

**3.4.5**

**Research Papers Published in the Journals as notified on UGC website  
during the last five years**

**RNB GLOBAL UNIVERSITY**

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### 3.4.5 Number of research papers per teacher in the journals notified on UGC website during the last five years (15)

#### 3.4.5.1: Number of research papers in the journals notified on UGC website during the last five years

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the journal		
						Link to website of the journal	Link to article/paper/abstract of the article	Is it listed in UGC Care list/Scopus/Web of Science /other, mention
Double Production in Groundnut with Phosphatic Biofertilizers	Dr. Ram Bajaj	School Agriculture	International Journal for Research in Applied Science & Engineering	2020-2021	2321-9653	<a href="https://www.ijraset.com/">https://www.ijraset.com/</a>	<a href="https://www.ijraset.com/volume9-issueXI-november2021">https://www.ijraset.com/volume9-issueXI-november2021</a>	UGC Care List
Regeneration of Dead Bougainvillea Tree with Organic Manure	Dr. Ram Bajaj	School Agriculture	International Journal for Research in Applied Science & Engineering	2020-2021	2321-9653	<a href="https://www.ijraset.com/">https://www.ijraset.com/</a>	<a href="https://www.ijraset.com/volume9-issueXI-november2021">https://www.ijraset.com/volume9-issueXI-november2021</a>	UGC Care List
Double Production in Guar vegetable crop with BioCompost	Dr. Ram Bajaj	School Agriculture	International Journal of Recent Scientific Research	2020-2021	0976-3031	<a href="https://www.recentscientific.com">https://www.recentscientific.com</a>	<a href="https://www.recentscientific.com/category/volume/volume12?page=6">https://www.recentscientific.com/category/volume/volume12?page=6</a>	UGC Care List

Double Production in Groundnut with organic BioCharcoal Compost	Dr. Ram Bajaj	School Agriculture	International Journal of Research	2020-2021	2236-6124	<a href="http://ijrpublisher.com/">http://ijrpublisher.com/</a>	<a href="http://ijrpublisher.com/VOLUME-10-ISSUE-11-NOVEMBER-2021/">http://ijrpublisher.com/VOLUME-10-ISSUE-11-NOVEMBER-2021/</a>	UGC Care List
Evaluation of BioCharcoal Compost Led Mycorrhiza in Aloe Vera Healthy Organic Soil-Healthy Herb Plant-Healthy Life-Aloe Vera	Dr. Ram Bajaj	School Agriculture	Journal of Applied Science and Computations	2020-2021	1076-5131	<a href="http://j-asc.com/">http://j-asc.com/</a>	<a href="http://www.j-asc.com/VOLUME-7-ISSUE-11-NOVEMBER-2021/">http://www.j-asc.com/VOLUME-7-ISSUE-11-NOVEMBER-2021/</a>	UGC Care List
Double Production of Wheat with tissue cultured Enriched Biofertilizer	Dr. Ram Bajaj	School Agriculture	International Journal of all Research Education and Scientific Methods	2020-2021	2455-6211	<a href="http://www.ijaresm.com/">http://www.ijaresm.com/</a>	<a href="http://www.ijaresm.com/volume-9-1/issue-11-november-2021">http://www.ijaresm.com/volume-9-1/issue-11-november-2021</a>	UGC Care List
Evaluation of Chickpea with solid and liquid Biofertilizers	Dr. Ram Bajaj	School Agriculture	International Journal of all Research Education and Scientific Methods	2020-2021	2455-6211	<a href="http://www.ijaresm.com/">http://www.ijaresm.com/</a>	<a href="http://www.ijaresm.com/volume-9-1/issue-11-november-2021">http://www.ijaresm.com/volume-9-1/issue-11-november-2021</a>	UGC Care List
Graph Theory Applications to Comprehend Epidemics Spread of a Disease	Mr. V. Yegnanarayanan	Member-Board of Advisor	Broad Research in Artificial Intelligence and Neuroscience	2020-2021	2068-0473	<a href="https://www.lumenpublishing.com">https://www.lumenpublishing.com</a>	<a href="https://www.lumenpublishing.com/journals/index.php/brain/issue/view/12-2_2021">https://www.lumenpublishing.com/journals/index.php/brain/issue/view/12-2_2021</a>	Web of Sciences (WOS), IndexCopernicus,



Alzheimer's Disease under the Purview of Graph Theory Centric Genetic Networks	Mr. V. Yegnanarayanan	Member-Board of Advisor	Broad Research in Artificial Intelligence and Neuroscience	2020-2021	2068-0473	<a href="https://www.lumenpublishing.com">https://www.lumenpublishing.com</a>	<a href="https://www.lumenpublishing.com/journals/index.php/brain/issue/view/12-2-2021">https://www.lumenpublishing.com/journals/index.php/brain/issue/view/12-2-2021</a>	Web of Sciences (WOS), IndexCopernicus,
The limited liability partnership bill 2006-An analytical study	Ms. Deepali Rani Sahoo	School of Law	Splint International Journal Of Professionals	2020-2021	2349-6045	<a href="https://www.indianjournals.com">https://www.indianjournals.com</a>	<a href="https://www.indianjournals.com/ijor.aspx?target=ijor:sjp&amp;volume=3&amp;issue=8&amp;article=016">https://www.indianjournals.com/ijor.aspx?target=ijor:sjp&amp;volume=3&amp;issue=8&amp;article=016</a>	UGC Approved
Removal of Heavy Metals and Agrochemicals Residues Through Plants	Ms. Gaytri Soni	School of Agriculture	Asian Journal of Microbiology, Biotechnology & Environmental Sciences Paper	2020-2021	0257-8050	<a href="https://www.envirobiotechjournals.com">https://www.envirobiotechjournals.com</a>	<a href="https://www.envirobiotechjournals.com/article_abstract.php?aid=12289&amp;iid=347&amp;jid=1">https://www.envirobiotechjournals.com/article_abstract.php?aid=12289&amp;iid=347&amp;jid=1</a>	Web of Sciences, UGC Care listed
Removal of Heavy Metals and Agrochemicals Residues Through Plants	Mr. Avinash Sharma	School of Agriculture	Asian Journal of Microbiology, Biotechnology & Environmental Sciences Paper	2020-2021	0257-8050	<a href="https://www.envirobiotechjournals.com">https://www.envirobiotechjournals.com</a>	<a href="https://www.envirobiotechjournals.com/article_abstract.php?aid=12289&amp;iid=347&amp;jid=1">https://www.envirobiotechjournals.com/article_abstract.php?aid=12289&amp;iid=347&amp;jid=1</a>	Web of Sciences, UGC Care listed
Removal of Heavy Metals and Agrochemicals Residues Through Plants	Mr. Hemant Sharma	School of Agriculture	Asian Journal of Microbiology, Biotechnology & Environmental Sciences Paper	2021, 2022	0257-8050	<a href="https://www.envirobiotechjournals.com">https://www.envirobiotechjournals.com</a>	<a href="https://www.envirobiotechjournals.com/article_abstract.php?aid=12289&amp;iid=347&amp;jid=1">https://www.envirobiotechjournals.com/article_abstract.php?aid=12289&amp;iid=347&amp;jid=1</a>	Web of Sciences, UGC Care listed

Therapeutic implications of piper betle: Recent trends and advancement	Dr. Amit Vashishth	School of Applied and Basic Sciences	International Journal of Botany Studies	2020-2021	2455-541X	<a href="https://www.botanyjournals.com/">https://www.botanyjournals.com/</a>	<a href="https://www.botanyjournals.com/archives/2021/vol6/issue6">https://www.botanyjournals.com/archives/2021/vol6/issue6</a>	Web of Sciences
Exploration of Some Candidate Plants with Medicinal Properties to Enhance Immunity against Coronavirus Pandemics: A Review	Anjali Sharma	Student-B.Sc-Biotechnology	Journal of Plant Biology and Crop Research	2020-2021	2637-7721	<a href="http://meddocsonline.org/journal-of-plant-biology-and-crop-research/Exploration-of-some-candidate-plants-with-medicinal-properties-to-enhance-immunity-against-coronavirus-pandemics-a-review.pdf">http://meddocsonline.org/journal-of-plant-biology-and-crop-research/Exploration-of-some-candidate-plants-with-medicinal-properties-to-enhance-immunity-against-coronavirus-pandemics-a-review.pdf</a>		
Advancement of Agricultural Technology in Farming of India	Mr. Avinash Sharma	School of Agriculture	Bhartiya Krishi Anusandhan Patrika	2020-2021	0303-3821	<a href="https://www.indianjournals.com">https://www.indianjournals.com</a>	<a href="https://www.indianjournals.com/ijor.aspx?target=ijor:bkap&amp;type=homepage">https://www.indianjournals.com/ijor.aspx?target=ijor:bkap&amp;type=homepage</a>	UGC Approved, NAAS
Advancement of Agricultural Technology in Farming of India	Ms. Gaytri Soni	School of Agriculture	Bhartiya Krishi Anusandhan Patrika	2020-2021	0303-3821	<a href="https://www.indianjournals.com">https://www.indianjournals.com</a>	<a href="https://www.indianjournals.com/ijor.aspx?target=ijor:bkap&amp;type=homepage">https://www.indianjournals.com/ijor.aspx?target=ijor:bkap&amp;type=homepage</a>	UGC Approved, NAAS
Advancement of Agricultural Technology in Farming of India	Mr. Hemant Sharma	School of Agriculture	Bhartiya Krishi Anusandhan Patrika	2020-2021	0303-3821	<a href="https://www.indianjournals.com">https://www.indianjournals.com</a>	<a href="https://www.indianjournals.com/ijor.aspx?target=ijor:bkap&amp;type=homepage">https://www.indianjournals.com/ijor.aspx?target=ijor:bkap&amp;type=homepage</a>	UGC Approved, NAAS



Medicinal Plants are a Role in Human Health Diseases and the Isolation of PhytoChemical Through Various Methods	Mr. Avinash Sharma	School of Agriculture	International Journal of Agricultural Science and Research	2020-2021	2477-0116	<a href="https://www.openaccessjournal.com">https://www.openaccessjournal.com</a>	<a href="https://www.openaccessjournal.com/journal/372/International-of-agricultural-sciences">https://www.openaccessjournal.com/journal/372/International-of-agricultural-sciences</a>	UGC Approved
Medicinal Plants are a Role in Human Health Diseases and the Isolation of PhytoChemical Through Various Methods	Ms. Gaytri Soni	School of Agriculture	International Journal of Agricultural Science and Research	2020-2021	2477-0116	<a href="https://www.openaccessjournal.com">https://www.openaccessjournal.com</a>	<a href="https://www.openaccessjournal.com/journal/372/International-of-agricultural-sciences">https://www.openaccessjournal.com/journal/372/International-of-agricultural-sciences</a>	UGC Approved
Medicinal Plants are a Role in Human Health Diseases and the Isolation of PhytoChemical Through Various Methods	Mr. Hemant Sharma	School of Agriculture	International Journal of Agricultural Science and Research	2020-2021	2477-0116	<a href="https://www.openaccessjournal.com">https://www.openaccessjournal.com</a>	<a href="https://www.openaccessjournal.com/journal/372/International-of-agricultural-sciences">https://www.openaccessjournal.com/journal/372/International-of-agricultural-sciences</a>	UGC Approved
Role of ICT in New Education Era	Dr. Meenakshi Sharma	School of Commerce and Management	The International Journal of Analytical and experimental Modal Analysis	2020-2021	0886-9367	<a href="http://www.ijae.com/">http://www.ijae.com/</a>	<a href="http://www.ijae.com/VOLUME-XIII-ISSUE-X-OCTOBER-2021/">http://www.ijae.com/VOLUME-XIII-ISSUE-X-OCTOBER-2021/</a>	UGC-CARE Group II
Role of ICT in New Education Era	Dr. Manjoo Saraswat	School of Commerce and Management	The International Journal of Analytical and experimental Modal Analysis	2020-2021	0886-9367	<a href="http://www.ijae.com/">http://www.ijae.com/</a>	<a href="http://www.ijae.com/VOLUME-XIII-ISSUE-X-OCTOBER-2021/">http://www.ijae.com/VOLUME-XIII-ISSUE-X-OCTOBER-2021/</a>	UGC-CARE Group II

Decoding Customer Expectations about Service Recovery	Dr. Shashi Singhal	School of Commerce and Management	International Journal of All Research Education and Scientific Methods	2020-2021	2455 - 6211	<a href="http://www.ijaresm.com/">http://www.ijaresm.com/</a>	<a href="http://www.ijaresm.com/volume-9-1/issue-10-october-2021">http://www.ijaresm.com/volume-9-1/issue-10-october-2021</a>	UGC Care List
Decoding Customer Expectations about Service Recovery	Dr. Deepali Malodiya	School of Commerce and Management	International Journal of All Research Education and Scientific Methods	2020-2021	2455 - 6211	<a href="http://www.ijaresm.com/">http://www.ijaresm.com/</a>	<a href="http://www.ijaresm.com/volume-9-1/issue-10-october-2021">http://www.ijaresm.com/volume-9-1/issue-10-october-2021</a>	UGC Care List
Evaluation of improved varieties of rice (Oryza sativa L.) under environmental condition of Namsai, Arunachal Pradesh, India	Mr. Avinash Sharma	School of Agriculture	Eco. Env. & Cons Journal	2020-2021	0971-765X	<a href="http://www.envirobiotechjournals.com">http://www.envirobiotechjournals.com</a>	<a href="http://www.envirobiotechjournals.com/journal_details.php?jid=3">http://www.envirobiotechjournals.com/journal_details.php?jid=3</a>	SCOPUS H- indexed 15, UGC, NAAS Rating 5.41
Children of Migrant Labours: Education, Livelihood & Rights	Dr. B K Yadav	School of Law	Naveen Shodh Sansar	2020-2021	2320-8767, E-2394-3802	<a href="https://nssresearchjournal.com/">https://nssresearchjournal.com/</a>	<a href="https://nssresearchjournal.com/ADMIN/Documents/Current%20Edition/NSS_July_to_September_2021_Vol_20220630T055824AM.pdf">https://nssresearchjournal.com/ADMIN/Documents/Current%20Edition/NSS_July_to_September_2021_Vol_20220630T055824AM.pdf</a>	Peer Review Research Journal



Good Governance in the Private Universities: Rajasthan	Dr. B K Yadav	School of Law	Naveen Shodh Sansar	2020-2021	2320-8767, E-2394-3803	<a href="https://nssresearchjournal.com/">https://nssresearchjournal.com/</a>	<a href="https://nssresearchjournal.com/admin/Documents/Current%20Edition/NSS_July_to_September_2021_Vol_20220630T055824AM.pdf">https://nssresearchjournal.com/admin/Documents/Current%20Edition/NSS_July_to_September_2021_Vol_20220630T055824AM.pdf</a>	Peer Review Research Journal
Human Rights & Climate Change: Remedies of Environment Protection in World	Dr. B K Yadav	School of Law	Naveen Shodh Sansar	2020-2021	2320-8767, E-2394-3804	<a href="https://nssresearchjournal.com/">https://nssresearchjournal.com/</a>	<a href="https://nssresearchjournal.com/admin/Documents/Current%20Edition/NSS_July_to_September_2021_Vol_20220630T055824AM.pdf">https://nssresearchjournal.com/admin/Documents/Current%20Edition/NSS_July_to_September_2021_Vol_20220630T055824AM.pdf</a>	Peer Review Research Journal
An Integrated Approach to CRM Framework	Dr. Shashi Singhal	School of Commerce and Management	International Journal of Analytical & Experimental Model Analysis	2020-2021	0886-9367	<a href="http://www.ijae.com/">http://www.ijae.com/</a>	<a href="http://www.ijae.com/VOLUME-XIII-ISSUE-VII-JULY-2021/">http://www.ijae.com/VOLUME-XIII-ISSUE-VII-JULY-2021/</a>	UGC-CARE Group II
An Integrated Approach to CRM Framework	Dr. Pallav Goswami	School of Commerce and Management	International Journal of Analytical & Experimental Model Analysis	2020-2021	0886-9367	<a href="http://www.ijae.com/">http://www.ijae.com/</a>	<a href="http://www.ijae.com/VOLUME-XIII-ISSUE-VII-JULY-2021/">http://www.ijae.com/VOLUME-XIII-ISSUE-VII-JULY-2021/</a>	UGC-CARE Group II
Integration of Human Resource Management and Supply Chain Network with specific reference to overall quality Management	Dr. Meenakshi Sharma	School of Commerce and Management	Turkish Online Journal of Qualitative Inquiry	2020-2021	1309-6591	<a href="https://www.tojqi.net/index.php/journal/issue/view/45">https://www.tojqi.net/index.php/journal/issue/view/45</a>	<a href="https://www.tojqi.net/index.php/journal/issue/view/45">https://www.tojqi.net/index.php/journal/issue/view/45</a>	UGC and Scopus Indexed



Hussainara Khatoon and Others(I) v Home Secretary, State of Bihar	Lavanya Lakhotia	Student-BALLB	Indian Journal of Law and Legal Research	2020-2021	2582-8878	<a href="https://www.ijlrl.com">https://www.ijlrl.com</a>	<a href="https://www.ijlrl.com/papers/categories/volume-2-issue-1/page/5">https://www.ijlrl.com/papers/categories/volume-2-issue-1/page/5</a>	Manupatra Indexing
Utilization of protected cultivation for crop production and preservation in India	Mr. Avinash Sharma	School of Agriculture	Environment Conservation Journal	2020-2021	0972-3099	<a href="https://environcj.in/">https://environcj.in/</a>	<a href="https://journal.environmentcj.in/index.php/ecj/article/view/657">https://journal.environmentcj.in/index.php/ecj/article/view/657</a>	Web of Science (WOS), NAAS approved
Measuring Performance of Employees in post-COVID time-	Dr. Meenakshi Sharma	School of Commerce and Management	The International Journal of Analytical and experimental Medicine	2020-2021	0886-9367	<a href="http://www.ijaema.com/">http://www.ijaema.com/</a>	<a href="http://www.ijae.ma.com/VOLUME-XIII-ISSUE-IV-APRIL-2021/">http://www.ijae.ma.com/VOLUME-XIII-ISSUE-IV-APRIL-2021/</a>	UGC-CARE Group II
Measuring Performance of Employees in post-COVID time-	Ms. Ritu Bishnoi	PhD Scholar- Management	The International Journal of Analytical and experimental Medicine	2020-2021	0886-9367	<a href="http://www.ijaema.com/">http://www.ijaema.com/</a>	<a href="http://www.ijae.ma.com/VOLUME-XIII-ISSUE-IV-APRIL-2021/">http://www.ijae.ma.com/VOLUME-XIII-ISSUE-IV-APRIL-2021/</a>	UGC-CARE Group II
Effect of different carbon nitrogen ratios on the growth and sporulation of verticillium lecanii.	Dr. Dipali Gupta	School of Agriculture	Annals of agricultural research	2020-2021	0970-3179	<a href="http://www.isas.net.in">http://www.isas.net.in</a>		SCOPUS, ICAR NAAS rating
Clash of Code of Criminal Procedure and PMLA	Ashok Prem	School of Law	Research Analysis & Evaluation	2020-2021	(P) 0975-3486 (E) 2320-5482	<a href="http://www.ugjournal.com/IRAE">http://www.ugjournal.com/IRAE</a>	<a href="http://www.ugjournal.com/IRAE/paper/?type=archive&amp;year=2021">http://www.ugjournal.com/IRAE/paper/?type=archive&amp;year=2021</a>	UGC approved

Laws relating to money laundering: A critical analysis. Laws relating to money laundering	Ashok Prem	School of Law	INTERNATIONAL RESEARCH MIRROR	2020-2021	(P) 2250-253X (E) 2320-544X	<a href="http://www.ugcjournal.com/IRM">http://www.ugcjournal.com/IRM</a>	<a href="http://www.ugcjournal.com/IRM/paper/?type=archive&amp;year=2021&amp;month=2">http://www.ugcjournal.com/IRM/paper/?type=archive&amp;year=2021&amp;month=2</a>	UGC approved
Role of Mushroom in the bioremediation of heavy metals and biodegradation of dyes	Mr. Avinash Sharma	School of Agriculture	Journal of Eco-friendly Agriculture	2020-2021	2229-628X	<a href="http://ecoagrijournal.com/">http://ecoagrijournal.com/</a>	<a href="http://ecoagrijournal.com/wp-content/uploads/2022/01/PDF-JOURNAL-OF-ECO-FRIENDLY-AGRICULTURE-V-16-2-JULY-2021-11-6-2021-1st_compressed.pdf">http://ecoagrijournal.com/wp-content/uploads/2022/01/PDF-JOURNAL-OF-ECO-FRIENDLY-AGRICULTURE-V-16-2-JULY-2021-11-6-2021-1st_compressed.pdf</a>	UGC approved, ICAR approved
Exploitation of Biowaste as Natural Substrates for Biomass Production of Entomopathogenic Fungus <i>Verticillium</i>	Dr. Dipali Gupta	School of Agriculture	European Journal of BioTechnology and Bioscience	2020-2021	2321-9122	<a href="http://www.biosciencejournals.com/">http://www.biosciencejournals.com/</a>	<a href="https://www.biosciencejournals.com/archives/2021/vol9/issue1">https://www.biosciencejournals.com/archives/2021/vol9/issue1</a>	indexcopernicus
Health, Safety & welfare measures under the factories Act-An analysis from theoretical	Dr. Meenakshi Sharma	School of Commerce and Management	AUT AUT Research Journal -UGC Care journal	2020-2021	0005-0601	<a href="http://autrj.com/">http://autrj.com/</a>	<a href="http://autrj.com/VOLUME-12-ISSUE-1-JANUARY-2021/">http://autrj.com/VOLUME-12-ISSUE-1-JANUARY-2021/</a>	UGC-CARE Group II



Health, Safety & welfare measures under the factories Act-An analysis from theoretical	Anjali Aggarwal	Student-School of Commerce and Management	AUT AUT Research Journal -UGC Care Journal	2020-2021	0005-0601	<a href="http://autrj.com/">http://autrj.com/</a>	<a href="http://autrj.com/VOLUME-12-ISSUE-1-JANUARY-2021/">http://autrj.com/VOLUME-12-ISSUE-1-JANUARY-2021/</a>	UGC-CARE Group II
Gender Equality and Indian Constitution: A Formative approach towards criminal Jurisprudence	Shreshth Bhatnagar	Research Scholar-School of Law	LEX HUMANITARIAE: Journal for Change	2020-2021	2582-5216	<a href="http://lexhumanitariae.co.in/about-us/">http://lexhumanitariae.co.in/about-us/</a>	<a href="http://lexhumanitariae.co.in/category/volume-ii-issue-ii/">http://lexhumanitariae.co.in/category/volume-ii-issue-ii/</a>	Indexcopernicus, Manupatra - An Online Database for Legal Research
Understanding Alzheimer's Disease through Graph Theory	Mr. V. Yegnanarayanan	Member-Board of Advisor	Journal of Applied Mathematics and Physics	2019-2020	2327-4379	<a href="https://www.scirp.org/journal/home.aspx?issueid=14447">https://www.scirp.org/journal/home.aspx?issueid=14447</a>	<a href="https://www.scirp.org/journal/home.aspx?issueid=14447">https://www.scirp.org/journal/home.aspx?issueid=14447</a>	Web of Science (WOS)
On Prime number varieties and their applications	Mr. V. Yegnanarayanan	Member-Board of Advisor	Engineering and Applied Science letter	2019-2020	2617-9709	<a href="https://pisrt.org/">https://pisrt.org/</a>	<a href="https://pisrt.org/press/journals/ea-sl/volume-3-2020-issue-3/">https://pisrt.org/press/journals/ea-sl/volume-3-2020-issue-3/</a>	open-access journal
Livelihood Potential and Economic Status of Non-Timber Forest Produce in Sabarkantha Division of Gujarat	Dr. Pradeep Pillania	School of Applied and Basic Sciences	International Journal of Advanced Research	2019-2020	2320-5407	<a href="https://www.journalijar.com/">https://www.journalijar.com/</a>	<a href="https://www.journalijar.com/current-issue/?mn=03&amp;yr=2020">https://www.journalijar.com/current-issue/?mn=03&amp;yr=2020</a>	Indexcopernicus



An Innovative Cloud Based Approach of Image Segmentation for Noisy Images using DBSCAN	Dr. Ambuj Agarwal	School of Applied and Basic Sciences	EAI Endorsed Transactions on Cloud Systems	2019-2020	ISSN: 2410-6895	<a href="https://eudl.eu/journal/cs">https://eudl.eu/journal/cs</a>	<a href="https://eudl.eu/doi/10.4108/cai.26-10-2020.166768">https://eudl.eu/doi/10.4108/cai.26-10-2020.166768</a>	DOAJ (Directory of Open Access Journals)
Data Analytics for analysing traffic accidents	Dr. Ambuj Agarwal	School of Applied and Basic Sciences	TEST Engineering and Management	2019-2020	0193-4120	<a href="http://www.testmagazine.biz/index.php/testmagazine">http://www.testmagazine.biz/index.php/testmagazine</a>	<a href="https://www.researchgate.net/publication/350089325_Data_analytics_for_analysing_traffic_accidents">https://www.researchgate.net/publication/350089325_Data_analytics_for_analysing_traffic_accidents</a>	SCOPUS Indexed
Balance Scorecard Role in Competitive Advantage of Indian Banking	Dr. Meenakshi Sharma	School of Commerce and Management	Parishodh Journal	2019-2020	2347-6648	<a href="http://www.parishodhpu.com">http://www.parishodhpu.com</a>	<a href="http://www.parishodhpu.com/VOLUME-9-ISSUE-3-MARCH-2020/">http://www.parishodhpu.com/VOLUME-9-ISSUE-3-MARCH-2020/</a>	UGC Care List
Novel Coronavirus (COVID-19) in India	Dr Noble K Kurian	School of Basic and Applied Sciences	<a href="https://preprints.org">preprints.org</a> > doi: 10.20944/preprints202003.0436.v1	2019-2020		<a href="https://preprints.org">preprints.org</a> > doi: 10.20944/preprints202003.0436.v1	<a href="https://preprints.org">preprints.org</a> > doi: 10.20944/preprints202003.0436.v1	
GST-A transition for Indian Textile Industries.	Mr.Sunny Masand	School of Commerce and Management	International Journal of Research in Finance and Marketing	2019-2020	2231-5985	<a href="https://journals.indexcopernicus.com">https://journals.indexcopernicus.com</a>	<a href="https://journals.indexcopernicus.com/search/details?id=33204">https://journals.indexcopernicus.com/search/details?id=33204</a>	indexcopernicus

Sources evaluation and ecological risk assessment of heavy metals accumulated within a natural stream of Durgapur industrial zone, India, by using multivariate analysis and pollution indices	Dr. Sumanta Nayek	School of Basic and Applied Sciences		2018-2019	2190-5495	<a href="https://doi.org/10.1007/s13201-019-0946-4">https://doi.org/10.1007/s13201-019-0946-4</a>	SCOPUS INDEXED
Analysis of Water Quality Parameters of Ground Water near Khara-	Dr. Gajananand Modi	School of Applied and Basic Sciences	International Journal in Physical and Applied Science.	2018-2019	2394-5710	<a href="https://ijmr.net.in/past-ijite.php">https://ijmr.net.in/past-ijite.php</a>	UGC approved

Vermiculture and vermicomposting with comparison to conventional Composting.	Dr.Dipali Gupta	School of Agriculture	International Journal in physical and applied sciences (IJPAS)	2018-2019	2394-5710	<a href="https://ijmr.net.in/current-ijpas.php">https://ijmr.net.in/current-ijpas.php</a>	<a href="https://typeset.io/formats/international-journals-of-multi-dimensional-research/international-journal-in-physical-and-applied-sciences/ijpas/10f2073d2bac460880219ae4832188dc#:~:text=International%20journal%20in%20physical%20and%20applied%20sciences%20(IJPAS)%20is%20an,platform%20for%20the%20international%20scholars.">https://typeset.io/formats/international-journals-of-multi-dimensional-research/international-journal-in-physical-and-applied-sciences/ijpas/10f2073d2bac460880219ae4832188dc#:~:text=International%20journal%20in%20physical%20and%20applied%20sciences%20(IJPAS)%20is%20an,platform%20for%20the%20international%20scholars.</a>	UGC Approved
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Vermiculture and vermicomposting with comparison to conventional Composting.	Pratibha Shaurya	Student-School of Agriculture	International Journal in physical and applied sciences (IJPAS)	2018-2019	2394-5710	<a href="https://ijmr.net.in/current-ijpas.php">https://ijmr.net.in/current-ijpas.php</a>	<a href="https://typeset.io/formats/international-journals-of-multi-dimensional-research/international-journal-in-physical-and-applied-sciences/ijpas/10f2073d2bac460880219ae4832188dc#:~:text=International%20journal%20in%20physical%20and%20applied%20sciences%20(IJPAS)%20is%20an,platform%20for%20the%20international%20scholars.">https://typeset.io/formats/international-journals-of-multi-dimensional-research/international-journal-in-physical-and-applied-sciences/ijpas/10f2073d2bac460880219ae4832188dc#:~:text=International%20journal%20in%20physical%20and%20applied%20sciences%20(IJPAS)%20is%20an,platform%20for%20the%20international%20scholars.</a>	UGC Approved
The Influence of Working Capital Management on the Performance of Indian Companies' Stock Market Value"	Dr. Vikas Sharma	School of Commerce and Management	International Journal of Management, IT and Engineering	2019-2020	2249-7455	<a href="http://www.ijamtes.org">http://www.ijamtes.org</a>	<a href="http://www.ijamtes.org/VOL-9-ISSUE-12-2019/">http://www.ijamtes.org/VOL-9-ISSUE-12-2019/</a>	UGC Approved, Index Copernicus

The Influence of Working Capital Management on the Performance of Indian Companies' Stock Market Value*	Tejan Shukla	Student-School of Commerce and Management	International Journal of Management, IT and Engineering	2019-2020	2249-7455	<a href="http://www.ijamtes.org">http://www.ijamtes.org</a>	<a href="http://www.ijamtes.org/VOL-9-ISSUE-12-2019/">http://www.ijamtes.org/VOL-9-ISSUE-12-2019/</a>	UGC Approved, IndexCopernicus
An Interactive Approach for Association Rules Using Ontologies for Knowledge-Based Interactive Post Mining	Mr. Ravikumar R N	School of Basic and Applied Sciences	Journal of the Gujarat Research Society	2019-2020	0374-8583	<a href="http://gujaratresearchsociety.in/index.php/JGRS">http://gujaratresearchsociety.in/index.php/JGRS</a>	<a href="http://gujaratresearchsociety.in/index.php/JGRS/issue/view/39">http://gujaratresearchsociety.in/index.php/JGRS/issue/view/39</a>	UGC-CARE List
Discrimination on the basis of Political Affiliations & Role of Digital Empowerment Foundation: The Contemporary Trend	Shreshth Bhatnagar	Research Scholar-School of Law	Journal of Trading Economics and Business	2019-2020	Open Access	<a href="https://www.enlivenarchive.org/trading-economics-and-business/">https://www.enlivenarchive.org/trading-economics-and-business/</a>	<a href="https://www.enlivenarchive.org/trading-economics-and-business/">https://www.enlivenarchive.org/trading-economics-and-business/</a>	Indexed in DRJI (Directory of Research Journals indexing)
A Study of Web Application Penetrations tooling.	Mr. Kailash Parcek	School of Engineering and Technology	International Journal in IT & Engineering (IJITE)	2019-2020	2321-1776	<a href="https://ijmr.net.in/past-ijite.php">https://ijmr.net.in/past-ijite.php</a>	<a href="https://ijmr.net.in/pastijite.php?P=VOLUME%207,1SSUE%206,June,2019">https://ijmr.net.in/pastijite.php?P=VOLUME%207,1SSUE%206,June,2019</a>	UGC approved

Impact of Human Resource Management Practices on the SME's Performance- A study in Khara Industrial Area (Distt- Bikaner)	Dr. Manjoo Saraswat	School of Commerce and Management	International Journal in Management and Social science	2018-2019	2321-1784	<a href="https://ijmr.net.in">https://ijmr.net.in</a>	<a href="https://ijmr.net.in/pastijmss.php?p=VOLUME%207,ISSUE%205,April,2019">https://ijmr.net.in/pastijmss.php?p=VOLUME%207,ISSUE%205,April,2019</a>	UGC Approved
Impact of Human Resource Management Practices on the SME's Performance- A study in Khara Industrial Area (Distt- Bikaner)	Kajal Soni	Student-School of Commerce and Management	International Journal in Management and Social science	2018-2019	2321-1784	<a href="https://ijmr.net.in">https://ijmr.net.in</a>	<a href="https://ijmr.net.in/pastijmss.php?p=VOLUME%207,ISSUE%205,April,2019">https://ijmr.net.in/pastijmss.php?p=VOLUME%207,ISSUE%205,April,2019</a>	UGC Approved
A Study on Factors Influencing Consumers Behavior while Availing Hospitality Services	Dr. Meenakshi Sharma	School of Commerce and Management	Journal of Technology Management for Growing Economies	2019-2020	2456-3226	<a href="https://tmg.chitkara.edu.in">https://tmg.chitkara.edu.in</a>	<a href="https://tmg.chitkara.edu.in/index.php/tmge/issue/view/19">https://tmg.chitkara.edu.in/index.php/tmge/issue/view/19</a>	open-access journal



A School based Intervention of Screening a movie to increase hepatitis B vaccination levels among students in Uttar Pradesh, India-Impact on knowledge, awareness, attitudes and vaccination levels	Dr. Sanjoy Pal	School of Applied and Basic Sciences	<a href="https://pubmed.ncbi.nlm.nih.gov/302888323/">https://pubmed.ncbi.nlm.nih.gov/302888323/</a>	2018-2019		<a href="https://pubmed.ncbi.nlm.nih.gov/302888323/">https://pubmed.ncbi.nlm.nih.gov/302888323/</a>	<a href="https://hmap.biomedcentral.com/articles/10.1186/s41124-017-0027-y">https://hmap.biomedcentral.com/articles/10.1186/s41124-017-0027-y</a>	open-access journal
Effectiveness of Indian Law in Assuring Food Security-A critical Study	Dr. Sugato Mukherjee	School of Law	International Journal of Law and Policy review	2018-2019	2278-3156	<a href="https://www.ijlprn.ujs.com/">https://www.ijlprn.ujs.com/</a>	<a href="https://www.ijlprn.ujs.com/ijlpr_2017_vol_6_no_2">https://www.ijlprn.ujs.com/ijlpr_2017_vol_6_no_2</a>	UGC approved
Molecular markers based characterization and conservation of wild animals	Dr. Sanjoy Kumar Pal	School of Applied and Basic Sciences	Research Journal of Recent Sciences	2017-2018	2277-2502	<a href="http://www.isca.in/rjrs/Introduction.php">http://www.isca.in/rjrs/Introduction.php</a>	<a href="http://www.isca.in/rjrs/v6i7.php">http://www.isca.in/rjrs/v6i7.php</a>	International peer reviewed Journal
Prolongation of survival time of incurable terminal cancer patients with herbal medicines	Dr. Sanjoy Kumar Pal	School of Applied and Basic Sciences	International Archives of Integrated Medicine .	2017-2018	2394-0026	<a href="https://www.iaimjournal.com/">https://www.iaimjournal.com/</a>	<a href="https://www.iaimjournal.com/volume-4-issue-6-june-2017/">https://www.iaimjournal.com/volume-4-issue-6-june-2017/</a>	Indexcopernicus, IMSEAR Indexed

CASE REPORT: Herbal Cancer Remedy: An alternative Treatment Option for Cancer Patients	Dr. Sanjoy Kumar Pal	School of Applied and Basic Sciences	Remedy Publications LLC	2017-2018	2474-1663	<a href="https://www.remedypublications.com/">https://www.remedypublications.com/</a>	<a href="http://www.clinicaloncology.com/articles.php?month=May&amp;year=2017">http://www.clinicaloncology.com/articles.php?month=May&amp;year=2017</a>	Indexed in DRJI (Directory of Research Journals indexing)
Design and implementation of weighted clustering algorithm	Dr. Binod Kumar	Advisory Board Member	International Journal of Advanced Research in Computer Science Engineering and Information Technology	2017-2018	2321-3337	<a href="https://journals.indexcopernicus.com/search/details?id=34627">https://journals.indexcopernicus.com/search/details?id=34627</a>	<a href="https://www.isrjournals.org/journal-view/challenges-and-problems-in-usability-testing-of-web-based-applications-a-study-of-software-companies-in-pune-city">https://www.isrjournals.org/journal-view/challenges-and-problems-in-usability-testing-of-web-based-applications-a-study-of-software-companies-in-pune-city</a>	indexcopernicus
Chronicle of Scientific Life	V.V. Vereshchagin	Advisory Board Member	THE JOURNAL OF REGIONAL HISTORY SOCIOCULTURAL VECTOR OF DEVELOPMENT	2017-2018	2587-8352	<a href="http://en.hpchsu.ru/upload/uf/5d8/5d82f89e9d83d9e700d49becc2b9c00e.pdf">http://en.hpchsu.ru/upload/uf/5d8/5d82f89e9d83d9e700d49becc2b9c00e.pdf</a>	<a href="http://en.hpchsu.ru/upload/uf/5d8/5d82f89e9d83d9e700d49becc2b9c00e.pdf">http://en.hpchsu.ru/upload/uf/5d8/5d82f89e9d83d9e700d49becc2b9c00e.pdf</a>	Online scientific journal

Challenges & Problems In Usability Testing Of Web Based Applications: A Study of Software Companies In Pune City	Dr. Binod Kumar	Advisory Board Member	International Journal of Advanced Research in Computer Science Engineering and Information Technology	2016-2017	2321-3337	<a href="https://journals.indexcopernicus.com/research/details?id=34627">https://journals.indexcopernicus.com/research/details?id=34627</a>	<a href="https://www.isrjournals.org/journal-view/challenges-and-problems-in-usability-testing-of-web-based-applications-a-study-of-software-companies-in-pune-city">https://www.isrjournals.org/journal-view/challenges-and-problems-in-usability-testing-of-web-based-applications-a-study-of-software-companies-in-pune-city</a>	indexcopernicus
An Analytical Study on Human Rights in the State of Rajasthan : Special Reference to the Rules of Human Rights applied on the Women, Tribals and Dalits	Ms. Khyati Jain		Splint International Journal Of Professionals	2016-2017	2349-6045	<a href="https://indianjournals.com/ijor.aspx?target=ijor-sijp&amp;type=home">https://indianjournals.com/ijor.aspx?target=ijor-sijp&amp;type=home</a>	Splint International Journal of Professionals: A Quarterly Peer Reviewed Multi-Disciplinary International Journal; Bhubaneswar Vol. 3, Iss. 7, [Jul]	UGC Approved
STUDY OF ICT (INFORMATION AND COMMUNICATION TECHNOLOGY) IN CONTEXT OF INDIAN HIGHER EDUCATION	Sanjay Singh		Journal of Applied Research in Open and Distance Education	2016-2017	0975-6558	<a href="http://ddekku.edu.in">http://ddekku.edu.in</a>	<a href="http://ddekku.edu.in/Files/2cfa4584-5afe-43ce-aa4bad936cc9d3be/journal/931493a8-7460-4a7b-ad2d-fc1f76bf2103.pdf">http://ddekku.edu.in/Files/2cfa4584-5afe-43ce-aa4bad936cc9d3be/journal/931493a8-7460-4a7b-ad2d-fc1f76bf2103.pdf</a>	UGC Approved



Hydrochemical evaluation of Rangit river, Sikkim, India: using Water Quality Index and multivariate statistics	Dr. Sumanta Nayek	School of Basic and Applied Sciences	DOI 10.1007/s 12665-015-5223-8	2016-2017	<a href="https://www.springer.com/journal/12665">https://www.springer.com/journal/12665</a>	<a href="https://www.springer.com/journal/12665">https://www.springer.com/journal/12665</a>	DOI 10.1007/s 12665-015-5223-8	SCOPUS indexed
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# Double Production in Groundnut with Phosphatic Biofertilizers

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**Abstract:** Groundnut (*Arachis hypogea* L.,  $2n=20$ ) is nitrogen fixing pulse crop, belong to Leguminosae family. The present study conducted on production of groundnut with phosphatic biofertilizers. The experiment was conducted at Madhav village and Sattasar village in May, 2015. The mycorrhiza solid powder dissolved with molasses + water to form organic product. The seed poured in the formulated organic product for 24 hrs. Later, the seed was placed in the prepared land. The seed emerged from the soil in 7-10 days and the flower appeared in the plant within 35 days after sowing. The healthy nodule was formed in the root organ with application mycorrhiza solid powder. The application of mycorrhiza solid powder progresses morphological growth, yield, soil property and soil biology.

**Keywords:** groundnut, production, biofertilizer, nodule formation

## I. INTRODUCTION

Groundnut (*Arachis hypogea* L.,  $2n=20$ ) is oilseed crop, commonly known as peanut, belongs to Leguminosae family. The production of groundnut of 5048 metric tonnes was estimated in the world in 2020 (USDA, 2021). In India, the production of groundnut of 101.9 lakh tonnes was recorded in groundnut in 2020 crop year (PIB, 2021). The groundnut was cultivated in India, China, Nigeria, Sudan, United States in the world. The major states of groundnut producers are Gujarat, Andhra Pradesh, Tamil Nadu, Maharashtra, Rajasthan, Madhya Pradesh, Orissa and Uttar Pradesh. The oil content of groundnut is 48-50%, applies soap, cosmetic products, lubricants. The groundnut cake uses in making artificial fibre, groundnut shell uses in preparing coarse boards and corks. The dried groundnut plant supplies to the animal for feeding purpose.

The soil texture of Bikaner district covers with Sandy soil. The climate of the district is tropical climate. The water retention capacity and nutrient content are low in the soil. The overutilization of fertilizers disturbs the physical property and chemical property of the soil. The growth and development of the plant are retarded because of nutrient and water deficit. The application of Biofertilizers is complimentary resources for reforming soil properties and crop production. It thrives soil textures, soil colour, chemical compositions of the soil, maintains water capacity in the soil. It progresses metabolism and growth in the plant, maintains ecology and ecosystem in the plant and soil. Organic manures, valuable by-products of farming and allied industries, contribute to plant growth through their favourable effects on the physical, chemical and biological properties of soil. Organic manures also have a pronounced residual effect on the nutrient availability (Stevenson, 1994).

Groundnut and other legumes are able to fix nitrogen through symbiotic relationship with specific species of Rhizobium bacteria. Small round nodules forms on the plant's roots where colonies of Bradyrhizobium and converts atmospheric  $N_2$  into the form of nitrogen that the plant can use. "Myco" means "fungus" and "rhizae" means "root," and so the word "mycorrhizae" means "fungal roots." The root of the host groundnut plant provides convenient substrate for the fungus and also supplies food in the form of simple carbohydrates. The mycorrhiza incurs symbiotic association between fungi and groundnut plant roots. The fungus evolves with groundnut plants and soils for over years. Veeramani *et al.* (2012) reviewed that application of organic manure, biofertilizers and foliar nutrient spray in groundnut improves crop growth and yield.

With this background, the following objectives were taken in the open field investigation i.e.,

- 1) To determine growth and development in the crop,
- 2) To determine nodule formation in the crop,
- 3) To determine working activity of mycorrhiza in the crop.

## II. MATERIALS AND METHODS

### A. Materials

Crop- Groundnut (*Arachis hypogea* L.,  $2n=20$ )

Cropping system- Monocropping

Biofertilizer- Mycorrhiza Solid powder, (Fig. 1)

Ingredients- Molasses, Water

Place of cultivation- Madhav Diggi village and Sattasar village, Bikaner, Rajasthan

Date of sowing- 20 May 2015 (Fig. 2)







# Regeneration of Dead Bougainvillea Tree with Organic Manure

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**Abstract:** *Bougainvillea* is hard, woody climber tree, grow in high salt tolerant soil. The present study was carried out in regenerating *Bougainvillea* plant with organic manure. The research work was conducted at kitchen garden campus in January 2020. The collected soil samples of five trees species namely Pimple, Neem, Khejari and Rohira are mixed with 10kg fresh cow dung, 5kg cow urine, 2kg molasses & 2kg flour Kitchen wastes 10kg, Charcoal 10kg, Molasses 2kg, Rice 1kg, Humus 10kg, Wheat 10kg, Crashed sugar cane 10kg, Chicken manures 2kg, Wooden saw dust, Wooden chips & Rice lustrs and mixed with water for preparing organic product. The organic product keeps for 3 days in open conditions. The prepared organic product was poured into the shoot and root. Later, the regrowth of the shoot and the root were reported in 4-5 months. The organic product enhanced the metabolism for regenerating permanent tissue and Meristematic tissue of Shoot horizon and root horizon. Later, The lateral branches and flower were emerged from the dead plant. The formulated organic product is competent to regrow dead plant.

**Keywords:** *Bougainvillea*, Dead plant, organic manure, regeneration, soil, climate

**Novelty**

- 1) Regeneration of the dead plant in 4-5 months,
- 2) Development of standard organic product with organic manure, plant waste materials and soils of tree species.

## I. INTRODUCTION

*Bougainvillea* is hard, woody shrub and climber tree, grows mainly in tropical and sub-tropical climate, propagates through cuttings. It is originated from South America, cultivates in high salt tolerant soil and belongs to Nyctinaginacea family (Kent *et al.*, 2007). The economic part of the plant is flower that imposes in controlling diabetes, curing of cough, curing throat inflammation, removing toxic chemical from the body through tea consumption, relieving from joint pain & swollen joint, curing from the fever (Zahidul *et al.*, 2016). Organic manure is nutrient enriched natural materials that apply for soil and crop improvement. It contains mineral nutrients N, P, K that reforms soil physical property and chemical property. It recovers content of nutrient deficiency and physiology of the plant. It naturally balances ecology and ecosystem of the biosphere. It as potential to reform dead plant, withered plant and wounded plant. The organic manure is prepared with the microbial decomposition. The microbes synthesizes nutrient in the decaying matter through biogeochemical cycle. Microbes can make nutrients and minerals in the soil available to plants or tree produce "hormones" that spur growth, stimulate the plant immune system. By contrast healthy-biological enrich soil can increases fertility in multiple ways, including supply of nutrients such as nitrogen and protecting against pests and diseases, while reducing the need of water and other inputs. An incredible diversity of organisms makes the soil food web. They range in size from the tiniest one called bacteria, algae, fungi and protozoa to more complex nematodes and micro arthropods the visible-earthworms, insects small vertebrates and plants. All these organisms eat grow and move through soil, they make it possible to clean water, clean air, healthy plants. Bacteria & Fungi are the decomposers. But bacteria are most nutrient dense living organisms on this planet and are also the primary decomposers of organic matter, without trees, we would be smothered in our own waste in a matter of months. They divide by single cell division, which is one cell divides and make two cells-and so on. They can multiply faster than other micro-organisms like fungi protozoa and nematodes. Our nature has designed the soil food web in such a way that the main food sources for higher organisms have the highest reproduction rate. At 60 F, I grow communities of these unique soil micro-organisms and used directly in the soil of dead trees to balance the soils. Rebuild the soil food-web. Organic matter is the building block of the soil food-web. Ajisafe *et al.* (2019) concluded that organic manure contributes in the early growth and development of *Bougainvillea* species.

With this background, the following objectives were taken in the studies ie.,

- 1) To evaluate growth and development of the plant above the ground,
- 2) To evaluate growth and development of the plant below the ground,
- 3) Duration of regeneration of the Dead trees.





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## Research Article

# DOUBLE PRODUCTION IN GUAR VEGETABLE CROP WITH BIOCOMPOST INOCULUMS

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Production, Guar, Biocompost inoculum,  
yield, soil, nutrient

## ABSTRACT

Guar (*Cyamopsis tetragonoloba* L., 2n=14) is commonly known as Cluster bean, drought tolerant leguminous crop, cultivates in tropical regions. The present experiment as conducted in cultivation of guar with biocompost inoculum. The experiment was conducted in Madhav diggi village and Sattasar village in 2016 year. The biocompost product was prepared with Cow Dung, Cow Urine, Molasses, Chickpea's Flour, Algae, Ash, Black Soil, Red Soil, Gypsum, Charcoal, Organic residues and compost inoculum. The prepared organic product was applied in the cultivated field. They found that the morphological growth and yield of the plant was progressed with the application of organic product. The soil properties and soil biology was reformed with the application of organic product. It contributes in maintaining ecology and ecosystem of the field, reforming soil fertility and plant production. Further, the application of organic product will surely improves production and oil properties in the another crop.

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## INTRODUCTION

Guar (*Cyamopsis tetragonoloba* L., 2n=14) is commonly known as Cluster bean, drought tolerant leguminous crop, cultivates in tropical regions. The fruits contains 10.8 gm carbohydrate, 3.2 gm protein, 1.4 gm minerals, 316 IU vitamin-A, 47 mg Vitamin C. The economic parts of the plant are seed and threshed plants. The seed uses in making guar gum (galactomannan), textile industry, paper industry, cosmetic industry and oil industry. The plant as originated from West Africa and India. The world major producers of the plant are Pakistan, China, USA, Australia, India and Africa. In India, Rajasthan, Haryana and Gujarat are the leading producer of the plant (Kuravadi and Randhawa, 2013).

The crop requires more quantity of water for the growth and development. The soil textures of the respective regions are varies for the crop production. The scarcity of the water in the soil causes restriction in the crop production. The dose of agrochemicals kills beneficial organisms and non beneficial organisms. The organic compost is alternative resources for maintaining water capacity in the soil. It progresses physical property and chemical property of the soil. It minimizes water loss from the soil. It balances ecology, ecosystem and biogeochemical cycle of the soil surrounding. It improves physiology, production and yield in the plant.

Bioinoculums develops with biodiversity of the combination of variety of species, lives in soil ecosystem, has capacity to boost the productivity of guar "the double" with zero cost, produces Pests & Diseases free plant. Many organisms like bacteria, algae, fungi, protozoa and more complex organisms like earthworms, insects, small vertebrates, mite, eelworm, pinworm & spring tail are harbor in the soil. The beneficial and non beneficial organisms in the soil conducts "Soil Food Web" in the soil for nutrient consumptions and plant stay healthy. Krishan (2005) described about the application of organic compost in the plant.

With this background, the following objectives were taken for studying in the crop i.e.,

1. Effect of biocompost inoculum in the crop
2. Effect of biocompost inoculum in the soil

## MATERIALS AND METHODS

The crop was cultivated in Madhav Diggi village and Sattasar village, Bikaner, Rajasthan. The crops was cultivated in June, 2016 and harvested in the last week of October 2016.

### Preparation of Biocompost Inoculum

The Composts was made of Cow Dung, Cow Urine, Molasses, Chickpea's Flour, Algae, Ash, Black Soil, Red Soil, Gypsum,

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**Double Production in Groundnut with organic Biocharcoal compost inoculums****Dr. Ram Bajaj****RNB Global University, Bikaner, Rajasthan****\*Corresponding Author Email: info@rambajaj.com, Telephone No.- 0151 - 2523844/  
2547874****Corresponding Author Address: RNB Global City, Ganganagar Road, Bikaner, Rajasthan  
334601****Abstract**

Groundnut (*Arachis hypogaea* L.) is legume crop that applies for value addition product formations and biological nitrogen fixation. The Biocharcoal compost was prepared with humus, kīkar tree charcoal, cow dung and cow urine and fermented for 21 days. The prepared Biocharcoal compost blended in the Mycorrhiza propagules to produce Liquid and solid form Biocharcoal compost inoculum. The groundnut seeds were poured in the liquid form Biocharcoal compost inoculum and germinated in 21 days. The presence of Biocharcoal compost inoculum in the soil improves morphological growth, seed quality and yield of the groundnut. It transports ionic form phosphorus nutrient through phosphorus cycle through symbiotic interaction. It reforms soil properties, water use efficiency, nutrient use efficiency and mitigates soil problems & soil pollution. The standardization of Biocharcoal compost + Mycorrhiza inoculum may produce organic products that help in good crop production and balances ecology and ecosystem. Further it will encourage organic produce crops instead of chemical produce crops.

**Keywords:** groundnut, Biocharcoal compost, mycorrhiza fungi, growth, biological activity

**Novelty**

*Blending of Biocharcoal compost + Mycorrhiza mixtures for groundnut crop production.*

*Improvement of physical and chemical property of the soil, ecology & ecosystem.*

*Maintenance of flora and fauna of the soil.*

*Production of standard chemical products with mixtures of Biocharcoal compost + Mycorrhiza*

**Introduction**

Groundnut (*Arachis hypogaea* L.) is legume crop that belongs to Leguminosae family, contains more oil content & less proteins, and promotes symbiotic biological nitrogen fixation. It has two species spreading type and Bunch type that are cultivated in the world. The world groundnut production of 50,458 metric tonnes was estimated in 2021 (USDA, 2021). The groundnut production of 101.19 lakh tonne was predicted in 2020 crop year (PIB, 2021). The leading producers of groundnut are India, China, followed by Nigeria, Sudan, United States in the world. The major states producers of groundnut are Gujarat, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Rajasthan, Madhya Pradesh, Orissa, and Uttar Pradesh. The pod utilizes



Evaluation of Biocharcoal compost led Mycorrhiza in Aloe vera  
'Healthy organic soil – Healthy herb plant – Healthy life – Aloe vera'

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Abstract

Aloe vera (*Aloe barbadensis* L.) is hard tropical plant which grown in low rainfall regions an arid regions. The organic mixtures are prepared with Pour manure tea, leaves cuttings of Tulshi (Basil); Neem & Giloy (गिलोय) and granular mycorrhiza inoculum in powdered Biocharcoal compost and were supplied in the pot and kitchen garden field bed. The soil quality, physical property and biological activity were reported in the plant. The quality of the soil was reformed with addition of organic mixtures. The water, air, nutrient conditions of the soil was recovered after addition of organic mixtures. The biological activity resists the performance of pests and diseases and recovers growth and development and metabolism of the plant. It improves soil property and soil biology, progresses soil-water relationships, plant-water-soil relationships in the plant. It restricts applications of chemical fertilizer, pollution and promote organic crop production in the rural areas.

**Keywords:** Biocharcoal compost, granular mycorrhiza, aloe vera, soil property.

Aloe vera (*Aloe barbadensis* L.) is hard perennial tropical medicinal plant, commonly known as Miracle plant, belongs to Liliaceae family, is cultivated mainly in low rainfall regions and dry areas with warm humid conditions. The first cultivated centre of origin of Aloe vera is Africa & Mediterranean regions. The plant cultivates and manages at Africa, China, the U.S.A., Australia, Mexico, tropical regions of Latin American countries in the world. In India, The plant produces in the state of Rajasthan, Andhra Pradesh, Gujarat, Tamil Nadu, Maharashtra and Kerala.

Aloe-vera is used as a medical plant and is called as the miracle plant. It contains vitamins such as A, C, E, vitamins B12, folic acids, B, B2, B3. Apart from that it contains 20 different minerals. The miracle plant contains Water, 20 minerals, 12 vitamins, 18 amino acids, Enzymes, Glyconutrients & glycoproteins, Phenolic glycosides, Dihydrocoumarins and 200 active plant compounds (phytonutrients), including: Triterpenes (a phytonutrient that lowers blood sugar look how powerful this plant is?) Acemannan, mannose – 6 – phosphate polymannans (Acemannan increases cell production of nitric oxide (No), an anti cancer chemical. It detoxifies our body and balances the Acid Alkaline ratio in the body every day. It is a stabilizer of blood sugar in diabetics because of enriched minerals, also lower the LDL &





# Double Production of wheat with Tissue Cultured Enriched Biofertilizer

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## ABSTRACT

Wheat (*Triticum aestivum* L.,  $2n=42$ ) is angiospermic plant of terrestrial ecosystem, belongs to Poaceae Family. The wheat crop was cultivated with formulated mixtures of Bio-fertilizer (Bio. F) enriched *Trichoderma harzianum* and mustard tissues in the Sattar village and Madhav village in Bikaner, Rajasthan. The growth parameters, grain quality and yield were observed in the growing wheat crop. The plant height 100-120 cm, 600 to 650 spikes Number of spike per unit of area ( $m^2$ ) and 45- 52 Number of grains per spike were recorded from the matured wheat crop. The 1000-grains weight 42 grams to 50 grams, 10% increase Biological yield (BY) and 8q Yield (q/bhega) were obtained from the harvested crop. The application of Biofertilizers progresses morphological growth, grain quality & yield, improves soil property of the field and balances ecology & ecosystem. Further, This conducted experiment will capable to form standard microbial products for wheat production.

**Keywords:** wheat, Biofertilizer, growth parameters, yield, growth stages

### Novelty

*Blending of Trichoderma harzianum + mustard tissue mixtures in Biofertilizer (Bio. F) for cereal crop production,*

*Improvement of physical and chemical property of the soil,*

*Maintainance of flora and fauna of the soil,*

*Production of standard chemical products with mixtures of Bio-fertilizer (Bio. F) enriched Trichoderma harzianum and mustard tissues*

## INTRODUCTION

Wheat (*Triticum aestivum* L.,  $2n=42$ ) is angiospermic plant that belongs to Poaceae Family, is a close third to rice and corne in total world production. Wheat is the staple food for most of the temperate and sub tropical regions of the world. In the world, India accounts second in production of wheat after china. The major's wheat production states in India are Uttar Pradesh, Punjab, Haryana, Rajasthan, Madhya Pradesh, and Bihar. The wheat production of 772.62 million tonnes was estimated in the world in 2020 year (USDA, 2021) and of 109.52 million tonnes was predicted in India in 2020 crop session (PIB, 2021). The economic value of wheat is to prepare flour, bread biscuits, cookies, chapatti, starch, gluten, malt, and distilled spirit. The wheat bran is rich in protein and used as valuable livestock feed. The straw is use to prepare corrugated board.

Maintaining soil fertility in sandy soil and use of plant nutrients in sufficient and balanced amount is one of the key factors in increasing crop yield. Nitrogen (N) is the most important nutrient supplied to most non-legume crops, including wheat. The most important role of N in the plant is its presence in the structure of protein and nucleic acids, which are the most important building and information substances of every cell. In addition, N is also found in chlorophyll that enables the plant to transfer energy from sunlight by photosynthesis. Thus, N supply to the plant will influence the amount of protein, amino acids, protoplasm and chlorophyll formed. Moreover, it influences the cell size, leaf area and photosynthetic activity. Therefore, adequate supply of N is necessary to achieve high yield potential in crops. N fertilizer is known to affect the number of tillers  $m^{-2}$ , number of grains spike $^{-1}$ , spike length and weight.

The aim of the investigation is to improve morphological growth, grain quality and yield, to progress physical and chemical property of the soil, to promote organic agriculture for balancing ecology and ecosystem and to standardize biofertilizers for preparing product in progressing wheat production.

The complete role of biofertilizers shall reduce the need for chemical fertilizers and decrease adverse environmental effects. They can play a significant role in fixing atmospheric N and production of plant growth promoting substances. Therefore, in the development and implementation of sustainable agricultural techniques, biofertilization has great importance in alleviating environmental pollution and deterioration of nature. *Azotobacter sp.* and *Azospirillum sp.* are used as biofertilizers in the cultivation of many agricultural crops. The estimated contribution of these free-living N fixing prokaryotes to the N input of soil ranges from 0-60 kg/ha to 160 kg/ha. Existence of microbial communities like *Azotobacter sp.* and *Azospirillum sp.* in the rhizosphere promotes the growth of the plant through the cycling and





## Evaluation of chickpea with solid and liquid Biofertilizers

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### ABSTRACT

Chickpea (*Cicer arietinum* L.,  $2n=16$ ) is hard woody twigs plant, cultivates in cool season, supply nitrogen nutrient through legume effect. The research studies were conducted in the Diggi village and Sattasar village in 2014 year. The solid and liquid biofertilizers were supplied in the chickpea field. The plant height 45-60 cm, Number of pod per plant 130, Number of grains per pods 3 grain per pod, 1000 gm grains weight per pod 100 gm and 10% Biological yield (BY) were obtained in the plant. The application of liquid biofertilizers and solid biofertilizers improves soil fertility and crop production. It progresses chemical property and physical property and biogeochemical cycle of the soil. It reforms water quality and nutrient content of the soil, recovers metabolism and growth of the plant. It balances ecology and ecosystem of the surrounding. Further, the standard materials and methods will produce biofertilizers product for good crop productions.

**Keywords:** chickpea, biofertilizers, growth parameters, yield

### INTRODUCTION

Chickpea (*Cicer arietinum* L.,  $2n=16$ ) is twigs plant, is grown in the cool climate, belongs to Leguminosae family. The production chickpea of 14.25 million tonnes was recorded in the world in 2019 year. The production of chickpea of 9.94 million tonnes was recorded in India in 2019 year. The world leading producer is India, Pakistan, Ethiopia, Burma and turkey. The major producing states in India are Rajasthan, Madhya Pradesh, Rajasthan, Uttar Pradesh, Haryana, Maharashtra and Punjab. The seed and leaf are the economical part for revenue generation. Chickpeas are a nutrient-dense food, providing rich content (> 20% of the Daily Value, DV) of protein, dietary fiber, folate, and certain dietary minerals such as iron and phosphorus. Thiamine, vitamin B6, magnesium and zinc contents. A 100 g serving of cooked chickpeas provides 164 kilocalories (690 kJ). Carbohydrates make up 68 percent of calories, most of which (84 percent) is starch, followed by total sugars and dietary fiber. Lipid content is 3 percent, 75 percent of which is unsaturated fatty acids for which linoleic acid comprises 43 percent of total fat.

The overutilization of chemical fertilizers declines the property of the soil, yield of the crop. The excess application of fertilizers mitigates ecology and ecosystem of the soil, retard the biogeochemical cycle of the soil. The over transport of nutrient increases the toxicity in the plant, declines the yield in the plant. The livelihood and income of the farmers are greatly affected in soil problems. The area of the land is declining because of overutilization of the fertilizers. The organic agriculture is alternative tools for reforming soil and crop production. The bulky organic manure and concentrated organic manure improves the soil fertility and crop production. Several bulky organic manure like compost, farm yard manure (FYM), green manure, green leaf manure and Biofertilizers are involved in the soil improvement and crop development.

Biofertilizers are beneficial microorganisms for seed or soil application that reforms soil fertility and plant growth by increasing the number and biological activity of beneficial microorganisms in the rhizosphere. They improve soil fertility level by fixing atmospheric nitrogen, solubilizing insoluble soil phosphates and releasing plant growth substances in the soil. Biofertilizers are cost effective, ecofriendly, and renewable sources of plant nutrition. These are also known as microbial inoculants. There are different types of microbial inoculants. Some important inoculants are *Rhizobium* inoculants, *Azotobacter* inoculants, *Arbuscular mycorrhiza* (AM), blue green algae inoculants, azolla, phosphate solubilizing bacterial (PSB) inoculants etc. The inoculants are widely used as biofertilizer to enhance growth & yield as they fix atmospheric nitrogen symbiotically. *Rhizobium* inoculation increases nodulation and seed yields upto 35%. Gupta and Namdeo (1996) found that seed inoculation with *Rhizobium* increased chickpea seed yields by 9.6-27.9%.

There are several things need to be considered in biofertilizer making, such as microbes' growth profile, types and optimum condition of organism, and formulation of inoculum. The formulation of inoculum, method of application and storage of the product are all critical to the success of a biological product. In general, there are 6 major steps in making biofertilizer. These includes choosing active organisms, isolation and selection of target microbes, selection of method and carrier material, selection of propagation method, prototype testing and large scale testing. First of all, active organisms must be decided. For example, we must decide to use whether organic acid bacteria or nitrogen fixer or the combination of some organisms. Then, isolation is made to separate target microbes from their habitation. Usually



# Graph Theory Applications to Comprehend Epidemics Spread of a Disease

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**Abstract:** *Theory of Graphs could offer a plenty to enrich the analysis and modelling to generate datasets out of the systems and processes regarding the spread of a disease that affects humans, animals, plants, crops etc., In this paper first we show graphs can serve as a model for cattle movements from one farm to another. Second, we give a crisp explanation regarding disease transmission models on contact graphs/networks. It is possible to indicate how a regular tree exhibits relations among graph structure and the infectious disease spread and how certain properties of it akin to diameter and density of graph, affect the duration of an outbreak. Third, we elaborate on the presence of a suitable environment for exploiting several streams of data such as genetic temporal and spatial to locate case clusters one dependent on the other of a disease that is infectious. Here a graph for each stream of data joining all cases that are created with pairwise distance among them as edge weights and altered by omitting exceeding distances of a cut-off assigned that relies on already existing assumptions and rate of spread of a disease information. Fourth we provide an overview of epidemiology, disease transmission, fatality rate and clinical features of zoonotic viral infections of epidemic and pandemic magnitude since 2000. Fifth we indicate how the clinical data and virus spread data can be exploited for the creation of health knowledge graph. Graph Theory is an ideal tool to model, predict, form an opinion to devise strategies to quickly arrest the outbreak and minimize the devastating effect of zoonotic viral infections.*

**Keywords:** *Virus, Epidemics, Pandemics, Graph, Regular Tree.*

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## Alzheimer's Disease under the Purview of Graph Theory Centric Genetic Networks

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**Abstract:** Notice that the synopsis of brain is a form of communication. As communication demands connectivity, it is not a surprise that "graph theory" is a fastest growing area of research in the life sciences. It attempts to explain the connections and communication between networks of neurons. Alzheimer's disease (AD) progression in brain is due to a deposition and development of amyloid plaque and the loss of communication between nerve cells. Graph/network theory can provide incredible insights into the incorrect wiring leading to memory loss in a progressive manner. Network in AD is slanted towards investigating the intricate patterns of interconnections found in the pathogenesis of brain. Here, we see how the notions of graph/network theory can be prudently exploited to comprehend the Alzheimer's disease. We begin with introducing concepts of graph/network theory as a model for specific genetic hubs of the brain regions and cellular signalling. We begin with a brief introduction of prevalence and causes of AD followed by outlining its genetic and signalling pathogenesis. We then present some of the network-applied outcome in assessing the disease-signalling interactions, signal transduction of protein-protein interaction, disturbed genetics and signalling pathways as compelling targets of pathogenesis of the disease.

**Keywords:** Alzheimer's disease, Cell signalling networks, Genetic networks, Graph Centrality measures, Characteristic path length, Clustering coefficient.

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## The limited liability partnership bill 2006 - An analytical study

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Online published on 17 March, 2021.

### Abstract

The Limited Liability Partnership (LLP) Bill, 2006 will have the features of separate legal entity capable of suing and being sued, having perpetual succession and common seal. The LLP, which is a separate legal person, will be liable to the third parties independent of the other partners. It is viewed that provides the benefits of limited liability but allows its members the flexibility of organising their internal structure as a partnership based on a mutually arrived agreement. This article focuses the objects, salient aspects and benefits of the newly introduced LLP Bill, 2006.

[Top](#)

### Keywords

LLP, Flexibility, Liability, Legal Entity.

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## REMOVAL OF HEAVY METALS AND AGROCHEMICALS RESIDUES THROUGH PLANTS

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**Key words:** Phytoremediation, Plants, Heavy metals, Agrochemicals

**Abstract**—The present paper presents about removal of heavy metals, agrochemicals residues through natural plants. The removal of heavy metals residues and agrochemical residues with the interception of natural plants is called phytoremediation. The advancement of applied research produced various phytoremediation plants like weed plant, aquatic plant, tree and crops. The natural plant eradicates heavy metals and agrochemicals residues through phytostabilization, rhizodegradation, rhizofiltration, phytodegradation and phytovolatilization process. The terrestrial and aquatic plant eradicates heavy metals and agrochemicals residues from soil and water. Indian mustard removes 3 fold Cd, Pb, Se and Cs radioactive metals and diesel fuel spillage. *Oryza sativa* L. is cereal crop, removes Cu, Cd, from contaminated soil. *Spinacia oleracea* (Spinach) is vegetable crop, removes Cd, Cu, Fe, Ni, Pb, Zn and Cr from contaminated soil. *Cicer arietinum* is pulse crop, eradicates Pb and Cr from the contaminated soil. Pea is vegetable crop plant, removes Cd from the contaminated soil. *Brassica napus* L. oilseed crop, removes Cd, Cu, Zn, Pb from the contaminated soil. *Cajanus cajan* L. is pulse crop, removes As, Cd from the contaminated soil. *Cucumis sativus* L. is vegetable crop, removes Pb from the contaminated water. Annual grass and broad leaf weed removes atrazine, simazine, propazine, prometryn from the soil. *Chenopodium album* L., *Hordeum jubatum* L., *Panicum capillare* L., *Nepeta cataria* L., *Coedus nutans* L., *Poa annua* an *Festuca* sp. removes atrazine, phosphorus, nitrate, ammonium. The phytoremediation plant recovers natural resources and restricts outbreak of diseases in the nature. Further, the scientific studies and research may build products of phytoremediation controlled plants for removing heavy metal and agrochemicals residue from the soil.

### INTRODUCTION

The abolishment of heavy metals and agrochemicals residues from with the intervention of plant is called phytoremediation. The heavy metal and agrochemicals residues pollution is found in China, European Union, United Kingdom, Canada and India. The educated people are aware about phytoremediation plant in conventional period. The awareness and adoption of phytoremediation plants are less in the conventional period. The advancement of technology are insisted into recognition of phytoremediation plants. The hydrophytic plants, terrestrial plants and weed

plants utilizes for removal of heavy metals and agrochemicals residues from the ecosystem. phytoremediation is removal of heavy metals and other pollutants by using plants. The phytoremediation plant actively absorbs heavy metals with phytostabilization, rhizodegradation, rhizofiltration, phytodegradation and phytovolatilization process. The scientists, professor and researchers investigated the various plants through experiment that eradicates heavy metals and agrochemicals residues i.e.,

#### Removal of Heavy metals through Plants

Jay (2015) explained the best plants for removal of



## Therapeutic implications of piper betle: Recent trends and advancement

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### Abstract

Plants contain a higher amount of biological compounds that are usually used in distinct types of health issues. Piper betle is one among the various therapeutically active herbal plants and known to possess a diverse range of secondary metabolites. It belongs to the *Piperaceae* or pepper family and commonly used in chewing agents to provoke offensive breath. Heart-shaped betle leaves contain several types of phytochemical compounds with antimutagenic, antiproliferative, antibacterial, and antioxidant properties. The betle plants are usually consumed in south Asian countries. Recent studies showed the remarkable role of such herbal drugs in chemoprevention against several types of cancer. Present review describes the potential of piper to modulate a diverse range of signaling molecules including transcription factors and reactive oxygen species (ROS) to regulate the multiple functions of several cellular processes including proliferation and death pathways.

**Keywords:** piper betle, bioactivity, chemo-preventive, anti-diabetic, anti-microbial

### Introduction

Plants that have therapeutic and pharmacological beneficial effects on human beings are known as medicinal plants [1]. Medicinal plants are generally grown in natural conditions and found to possess a variety of secondary metabolites such as phenolic, flavonoid, terpenoids, alkaloids, saponin, sterols, terpenes, glycosides, tannins, and quinone etc. From thousands of years medicinal plants have been used for the treatment of illnesses, and chronic diseases [2]. The demand for medicinal plant-based products and supplements has increased worldwide. Over the past three decades, it has been seen that phytochemicals are economic and cost effective with higher role in the cure disease. In addition, phyto-therapy is found to have either no side effect of a fewer in comparison to modern drugs [3, 4, 5, 6, 7, 8, 9]. Heart-shaped piper betle leaves belong to the family of *Piperaceae*. It is usually found in South Asian countries. It is typically located in hot and moist climate-related conditions. In the Asian region (Malaysia, Indonesia, India, Sri Lanka) betle leaves are used at social, cultural, and religious Auspicious occasions like marriage, religious festivals, etc [10, 11]. In India, it is cultivated in Bihar, Bengal, Orissa, South India, and Karnataka [12]. The betle plant is used as a long-lasting and evergreen vine with silky heart-shaped leaves and white ament [12]. Betle leaf has many medicinal uses and has been commended in the old scriptures of Ayurveda for its acrid, antiseptic, aphrodisiac, aromatic, astringent, bitter, carminative hot, and stimulant properties [13]. It has also been used as an edible digestive therapy. It is found to very effective in the treatment of arthritis, orchitis, and gout. There are several types of piper betle leaves that exists in Indian culture such as Banarasi, Calcutta, Magahi, etc.. Among all the variety of leaves Magadhi considered to be very effective and found nearby Patna in Bihar [12]. A preparatory study reported that Piper betle leaves possessed a wide-ranging variability of

biologically active compounds. It has several pharmaceutical actions such as anti-inflammatory, antiplatelet, immuno-moderators, anti-diabetic activity, and gastro-protective. There are very fewer numbers of medicinal plants that have been identified with such a higher efficacy in various diseases.

### Chemical constituents

The various chemical composites are found in the betle leaf with promising health associated therapeutic effects [10]. These compounds are piperol-A, piperol-B, methyl piper betol. Piper betle leaves contain vital oil including safrole, chavibetol, allyl catechol, allyl-pyrocatechol mono-acetate, terpinene-4-oil, eugenyl acetate, eugenol, carvacrol, hydroxyl chavicol, caryophyllene, cineole, and estragole as the major components (Fig. 1). Other components which are also present such as camphene, pinene, α-limonene [10]. Betle leaves also comprise secondary metabolites like alkaloids, flavonoids, polyphenols, phenolic, steroids, saponins, tannin, triterpenoids, and vital oil [14]. Betle leaf has an enhanced source of carotene, niacin, vitamin C, thiamine, calcium, and riboflavin [15].

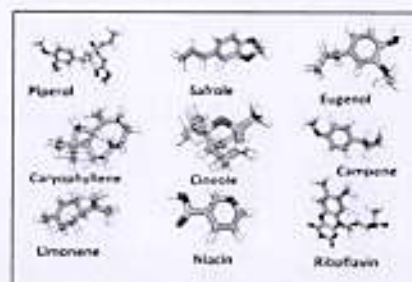


Fig 1: Ball and stick models of various major bioactive molecules from Piper betle.



# Exploration of Some Candidate Plants with Medicinal Properties to Enhance Immunity against Coronavirus Pandemics: A Review

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**Keywords:** Coronavirus; Antiviral; Therapeutics; SARS-COV-2; Zoonotic.

## Abstract

On 11th of March 2020, the World Health Organization (WHO) declared a Global Pandemic named COVID-19, a contagion induced by Severe Acute Respiratory Syndrome (SARS). It is likely suggested that this is a Zoonotic virus, since a group of people infected with virus were unveiled to wet animal market in Wuhan, China. In the preceding decades, two zoonotic coronaviruses; Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndromes (SARS) coronavirus, are analysed that cause lung disorders in human beings and animals and can be fatal too. This pandemic demands the rapid development of vaccines and panacea but till now, no approved vaccine or therapy have been reported against this virus. For the development of some beneficial vaccines and drugs, scientists are working for it across the world. Plants, which possess several antibacterial, antifungal and antiviral properties, are of an utmost importance and becomes even more important when the World is dealing with such a Global pandemic. Plant-based vaccines can be an effective way to cope with this crisis. Plants are integral to well beings of humans. Various molecules, like blanchonanthone, curcumin, etc. separated from plants might be proven effective drug targets. This review paper presents an outlook on various plants with many antiviral properties against COVID 19 and also throws light upon various technologies to establish herbal treatment against it that can be taken into consideration.





## Advancement of Agricultural Technology in Farming of India

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### ABSTRACT

**Background:** Agricultural technology is an innovated, invented and discovered material that assists people and the country for improving production and productivity. Conventional agricultural technologies were practiced in the country in sustainable agriculture. A large number of inventions from several research and development projects were evolved and discovered that help in boosting transformation of sustainable agriculture into modern agriculture.

**Methods:** The agriculture technology is currently utilized in the dairy farming, poultry farming and organic farming. The working principles of agriculture technology were glanced from the dairy farming, poultry farming and organic farming and collected from the Andhra Pradesh, Karnataka, Maharashtra, Punjab and Gujarat.

**Result:** The control of fly, milking parlours, calf care, young stock housing, hygiene, milk testing technologies etc are currently utilized into the dairy farming in rural India. The robots carries out ding dirty work, flock protection using drones and use of sensors for monitoring and management are applied in the poultry animals. The Information and Communication Technology (ICT) contributes at production and management in dairy farming and poultry farming. It imposes crop development and management and sprays adequate organic chemicals in the crop field. The effective and less expensive technologies like neem based preparations, concentrated organic manure, organic formulations for seed treatment and plant protection, broad-spectrum botanical pesticides and many more have been developed that promote organic agriculture.

**Key words:** Agriculture technology, Organic farming, Dairy farming, Poultry farming.

### INTRODUCTION

Agricultural technologies are innovated and invented in agricultural sciences since centuries provide many advantages to farming community and the country. The agricultural technologies are utilized in animal husbandry, crop farming, farm-linked activities, organic farming, protected cultivation, land development, climate and weather forecasting, agro-industries, agro-based industries and agricultural business. The sophisticated agricultural technologies are adopted in Japan, China, Israel, USA, Europe etc. for farming. In India andhra Pradesh, Karnataka, Maharashtra, Punjab and Gujarat have adopted more agricultural technologies.

Indigenous technologies were utilized in agriculture till 50-60 years back, which supported a sustainable agriculture. Traditional agricultural technologies were thriving during sustainable agriculture. Several technologies were emerged in modern agriculture and boosted farming in modern agriculture. The agriculture technology progressed with education and farming practices and transformed into scientific farming. It generated skilled and unskilled

employments in India. It improved agricultural business, food security and livelihood of people. It will continue improve the GDP and income of India.

The durable and farmer or user friendly agricultural technologies are utilized in farming for good production, management and agribusiness. Some farming sectors like dairy farming, poultry farming, protected cultivation, organic farming, smart farming etc. have enjoyed the benefits of innovations. Neila *et al.*, (2016) explained that real time automatic devices are utilized in the poultry that monitors risks and animal health. The sensors can screen a farm environment, movement, or physiological parameter. The optical flow detects gait problems and feather pecking; infrared technologies are useful to evaluate birds thermo regulatory features and metabolic changes, that may be indicative of welfare, health and management problems. These technologies have potential to improve birds' welfare and to optimize flock management. Recently Zinich *et al.* (2021) explained that new production facilities will contribute to the growth of livestock production in subsequent years. The application of new production equipment in dairy farming improves the efficiency of the production, Suryatapa *et al.*

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## MEDICINAL PLANTS ARE A ROLE IN HUMAN HEALTH DISEASES AND THE ISOLATION OF PHYTOCHEMICAL THROUGH VARIOUS METHODS

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### ABSTRACT

Medicinal plants are a gift of nature and the history of medicinal plants is very ancient. The value of medicinal drugs and their alkaloids are very effective against many human diseases. The drugs are synthetically prepared into the industries but the raw material of drugs can be obtained from various plant parts like stem, bark, roots, leaves, and other fibrous parts, etc. The pharma industries of drugs are very effective herbal drugs but they are very costly. The life of these drugs is not long when compared to herbal medicines. The human body is very sensitive to drugs and when any wrong drugs are applied to the body, then our immune system suppresses the drugs and produces a response against the drugs. The effectiveness of drugs and their specificities only on its targeting site take action upon it. The various microbial diseases can affect the human body by various modes of infection. The various techniques and methods are isolated medicinal drugs from medicinal plants.

**KEYWORDS:** Medicinal Plants, Alkaloid Drugs, Pharma Industries & Immune Response

Original Article

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### INTRODUCTION

Medicinal plants are a source of the new generation of covid-19 medicines. The medicinal pharmaceutical industries produced several types of alkaloids which are very effective and improved immune responses for a long time (Djilani et al., 2006). They are very effective against viral infection and immune diseases because they regulate some specific types of stimulus which can take action upon body dendrite cells and start to release phagocytosis cells to promote engulf affected cells. The nature of cells and their response is very specific for particular helper cells. The various chemicals and drugs are responsible for long stimulus recognition (Rasool et al., 2020). The herbal drugs are very effective in this case (Rasool et al., 2020). They have protected the human body from any side effects and provided long-term effects. The various techniques are very beneficial for the isolation of these drugs from various parts of plants. In these drugs, various phytochemicals are present (Adhikari et al., 2021) and they are releasing some cardiogenic compounds and release another long chain of unsaturated fatty acids and compounds at various levels. The methods of alkaloids production and isolation are very effective on the industrial and pharma level (Chaves et al., 2020). Drug production is only possible through extraction methods like physical, chemical, and biological (Maroyi, 2013). The medicine provides relief against neuromuscular disorder and nervous disorders and several other types of diseases (Rasool et al., 2020). These phytochemicals (Tolosa et al., 2007) can regulate immune



## Role of ICT in New Education Era

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### ABSTRACT

ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters (UNESCO, 2002). ICT stands for Information and Communication Technologies. ICT is a part of our lives for the last few decades affecting our society as well as individual life. ICT which is now broadly used in educational world. Teacher, Student, administrator and every people related to education are popularly used ICT.

Teacher use ICT for making teaching learning process easy and interesting. A competent teacher has several skills and techniques for providing successful teaching. So development and increase of skills and competencies of teacher required knowledge of ICT and Science and Technology. In modern science and technological societies education demands more knowledge of teacher regarding ICT and skills to use ICT in teaching –learning process. The knowledge of ICT also required for pre service teacher during their training programme, because this integrated technological knowledge helps a prospective teacher to know the world of technology in a better way by which it can be applied in future for the betterment of the students. Now a day's ICT's are transforming schools and classrooms a new look by bringing in new curriculum based on real world problems, projects, providing tools for enhancing learning, providing teachers and students more facilities and opportunities for feedback. ICT also helps teachers, students and parents to come together. Continuous and Comprehensive Evaluation (CCE) helps students as well as teachers to use more technology for making teaching learning more attractive for the betterment of our future generation. Teachers must know the use of ICT in their subject areas to help the learners for learning more effectively. So, the knowledge of ICT is very much essential for the both prospective teachers as well as in service teachers also. This will help teachers to know integrated technology with classroom teaching.

This paper discussed about the role of ICT in 21st Century's teacher education

*Keywords: ICT, technology, pre-service, in –service, student teacher, teacher training.*





## Decoding Customer Expectations about Service Recovery

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### ABSTRACT

It has been globally acknowledged that after-sales service strategies are used as a tool to consolidate sales and enhance customer experience. It helps stakeholders get a better understanding of customer needs and aids clearer positioning of an organization's brand in the market.

After-sales can also be a burden on a company's bottom line due to the increase in operational expenses if it is not planned in an efficient manner. Company should plan the exercise in such a manner that it is well aligned with the core customer problem.

The present study looks at the experiences of three companies - Philips, Micromax and Volkswagen - that have made radical changes in their after-sales servicemodels over the last two years or so and are seeing the results pouring in. The experiences of the three companies were different - the first two decided to outsource part of the service function while the last decided to spruce up its act by throwing in its might for more in-house work. But all three realized that it would be fatal to let things be.

### INTRODUCTION

There is such a massive supply of goods and services nowadays both on the internet and on the high street in practically every industry that looking after customers and keeping them happy has become almost a hygiene factor in business today. Most companies understand that and many of them are continuously tweaking their aftermarket strategies to cut costs and make customers come back for more. Some have outsourced part or the whole function of after-sales to a third party; some others are consolidating them under one roof to make them more efficient.

Enhancing an after sales-service experience is much more than focusing on marketing tools such as brand ambassadors, logos, packaging and unique propositions of product/services. After-sales service is a key influencer in the purchase decision of a consumer. While the customer is getting empowered, companies are spending big bucks to manage their public image.

Negative publicity of brands or products spreads much faster today as customers increasingly share their views on social media platforms. That said, feedback can be used as a tool to help decision making and point out subtle tweaks that may benefit a product. It is also essential in the assessment of the satisfaction level of customers who may have engaged with the brand's after-sales service team.

To reduce investments in service assets and cut operating costs, companies should consider the following steps:

- Identify which products to cover
- Create a portfolio of service products
- Design and manage an after-sales service supply chain to optimise location of resources, utilization and planning for contingencies
- Monitor performance continuously to get customer feedback
- Resolve issues immediately and provide reasonable assurance for better and improved product/services
- Have a customer complaint study to evaluate complaint patterns: This serves as an excellent base for data analytics

Monitor the after-sales service initiatives of competitors and market leaders  
A little over two years ago, the management of Philips noticed a growing number of complaints by customers on social media on how the company managed its aftersales. The customer care department, the management felt, was not equipped to handle the aftermarket queries and the resultant delays in handling customer complaints was putting off many



## Evaluation of improved varieties of rice (*Oryza sativa* L.) under environmental condition of Namsai, Arunachal Pradesh, India

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### ABSTRACT

An experiment was performed for evaluation of improved varieties of rice under environmental conditions occurring at Namsai district of Arunachal Pradesh in Research Farm of Arunachal University. Studies were conducted during *Kharif* season for identifying the promising variety. Thirteen varieties, namely Deepthi; NPT Cul-1; Red MattaTriveni; Jyothi; Uma; Akhaya; Sapmpada; Aathiva; JS-7; Khamti Lahi; Thailand Lahi; MTU and Bora were assessed in replicated randomized block design with 2 replication. The results revealed that the varieties showed significant variations on growth and yield parameters viz: Plant height at the vegetative stage, Number of productive tillers, Number of days for panicle emergence, Crop duration, Number of grains per panicle, Length of panicle, Length of grain, 1000 grain weight, Yield per plot and Length/Breadth ratio of grains. From the above findings, it is observed that, considering the growth and yield parameters, improved rice varieties Uma and JS-7, exotic variety Thailand Lahi, indigenous variety Bora and Khamti Lahi were found to be promising under the Namsai condition of Arunachal Pradesh.

**Key words :** *Oryza sativa*, Varieties rice, Arunachal Pradesh

### Introduction

*Oryza sativa* L (Rice, 2n=24) belonging to a Poaceae family contains 80% carbohydrate, 7-8% protein, 5% fat, and 3% fiber. The global per capita food consumption estimated in the years 2017 and 2018 was 53.7 kg and 53.9 kg, respectively (FAO, 2018). The estimated world paddy production was 757 million tonnes, whereas the food grains production in India was 291.95 million tonnes in 2019 (Malhotra, 2019).

The paddy production of India was 117.47 million tonnes in 2019 (FAO, 2019). Most of the farmers of Arunachal Pradesh, particularly in the Namsai region, cultivate traditional and indigenous varieties of rice. They have low productivity in comparison to the improved and high-yielding varieties of rice popular in other parts of the country. However, numerous reports have shown indigenous cultivars having a wide diversity in physiological, ecological, and morphological characteristics (Jahanet al., 2003).

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## Children of Migrant Labours: Education, Livelihood & Rights

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**Introduction** - The circumstances of children at migrant work sites, experiencing the same difficult living conditions that their parents endure, and those of children left behind in villages when their parents migrate for work, have both raised concern among policy makers and those who study short term labour migration. Despite this concern, quantitative analysis about the children of migrants is rare. Many studies of short term migration in India are qualitative, and quantitative work tends to focus on the migration of adults.

The data were collected along the borders of Rajasthan, Bihar, U P, W.B, and Gujarat, in a very poor, tribal region that has high rates of short term migration. The survey included questions about children in the households, which permitted the construction of a data set of children aged 0 to 13 years old. The literature has established that short term labour migrants and their children are a vulnerable group in need of public policy attention. However, there has been little quantitative analysis to shed light on the particular ways in which the children of migrant workers are vulnerable.

This article makes two primary contributions. First, although we might expect the children of migrant workers to be engaged in work alongside their parents, the data from this survey show surprisingly little paid or unpaid labour among children who accompany adults. Second, descriptive statistics and regression analysis show that children who migrate with their parents face important educational disadvantages compared to children who do not migrate.

The results of this analysis suggest that expanded implementation of a government employment program may help mitigate this effect. Many authors write about how children of migrants experience family disruption and must bear additional responsibilities. Many authors have suggested that children of migrant labourers sometimes work alongside their parents.

**Livelihoods** - There are three main sources of income among households in the sample—agricultural income, income from migrant work, and wages from the National Rural Employment Guarantee Scheme (NREGS)<sup>1</sup>, a

government sponsored public employment program. Local labour work in private markets, while sometimes available, is not a primary source of income for most households. Almost all households own and farm small plots of land.

There are three main agricultural seasons in this region: monsoon (July-October), winter (November-February) and summer (March-June). Agriculture is predominantly rain fed; the main growing season is during the monsoon. Corn is planted during the monsoon for home consumption, and the fodder from the corn is saved for feeding animals. Approximately half of households have irrigation, which allows them to plant crops, mainly wheat, during the winter. Crops are rarely grown during the summer. Approximately three quarters of households reported that the 2009 growing season had particularly poor crop yields compared to other years, probably due to drought, to which the area is prone. Migration is an important livelihood strategy, particularly in the summer season, when agriculture is unproductive.

As the Covid-19-induced migration threatens to multiply the enrolment-attendance mismatch and increase the number of out-of-school children, India needs to steer effective policy from the files to the field. With the enactment of the Right to Education Act in 2009, authorities are obliged to guarantee the schooling of children from migrant families. Yet, estimates from Census 2011 throw light on the massive challenge at hand—to ensure children from around 10.7 million households in rural India that practice seasonal migration complete elementary education. The three states of Bihar, Rajasthan and Uttar Pradesh account for half of the 12.82 million children who have never enrolled in schools; and eight states—Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, Uttar Pradesh and West Bengal account for two-thirds of the 35.62 million children who have dropped out.

Interestingly, these states also account for 80% of the children who are enrolled but not attending school. One factor common to these states is migration. Migrant children are disadvantaged in terms of enrolling and attending school, and are at a lower grade for their age with the disparity deepening with age progression. These children



# Good Governance in the Private Universities: Rajasthan

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**Introduction** - This Article describes a good governance architecture framework that would bring significant improvements in the overall working of private university in a well-structured and systematic way. The good governance framework is articulated with seven basic principles which are performance, transparency, accountability, participation, leadership, consensus orientation and fairness.

The principles are structured with the good governance practices which relate to performing well for the assigned goals and objectives, promoting values for the organization, making well-informed and transparent decisions, focusing on the organization's goal and outcomes, capacity building and managing risks effectively. These principles and suggested practices in the framework would become tools for developing an improvement strategy so as to help in the smooth operation and efficient management of the institution concerned.

The developed system would bring about significant improvement in the teaching-learning activity as well as in the quality of education. It would also enhance the efficiency, effectiveness and overall performance of the institutional management which is crucial to the continuous development of the institution concerned. Thus, the proposed good governance framework when implemented in university would improve the quality of education and also increase its accessibility in a well-organized and structured way.

**Governance**- In this article the focus is on institutional governance in higher education, in particular, the nature of good governance. Good governance is a useful starting point is to discuss what governance is and is not. Governance is a process whereby societies or organizations make their important decisions, determine whom they involve in the process and how they render account. Because processes in their view are hard to observe. The normal focus in studies on governance is on the governance system or framework upon which the process rests - that is, the agreements, procedures, conventions or policies that define who gets power, how decisions are taken and how accountability is rendered.

The terms government and governance are frequently used interchangeably to refer to the authority in organization, institution, or state. Government is also a term that refers to the entity that organizes the power of government within a country. The term governance has actually been known in the administrative and political literature since Woodrow Wilson introduced this field of study, approximately 125 years ago. However, governance has been, thus far, used only in the context of managing corporate organizations and higher education institutions. Governance in a variety of organization, public or private, non-profit or for-profit, sector and industry, depends on the characteristic of each organization.

University governance is defined as constitutional forms and processes when universities regulate their own affairs. Governance is the way in which authority is used by an organization in allocating and managing its resources. Governance involves policies and procedures for decision making and control in directing or managing organizations for effectiveness. This refers to practices that require oversight, control, disclosure, and transparency and to the university's structure, delegation and decision-making, planning, organizational coherence and direction.

A robust system of governance is vital in order to enable organizations to operate effectively and to discharge their responsibilities as regards transparency and accountability to those they serve. Given their pivotal role in society and in national economic and social development, as well as their heavy reliance on public as well as private funding, good governance is particularly important in the case of the universities.

Government implies the notion that only politicians and government regulate, do things, and provide services, while the rest of "us" are passive recipients. In the mean time, the term governance fuses the differences between "the government" and "the governed", as we are all part of the governance process. In other words, the concept of governance contains the elements of democracy, justice, transparency, rule of law, participation, and partnership. Probably, the definition formulated by IIAS is the one



# Human Rights & Climate Change: Remedies of Environment Protection in World

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**Introduction** - The Climate change is already threatening people's guaranteed rights. It is affecting rights such as the rights to life and health, to food, water and housing. In the case of small island states it touches on the very right to exist. The number of climate-related lawsuits is rising worldwide – including in India, Nepal, Pakistan and Bangladesh. This article summarizes the links between human rights and climate change, comments on the implications and profiles some of the climate-related court cases.

The droughts that accompany global warming are affecting food security. Fluctuating precipitation and the salination of lakes and rivers put drinking water supplies at risk. Extreme weather events pose a direct threat to life and health and destroy people's homes. Island states could be wiped out by rising sea levels. Climate change is thus having a direct and adverse impact on fundamental rights and Human Rights that are enshrined in international conventions and often also in national constitutions. Ten years ago the UN Human Rights Council (UNHRC) 1 was already noting that "climate change-related impacts have a range of implications, both direct and indirect, for the effective enjoyment of human rights."

In relation to climate change, human rights are relevant at two levels. Firstly, climate change mitigation measures must comply with human rights principles. Secondly, there are questions to be answered about the extent to which anthropogenic climate change is itself a breach of human rights. It is this issue that forms the focus of the present article.

The Climate change impacts, directly and indirectly, an array of internationally guaranteed human rights. States have an affirmative obligation to take effective measures to prevent and redress these climate impacts, and therefore, to mitigate climate change, and to ensure that all human beings have the necessary capacity to adapt to the climate crisis.

It is now generally agreed that human rights impose an obligation on states to not only respect these rights but also to protect and fulfill them. For human rights to be

infringed, it is thus not necessary for the state itself to interfere with people's rights through its own actions: in principle an infringement can also occur if the state fails in its duty to protect people against infringements by third parties.

The UN's Guiding Principles on Business and Human Rights confirm that states have a duty to protect human rights against threats from economic actors, while economic actors have a duty to respect human rights. Furthermore, there is a right to compensation if human rights are infringed by the actions of economic actors.

In the case of climate change, which poses a direct threat to several human rights, the state therefore has a duty to take active steps to avert climate change. The state must as far as possible prevent adverse impacts on human rights and ensure that all people are enabled to adapt to climate change in the best possible way.

All States should be accountable to rights holders for their contributions to climate change including for failure to adequately regulate the emissions of businesses under their jurisdiction regardless of where such emissions or their harms actually occur."

Each case of climate change must be very carefully examined to determine which legal text contains the right that is being claimed, in what constellation it is applicable, who is obligated by it and whether legal action can be brought. Human rights are contained in various legal sources that take different forms. For example, the Universal Declaration of Human Rights is not legally binding. By contrast, basic rights and human rights that are enshrined in national constitutions – including in India's Basic Law – can be invoked before a court, as can the rights contained in the European Convention on Human Rights and the European Charter of Fundamental Rights. In the case of climate change, there is a further difficulty in the form of the extensive leeway that states have. When it comes to enforcing protective duties, the courts are extremely reluctant to determine that a right has been infringed: under the system of separation of powers, it is not for the courts to take policy decisions that are the



## An Integrated Approach to CRM Framework

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### Abstract

Emerging technology and cut-throat competition in the new economy has brought significant changes in business approach from core product focus to meaningful value creation along the supply chains. Diverse business procedures and frameworks, influenced by the multiplicity of client contact and channels, have made new and unique perspectives of clients. The failure to synchronize data and procedures across different clients may bring about negative client experience and thus loose the customers. Detachment between CRM operations and CRM examination can contrarily affect exhibiting adequacy, client maintenance and devotion. For client relationship administration to be taken to the new level of quality creation, organizations require a methodology that makes a unified perspective of clients from the viewpoints of operations, investigation and joint effort along the whole client relationship administration. This paper proposes a coordinated structure for CRM through the development of an organizational model.

**Keywords:** customer relationship management, enterprise model, analytical framework, synchronizing data, client maintenance

### Introduction

As we move from the modern economy to the learning-based economy, the source of generating effectiveness has shifted to value creation throughout the value chain. Customer relationship administration is a key tenet in the value creation process. While CRM advancements have developed in the most recent decade, its execution rates are high. Key reasons behind disappointment include the inability to make a venture wide CRM methodology, the inability to coordinate with legacy frameworks, and not having a way to deal with investigation (McKenzie 2001, Greenberg 2002, and Bannan 2004). It appears that history repeats itself with big business applications. Lewis (2001) brings up that ERP executions likewise endure the 70-percent failure



# Integration of human resource management and supply chain Network with specific reference to overall quality management

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Research Article

## Integration of human resource management and supply chain Network with specific reference to overall quality management

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### Abstract

Organization in the contemporary era aspiring to be quality intensive must create an influential association between their Human Resource Management and Total Quality Management. The association between the two can create performance criteria and lead the organization towards success. If the key information regarding the quality is accessed and transferred professionally, it will result in the attainment of skilled employees at all levels in the organization, leading the organization towards success. Organizations nowadays are highly focused on quality control and frame such policies, focusing on its leadership, strategies, partnership, resources, processes, etc. The study aims to identify the relationship between Human Resource Management and Supply Chain Management with reference to Total Quality Management functions. The various ways adopted by organizations to disseminate quality and knowledge are also identified.

**Keywords:** Resource Management (RM), Supply Chain Network, Organization, Sustainability

### 1. Introduction

Globalization, which describes the transition from conventional business structures to the notion of one independent global marketplace, is a key movement that propels organizations forward. In such a context, the quality parameter is crucial in competing worldwide, and it is aided by other essential competitive weapons such as information, workforce skill, and so on. In today's fast-paced business environment, quality has emerged as a critical aspect in gaining a competitive edge over competitors. According to several significant research, one of the management solutions to the empirical trends connected with globalization and post-industrialism is TQM's emergence and expansion. The missing connection between HRM practises and organizational results have been debated by Hilsop (2003), Morrow & McElroy (2001), and Moynihan et al. (2001). Nowadays, quality is referred to be the organization's "golden child." The shift in the contemporary industry from a production-based to a knowledge-based economy has had significant quality consequences for government agencies as well.

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"Human resource practises (HR practises) operate as the key methods through which organizations may influence and mould their abilities, attitudes, and behaviour of employees to fulfil their jobs



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## HUSSAINARA KHATOON & OTHERS (I) V. HOME SECRETARY, STATE OF BIHAR

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Lavanya Lakhotia, RNB Global University

<sup>1</sup>Date of Judgement: 4 May 1979

Equivalent citations: 1979 AIR 1819, 1979 SCR (3)1276

Bench: PN Bhagwati, O. Chinappa Reddy (J)

Petitioners- Hussainara Khatoon and Ors.

Respondent - The State of Bihar, Patna

The subject of a case: Constitution of India, 1950

- <sup>2</sup>Article 21 - Right to Life and liberty which ensures the right of speedy trial, although the speedy trial is not specifically mentioned in an ambit of fundamental rights of Art. 21 but is covered under broad sweep of Art.21 of the Indian Constitution. A speedy trial means an expeditious trial and is an integral part of Art. 21 of the Constitution of India.

Art. 21 states that no person has to be deprived of its life and liberty except described by the due procedure of law. If a person is deprived of liberty in due procedure which is not reasonable, fair, or just violates Art. 21 of the Constitution of India.

- Article 39 A - Right of legal aid to poor and destitute people for the right of justice. Art.14 and Art.22(1) of the Indian Constitution make it obligatory for the State to ensure equality before the law and to ensure propagate justice to all parts of society.

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<sup>1</sup> Main.sci.gov.in, 2021, *Home | SUPREME COURT OF INDIA*, [online] Available at: <<https://main.sci.gov.in>> [Accessed June 2021].

<sup>2</sup> Indiantkanoon.org, 2021, *Hussainara Khatoon & Ors vs Home Secretary, State Of Bihar, ... on 9 March, 1979*, [online] Available at: <<https://indiantkanoon.org/doc/1373215/>> [Accessed 17 June 2021].