar. ef. kmlaSa
•Kikal Batjanda	:-	maijad hsaBa
•Kikal Batjanda	:-	pa. ko e. Ktlba
•maharaITa'ca BaTjanda	:-	sal. DI. dSa pallo
•BaartIya Kikalca AqaSaas~	:-	Da: pBaakr dSa mlK
•maharaITa'al Aqavyavasqa	:-	Da: maQava ibaraj adar
•Kikal Batjanda	:-	sarSa Filao
•maharaITa'al Aqavyavasqa	:-	pa. Baasala À pa. kaTo
•maharaITa'ca BaTjanda	:-	sarSa Filao
•maharaITa'ca BaTjanda	:-	pa. Ealkall À SaQajaa saajhLo
•Kikal Batjanda	:-	ena. vhl. Zako À Da: vhl. jao paTIIa
•Kikal Batjanda	:-	rajaSa Sa@Iaa À riSna Sa@Iaa
•saamaI jak va Aaiqak		
samaIaacana	:-	xao-Iya saall#yakIya ivaBaaga naagapur
•Agriculture Problem in India	:-	C.B.Mamoriya
•Agriculture Geography	:-	Dr.D.S.Chauhan
•Agriculture Geography	:-	Girish Chopra
•Agriculture & Economic Development	:-	M.Lakshmi Narasaiah
•Agriculture Productivity In the drought phone Region	:-	Dr.N.S.Adnaik



# 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 Book Review for publication, you will be pleased to know that our journals are

### Associated and Indexed, India

- ★ International Scientific Journal Consortium
- ★ OPEN J-GATE

### Associated and Indexed, USA

- EBSCO
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Database
- 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
- Directory Of Research Journal Indexing

Golden Research Thoughts  
258/34 Raviwar Peth Solapur-413005, Maharashtra  
Contact-9595359435  
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com  
Website : www.aygrt.isrj.org