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# The Study on The Impact in Policy of Laissez Faire During Scarcities Under Indian Administrative Jurisprudence: A Case Analysis of Water Scarcity in Tamilnadu Under Administrative Regime

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Abstract: Concept of Laissez faire is deemed to be the most apt practice under the ambit of administrative jurisprudence, but under the Indian context, the picture is unclear with respect to the impact of the same during scarcities. The scarcity of water in the state of Tamil Nadu has become a burning issue in the current scenario. But as a result of the policy of laissez faire the administrative bodies have not taken a direct step to offer a solution for the problem. Under this kind of a administrative function and psychology a natural ambiguity arises with respect to the impact of laissez faire during scarcities and calamities in the state and a clear picture is required with respect to the administrative mechanism or policy of the government during scarcities and a natural question arises as to functions of administrative bodies during catastrophes and crises. Therefore the study is carried out with an aim to find out the impact of laissez faire policy in scarcities with the help of Tamil Nadu administrative regime. By the virtue of non-probability convenience sampling, existence of an adverse impact of laissez faire in Tamil Nadu water scarcity problem could be framed as the result of the study. The study concludes that policy of laissez faire lacks effectiveness during scarcities and the study recommends that the nature of functioning need to be changed during the times of scarcities and crisis.

**Key words:** water scarcity, scarcities, laissez faire, administrative jurisprudence, Tamil Nadu

#### INTRODUCTION

In the current decade, India has experienced a high number of famine and climatic catastrophes (Gráda, 2009). Between 2009 and 2019, the country saw more than 20 episodes of famine and climatic calamities with a rising death toll(Anderson, 2017). This is much higher than during the periods before (Mechler et al., 2018). The situations resulting in water scarcities especially in the state of Tamil Nadu attracts attention of many across the globe(Rone and Human Rights Watch (Organization), 1999). With this rising vulnerability of the population to water starvation, one would perhaps expect that the state government by virtue of its administrative bodies would step in to assume the responsibility of protecting its citizens (United Nations Development Programme, 1994; Rone and Human Rights Watch (Organization), 1999). The ability to feed subjects in times of scarcity was a large part of the self-legitimation of the ruling parties in the state and, state had employed a variety of government regulations during times of famines(Loureiro, no date). The scheme and policies included distribution of grain from state granaries, price controls, and prohibitions on hoarding and rationing. However in the current discussion there is a lack of policies (Holmes, no date; McKernan, Ratcliffe and Kuehn, 2013). On the contrary under the ambit of administrative jurisprudence the policy of laissez faire has been followed by which there is Minimum control of government in the activities of individuals and enterprises (Popova, 1966). The government would interfere into the problems of individuals when there is an anticipated or proved breach of law in the subject matter governing the administrative body(Kurashvili, 1983).

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In the case of Tamil Nadu the principle of laissez faire is followed in such a way that the power to hold inspection and accountability is held within the administrative bodies(Sudha and Prem Sudha, 2016). In this being the case of function of administrative bodies, a natural question arises as to functions of administrative bodies during catastrophes and crises. Our team has rich experience in research and we have collaborated with numerous authors over various topics in the past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; J et al., 2018; Menon et al., 2018; Prabakar et al., 2018; Rajeshkumar et al., 2018, 2019; Vishnu Prasad et al., 2018; Wahab et al., 2018; Dua et al., 2019; Duraisamy et al., 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu et al., 2019; Mehta et al., 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran et al., 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma et al., 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi et al., 2020; Samuel, Acharya and Rao, 2020)

If a clear understanding of the psychology of citizens of the state is analyzed, it could be understood that the individuals require and expect the assistance and the interference of government and its executive bodies during any unwarranted situation that they are likely to occur or has occurred to them. The ruling parties in the state have also followed the same for the purpose of consolidation of their positions, in the upcoming years in the governments and roles.

Under this kind of an administrative function and psychology a natural ambiguity arises with respect to the impact of laissez faire during scarcities and calamities in the state and a clear picture is required with respect to the administrative mechanism or policy of the government during scarcities. Therefore this research is done with an aim to analyze and study the application and impact of laissez faire in the state of Tamil Nadu during scarcities.

# **Objectives of The Study**

- 1. To know the principle of laissez Faire in administrative jurisprudence.
- 2. To study the role of policy of Laissez Faire in British India during scarcities
- 3. To analyse the case of water scarcity in Tamilnadu
- 4. To identify the impact of Laissez Faire in the water scarcity issue of Tamilnadu
- 5. To give recommendations for administrative bodies during scarcities in India

#### REVIEW OF LITERATURE

#### History of Laissez Faire in India

In 1960, The Intellectual History of Laissez-faire, Chicago school financial analyst Jacob Viner depicts the nineteenth century teaching of laissez-faire as summed up by the focal thought, taken from Adam Smith and the French Physiocrats, that monetary exchanges ought to be left to private entertainers in a free market and the action of government ought to be constrained to the requirement of harmony and equity. In the midst of shortage and famine this suggests non-mediation in the grain exchange and without a doubt, constrained conveyance of sustenance and alleviation(Perelman, 2000). This is to maintain a strategic distance from that people become subject to help from the state(Brown, 2002) . The aid projects amid the Great Famine of 1876-78 give an unmistakable case of the exacting use of these standards practically speaking, and speak to maybe the biggest recorded test with laissez-faire guideline in the midst of famine. In the discussion about the reaction to the Great Famine, the hard laissez-faire line of the Government of India, under Viceroy Lord Lytton, conquered compassionate and interventionist evaluates from nearby chairmen and the British open(Perelman, 2000; Gaspard, 2004). The triumph of the hardliners in the plan of strategy was to an expansive degree because of the way that they had the option to bring out and request to these focal thoughts from traditional political economy that were generally perceived in the organization and the informed open. While the defenders of the hard laissez-faire program drew their motivations from crafted by established economy, this, obviously, does not infer this introduced the main conceivable, or without a doubt the most precise, rendering of crafted by Smith, Malthus, or Mill. The center in this section, be that as it may, will be on the utilization of the thoughts in provincial strategy instead of on the first goal of the creators(Sen, 2000, no date; Canvasser et al., 2017).

#### Laissez Faire and Scarcities in the British India

The British attitude towards the famine catastrophes of the late 19th century played a major role in the birth of the Indian nationalist movement(Sen, 2000, no date). Since the earliest denouncement of British colonial rule by figures such as Dadabhai Naoroji (1901) and Romesh S. Dutt (1901), the colonial character and racial prejudices of the British state have been seen as the main factor in explaining the indifference towards the high famine mortality(Sen, 2000). In recent years, the historian of British famine policy in the period David Hall-Matthews, has characterised the British colonial authorities as being driven by "racist perceptions of India as 'the land of famine"(Hill, 1991). While government policy cannot be understood in isolation from the context of colonisation or notions of racial superiority, this analysis will show that these ideas were especially dominant

among the hardliners in the colonial bureaucracy(Hall-Matthews, 2005a, 2005b; Kapur and Kim, 2006). If anything, it seems that racist prejudices and notions of backwardness and inferiority were less prevalent among the colonial administration than among the general British public that demanded humanitarian interventions (Hall-Matthews, 2005b). Rather than seeing India as a country condemned to starvation and poverty, by overpopulation and cultural inferiority, it seems as if the colonial bureaucracy was guided by the idea that markets and economic development could bring long-run prosperity to the country (Hall-Matthews, 2005a, 2005b).

#### Water Scarcity faced by Tamil Nadu

As a rule the water scarcity is a standout amongst the most jostling issues in Tamil Nadu(Ahamed et al., 2013). In light of the water scarcity the greater part of the things are influenced in Tamil Nadu(Ahamed et al., 2013; Somasundaram, 2015). The primary concern that gets influenced in light of the water scarcity is the agri busines ('Geogenic Assessment of Water Quality Index for the Groundwater in Tiruchengode Taluk, Namakkal District, Tamilnadu, India', 2013; Ahamed et al., 2013; Somasundaram, 2015)s. For the agribusiness we need water to be sent to the terrains and the fields. On the off chance that there is no water to be sent the yields bite the dust progressively (A. et al., 2014). Individuals can't depend on the downpour constantly. This asset will talk about the water scarcity issue in Tamil Nadu (Sivasubramanian et al., 2013; A. et al., 2014).

The water is one of the principal wellsprings of substance that is happening normally and it is increasingly useful for the survival of the person(Singh and Yadava, 2003; Jain, Agarwal and Singh, 2007). It is especially important to go for the downpour water reaping since downpour is the first and best source to convey water to the underground(Ahamed et al., 2013; Pannirselvam et al., 2018). There are additionally numerous viewpoints identified with water on the grounds that the water has turned out to be one of the everyday products which we are in scan for(Jain, Agarwal and Singh, 2007). There is a circumstance where we won't get fundamental water for everyday life and notwithstanding for the drinking reason. This specific circumstance is known as the water scarcity in Tamil Nadu(Ahamed et al., 2013).

Tamil Nadu is one of the states in India that is wealthy in all the kind of assets and similarly the water is likewise a standout amongst the most significant assets that are accessible to every one of the general population to incredible degree ('Investigating Water "Scarcity", no date; Kumar et al., 2016). In any case, in certain regions due to numerous reasons the water isn't accessible (Hohenthal and Minoia, 2017) (Sağlam, no date; Hohenthal and Minoia, 2017). There will likewise be scarcity in such a way, that the agrarian fields will be ruined as a result of the water scarcity. This water scarcity condition can without much of a stretch be overwhelmed by the method of downpour water gathering in Tamil Nadu (Kumar et al., 2016).

# **Problem of Study**

The scarcity of water in the state of Tamil Nadu has become a burning issue in the current scenario. But as a result of the policy of laissez faire the administrative bodies have not taken a direct step to offer a solution for the problem. Under this kind of a administrative function and psychology a natural ambiguity arises with respect to the impact of lassies faire during scarcities and calamities in the state and a clear picture is required with respect to the administrative mechanism or policy of the government during scarcities and a natural question arises as to functions of administrative bodies during catastrophes and crises. Therefore the study is carried out to an aim to find out the impact of laissez faire policy in scarcities with the help of Tamil Nadu administrative regime.

# MATERIALS AND METHODS

#### Study area

A. As the researcher intends to understand the impact of policy of laissez faire in water scarcities under Tamil Nadu administrative regime , the study is divided into 2 categories -

- 1. Public opinion on the need influence of administrative bodies
- 2. Public opinion on effectiveness of administrative action

#### Methodology

The study is based on both primary and secondary source of data; the research is carried with the help of non-probability convenience sampling collected from the victims of water scarcity in Tamil Nadu. The study uses applied research methods, including both quantitative and qualitative measures

# **Data collection**

Present study is based on Primary as well as Secondary sources of data, which are as -

1. Primary Sources – Primary data is collected by collecting questionnaire from general public

2. Secondary Sources – Secondary data is collected through literature of N.G.O. reports, Government Reports, Websites, Research Articles, Newspapers

#### Variables used

- 1. Independent variable: gender
- 2. Dependent variable
- . 1. Public opinion on the repayment of deceased father's debt by married women
- 2. Public opinion on casement of right of daughter after marriage

#### **Statistical Tool used**

- 1. chi square analysis
- 2. Correlations

# **Sample size Calculation**

A sample size of 1252 is chosen by which 811 respondents are male, 719 respondents and 441 respondents are females as the study includes non non-probability convenience sampling method (Table 1).

#### **Tables and Calculation**

In this study for each issue a survey is done where a sample size mentioned is taken and the percentage is also mentioned, to determine the validity and the determine the study results chi- square analysis and correlation symmetric measures method is used. when the Pearson value of 'Asymp. Sig' value is less than 0.05, the alternate hypothesis is considered and when the Pearson value 'Asymp. Sig' value is greater than 0.05, the null hypothesis is accepted. For determining the hypothesis the variables are cross tabulated.

#### Hypothesis

 $\mathbf{H_0}$ : there is no adverse impact of policy of laissez faire in Tamil Nadu for the problem of water scarcity  $\mathbf{H_1}$ : there is adverse impact of policy of laissez faire in Tamil Nadu for the problem of water scarcity

#### RESULT AND DISCUSSION

#### **Measurement of Impact**

# Need for influence of administrative bodies in the problem of water scarcity

 $H_0$ : there is no relationship between gender and public opinion on need for influence of administrative bodies in the problem of water scarcity in Tamil Nadu

 $\mathbf{H_1}$ : there is a relationship between gender and public opinion on need for influence of administrative bodies in the problem of water scarcity in Tamil Nadu.

The impact could be measured with the help of understanding the post effect and the requirement of the individuals in relation to the policy of government. As a result the concept of administrative influence requirement is taken into account.

It could be understood that there is a need for influence of administrative bodies in the problem of water scarcity as all the respondents unanimously agree to the same. It could be found out that there is no significant relationship between gender and the variable. Therefore it could be stated that the opinion of individual opinion is that there is a need for administrative bodies influence (Table 2).

The two variable considered in the study are tested against each other with the help of Pearson chi square, when the independent variable 'gender' is tested against the dependent variable 'Public opinion on need for influence of administrative bodies in the problem of water scarcity' the two sided asymptotic significance is greater than 0.05 which means that there no relationship between the 2 variables (Table 3).

#### Effectiveness of administrative action

 $H_0$ : there is no relationship between gender and Public opinion on Effectiveness of administrative action in the problem of water scarcity in Tamil Nadu

 $\mathbf{H_i}$ : there is a relationship between gender and Public opinion on Effectiveness of administrative action in the problem of water scarcity in Tamil Nadu.

The rudiment that helps in the finding of the impact is to measure the effectiveness of the concerned action. The study in this case is mainly concerned with the administrative actions, thus its effectiveness is measured.

It could be understood that action of administrative bodies in the problem of water scarcity lack effectiveness as all the respondents unanimously agree to the same. It could be found out that there is no significant relationship between gender and the variable. Therefore it could be stated that the opinion of individual opinion is that there is no effectiveness in the action of administrative bodies in the concerned issue (Table 4).

The two variable considered in the study are tested against each other with the help of Pearson chi square, when the independent variable 'gender' is tested against the dependent variable 'Public opinion on need for influence of administrative bodies in the problem of water scarcity' the two sided asymptotic significance is greater than 0.05 which means that there no relationship between the 2 variables (Table 5).

From the above analysis it could be found out that there is no relationship between gender and public opinion on the need for influence of administrative bodies in the problem of water scarcity and there exist no relationship between gender and effectiveness of the administrative mechanisms. This in turn proves that individuals unanimously agree that there is need for influence of administrative bodies in the current issue and the steps followed by the government are not effective in nature. From this juncture it is evident that during scarcities the individual except direct influence of administrative bodies.

The current study is primarily influenced by the individual's ability to perceive an issue and extent of being a victim for the problem. In the ambit of this study it is proven that individuals who haven't faced higher intensity of the problem tend to show a negative response. At the same time individuals who haven't perceived this problem or have not experienced this problem at its fullest have shown a negative response.

The parameters that are considered for the purpose of this study are Public opinion on the need influence of administrative bodies and Public opinion on effectiveness of administrative action.

When the current study is compared to the situation where there is no scarcity it could be found out that there is no adverse impact on the state's subjects, this could be understood from the behavior of individuals in the case of economic or other trade practices. The subjects of the state welcome the practice of laissez faire but this is not so in the case of situations of scarcities.

Therefore the study recommends that the administrative bodies should not follow the policy of laissez faire during the time of scarcities.

# **Findings**

- 1. There is no relationship between gender and public opinion on need for influence of administrative bodies in the problem of water scarcity.
- 2. There exists no relationship between gender and effectiveness of the administrative mechanisms.
- 3. Individuals unanimously agree that there is need for influence of administrative bodies in the current issue and the steps followed by the government are not effective in nature.
- 4. There is adverse impact of policy of laissez faire in Tamil Nadu for the problem of water scarcity.

#### Recommendations

- 1. The administrative bodies must take necessary steps for preservation of individual right during scarcities.
- 2. The administrative bodies should not follow the policy of laissez faire during the time of scarcities.
- 3. Nature of administrative functioning need to be changed during scarcities and crises.
- 4. Solutions and immediate relief steps shall be implemented with the help of SWOT Analysis.
- 5. Policy of direct administrative influence and interference must be followed in these cases.

Our institution is passionate about high quality evidence based research and has excelled in various fields ( (Pc, Marimuthu and Devadoss, 2018; Ramesh et al., 2018; Vijayashree Priyadharsini, Smiline Girija and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai et al., 2019; Sridharan et al., 2019; Vijayashree Priyadharsini, 2019; Chandrasekar et al., 2020; Mathew et al., 2020; R et al., 2020; Samuel, 2021)

#### CONCLUSION

From the above study it could be found out that there is no relationship between gender and public opinion on the need for influence of administrative bodies in the problem of water scarcity and there exist no relationship between gender and effectiveness of the administrative mechanisms. This in turn proves that individuals unanimously agree that there is need for influence of administrative bodies in the current issue and the steps followed by the government are not effective in nature. From this juncture it is evident that during scarcities the individual except direct influence of administrative bodies. Thus existence of an adverse impact of laissez faire in Tamil Nadu water scarcity problem could be framed as the result of the study. The study concludes that policy of laissez faire lacks effectiveness during scarcities and the study recommends that the nature of functioning needs to be changed during the times of scarcities and crisis.

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# CONFLICT OF INTEREST

Nil

#### REFERENCES

- Ahamed, A. J. et al. (2013) 'Assessment of groundwater quality for irrigation use in Alathur Block, Perambalur District, Tamilnadu, South India', Applied Water Science, pp. 763–771. doi: 10.1007/s13201-013-0124-z.
- 2. Anderson, S. (2017) Fractured Lands: How the Arab World Came Apart. Pan Macmillan.
- 3. A., S. K. et al. (2014) 'Four Different Therapeutic Regimens for Management of Repeat Breeder Dairy Cattle in Theni District of Tamilnadu', International Journal of Advanced Veterinary Science and Technology, pp. 131–133. doi: 10.23953/cloud.ijavst.195.
- 4. Brown, V. (2002) Adam Smith's Discourse: Canonicity, Commerce and Conscience. Routledge.
- 5. Canvasser, N. E. et al. (2017) 'The economics of stone disease', World journal of urology, 35(9), pp. 1321–1329.
- 6. Chandrasekar, R. et al. (2020) 'Development and validation of a formula for objective assessment of cervical vertebral bone age', Progress in orthodontics, 21(1), p. 38.
- 7. Deogade, S., Gupta, P. and Ariga, P. (2018) 'Effect of monopoly-coating agent on the surface roughness of a tissue conditioner subjected to cleansing and disinfection: A Contact Profilometric In vitro study', Contemporary Clinical Dentistry, p. 122. doi: 10.4103/ccd.ccd\_112\_18.
- 8. Dua, K. et al. (2019) 'The potential of siRNA based drug delivery in respiratory disorders: Recent advances and progress', Drug development research, 80(6), pp. 714–730.
- 9. Duraisamy, R. et al. (2019) 'Compatibility of Nonoriginal Abutments With Implants: Evaluation of Microgap at the Implant-Abutment Interface, With Original and Nonoriginal Abutments', Implant dentistry, 28(3), pp. 289–295.
- 10. Ezhilarasan, D. (2018) 'Oxidative stress is bane in chronic liver diseases: Clinical and experimental perspective', Arab journal of gastroenterology: the official publication of the Pan-Arab Association of Gastroenterology, 19(2), pp. 56–64.
- 11. Ezhilarasan, D., Apoorva, V. S. and Ashok Vardhan, N. (2019) 'Syzygium cumini extract induced reactive oxygen species-mediated apoptosis in human oral squamous carcinoma cells', Journal of oral pathology & medicine: official publication of the International Association of Oral Pathologists and the American Academy of Oral Pathology, 48(2), pp. 115–121.
- 12. Ezhilarasan, D., Sokal, E. and Najimi, M. (2018) 'Hepatic fibrosis: It is time to go with hepatic stellate cell-specific therapeutic targets', Hepatobiliary & pancreatic diseases international: HBPD INT, 17(3), pp. 192–197.
- 13. Gaspard, T. K. (2004) A Political Economy of Lebanon, 1948-2002: The Limits of Laissez-faire. Social, Economic, and Politica.
- 14. 'Geogenic Assessment of Water Quality Index for the Groundwater in Tiruchengode Taluk, Namakkal District, Tamilnadu, India' (2013) Chemical Science Transactions. doi: 10.7598/cst2013.482.
- 15. Gheena, S. and Ezhilarasan, D. (2019) 'Syringic acid triggers reactive oxygen species-mediated cytotoxicity in HepG2 cells', Human & experimental toxicology, 38(6), pp. 694–702.
- 16. Gomathi, A. C. et al. (2020) 'Anticancer activity of silver nanoparticles synthesized using aqueous fruit shell extract of Tamarindus indica on MCF-7 human breast cancer cell line', Journal of Drug Delivery Science and Technology, p. 101376. doi: 10.1016/j.jddst.2019.101376.
- 17. Gráda, C. Ó. (2009) Famine: A Short History. Princeton University Press.
- 18. Hall-Matthews, D. (2005a) 'Land Revenue Rigidity, Revisions and Non-remission', Peasants, Famine and the State in Colonial Western India, pp. 128–167. doi: 10.1057/9780230510517\_5.
- 19. Hall-Matthews, D. (2005b) 'Peasants, Famine and the State in Colonial Western India'. doi: 10.1057/9780230510517.
- 20. Hill, C. V. (1991) 'Philosophy and Reality in Riparian South Asia: British Famine Policy and Migration in Colonial North India', Modern Asian Studies, p. 263. doi: 10.1017/s0026749x00010672.
- 21. Hohenthal, J. and Minoia, P. (2017) 'Social Aspects of Water Scarcity and Drought', Handbook of Drought and Water Scarcity, pp. 607–625. doi: 10.1201/9781315404219-32.
- 22. Holmes, T. J. (no date) 'The Effect of State Policies on the Location of Industry: Evidence from State Borders'. doi: 10.21034/sr.205.
- 23. 'Investigating Water "Scarcity" (no date) Scarcity, Entitlements and the Economics of Water in Developing Countries. doi: 10.4337/9781847208545.00006.
- 24. Jain, S. K., Agarwal, P. K. and Singh, V. P. (2007) Hydrology and Water Resources of India. Springer Science & Business Media.
- 25. Jeevanandan, G. and Govindaraju, L. (2018) 'Clinical comparison of Kedo-S paediatric rotary files vs manual instrumentation for root canal preparation in primary molars: a double blinded randomised clinical trial', European Archives of Paediatric Dentistry, pp. 273–278. doi: 10.1007/s40368-018-0356-6.

- 26. J, P. C. et al. (2018) 'Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study', Clinical implant dentistry and related research, 20(4), pp. 531–534.
- 27. Kapur, S. and Kim, S. (2006) 'British Colonial Institutions and Economic Development in India'. doi: 10.3386/w12613.
- 28. Kumar, R. V. et al. (2016) 'Spatial and Temporal Analysis of Drought Characteristics in Parambikulam-Aliyar Sub-basin, Tamil Nadu', International Journal of Bio-resource and Stress Management, pp. 420–425. doi: 10.23910/ijbsm/2016.7.3.1513.
- 29. Kurashvili, B. P. (1983) 'Methodological Problems in the Theory of Administrative Decision-Making', Soviet Law and Government, pp. 71–125. doi: 10.2753/rup1061-1940210471.
- 30. Loureiro, M. R. (no date) 'Economists in the Brazilian government: from developmentalist state to neoliberal policies', Economists in the Americas. doi: 10.4337/9781849803465.00009.
- 31. Malli Sureshbabu, N. et al. (2019) 'Concentrated Growth Factors as an Ingenious Biomaterial in Regeneration of Bony Defects after Periapical Surgery: A Report of Two Cases', Case reports in dentistry, 2019, p. 7046203.
- 32. Mathew, M. G. et al. (2020) 'Evaluation of adhesion of Streptococcus mutans, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: Randomized controlled trial', Clinical oral investigations, pp. 1–6.
- 33. McKernan, S.-M., Ratcliffe, C. and Kuehn, D. (2013) 'Prohibitions, price caps, and disclosures: A look at state policies and alternative financial product use', Journal of Economic Behavior & Organization, pp. 207–223. doi: 10.1016/j.jebo.2013.05.012.
- 34. Mechler, R. et al. (2018) Loss and Damage from Climate Change: Concepts, Methods and Policy Options. Springer.
- 35. Mehta, M. et al. (2019) 'Oligonucleotide therapy: An emerging focus area for drug delivery in chronic inflammatory respiratory diseases', Chemico-biological interactions, 308, pp. 206–215.
- 36. Menon, S. et al. (2018) 'Selenium nanoparticles: A potent chemotherapeutic agent and an elucidation of its mechanism', Colloids and Surfaces B: Biointerfaces, pp. 280–292. doi: 10.1016/j.colsurfb.2018.06.006.
- 37. Panchal, V., Jeevanandan, G. and Subramanian, E. M. G. (2019) 'Comparison of post-operative pain after root canal instrumentation with hand K-files, H-files and rotary Kedo-S files in primary teeth: a randomised clinical trial', European archives of paediatric dentistry: official journal of the European Academy of Paediatric Dentistry, 20(5), pp. 467–472.
- 38. Pannirselvam, M. et al. (2018) Water Scarcity and Ways to Reduce the Impact: Management Strategies and Technologies for Zero Liquid Discharge and Future Smart Cities. Springer.
- 39. Pc, J., Marimuthu, T. and Devadoss, P. (2018) 'Prevalence and measurement of anterior loop of the mandibular canal using CBCT: A cross sectional study', Clinical implant dentistry and related research. Available at: https://europepmc.org/article/med/29624863.
- 40. Perelman, M. (2000) The Invention of Capitalism: Classical Political Economy and the Secret History of Primitive Accumulation. Duke University Press.
- 41. Popova, V. I. (1966) 'Pressing Problems in Improving the Legislation on Administrative Responsibility', Soviet Law and Government, pp. 39–45. doi: 10.2753/rup1061-1940040439.
- 42. Prabakar, J. et al. (2018) 'Comparative Evaluation of Retention, Cariostatic Effect and Discoloration of Conventional and Hydrophilic Sealants A Single Blinded Randomized Split Mouth Clinical Trial', Contemporary clinical dentistry, 9(Suppl 2), pp. S233–S239.
- 43. Rajendran, R. et al. (2019) 'Comparative Evaluation of Remineralizing Potential of a Paste Containing Bioactive Glass and a Topical Cream Containing Casein Phosphopeptide-Amorphous Calcium Phosphate: An in Vitro Study', Pesquisa Brasileira em Odontopediatria e Clínica Integrada, pp. 1–10. doi: 10.4034/pboci.2019.191.61.
- 44. Rajeshkumar, S. et al. (2018) 'Biosynthesis of zinc oxide nanoparticles usingMangifera indica leaves and evaluation of their antioxidant and cytotoxic properties in lung cancer (A549) cells', Enzyme and microbial technology, 117, pp. 91–95.
- 45. Rajeshkumar, S. et al. (2019) 'Antibacterial and antioxidant potential of biosynthesized copper nanoparticles mediated through Cissus arnotiana plant extract', Journal of photochemistry and photobiology. B, Biology, 197, p. 111531.
- 46. Ramadurai, N. et al. (2019) 'Effectiveness of 2% Articaine as an anesthetic agent in children: randomized controlled trial', Clinical oral investigations, 23(9), pp. 3543–3550.
- 47. Ramakrishnan, M., Dhanalakshmi, R. and Subramanian, E. M. G. (2019) 'Survival rate of different fixed posterior space maintainers used in Paediatric Dentistry A systematic review', The Saudi dental journal, 31(2), pp. 165–172.
- 48. Ramesh, A. et al. (2018) 'Comparative estimation of sulfiredoxin levels between chronic periodontitis and healthy patients A case-control study', Journal of periodontology, 89(10), pp. 1241–1248.

- 49. R, H. et al. (2020) 'CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene', Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology, pp. 306–312. doi: 10.1016/j.0000.2020.06.021.
- 50. Rone, J. and Human Rights Watch (Organization) (1999) Famine in Sudan, 1998: the human rights causes.
- 51. Sağlam, Y. (no date) 'Water scarcity and optimal pricing of water'. doi: 10.17077/etd.ty0llmai.
- 52. Samuel, S. R. (2021) 'Can 5-year-olds sensibly self-report the impact of developmental enamel defects on their quality of life?', International journal of paediatric dentistry / the British Paedodontic Society [and] the International Association of Dentistry for Children, 31(2), pp. 285–286.
- 53. Samuel, S. R., Acharya, S. and Rao, J. C. (2020) 'School Interventions-based Prevention of Early-Childhood Caries among 3-5-year-old children from very low socioeconomic status: Two-year randomized trial', Journal of public health dentistry, 80(1), pp. 51–60.
- 54. Sen, A. (2000) 'India and the Bomb', Peace Economics, Peace Science and Public Policy. doi: 10.2202/1554-8597.1038.
- 55. Sen, S. (no date) 'Shadow banking in emerging economies like India', Money, Method and Contemporary Post-Keynesian Economics, pp. 69–82. doi: 10.4337/9781786439864.00013.
- 56. Sharma, P. et al. (2019) 'Emerging trends in the novel drug delivery approaches for the treatment of lung cancer', Chemico-biological interactions, 309, p. 108720.
- 57. Singh, V. P. and Yadava, R. N. (2003) Ground Water Pollution: Proceedings of the International Conference on Water and Environment (WE-2003), December 15-18, 2003, Bhopal, India. Allied Publishers
- 58. Sivasubramanian, P. et al. (2013) 'Hydrochemical characteristics of coastal aquifers of Kadaladi, Ramanathapuram District, Tamilnadu, India', Applied Water Science, pp. 603–612. doi: 10.1007/s13201-013-0108-z.
- 59. Somasundaram, S. (2015) 'Fluoride Content of Bottled Drinking Water in Chennai, Tamilnadu', JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH. doi: 10.7860/jcdr/2015/14691.6594.
- 60. Sridharan, G. et al. (2019) 'Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma', Journal of oral pathology & medicine: official publication of the International Association of Oral Pathologists and the American Academy of Oral Pathology, 48(4), pp. 299–306.
- 61. Sudha, R. P. and Prem Sudha, R. (2016) 'STUDY ON COASTAL ENVIRONMENT AND MARINE WATER PHYSICO-CHEMICAL CHARACTERISTICS OF NAGAPATTINAM PORT- TAMILNADU, INDIA', International Journal of Industrial Chemistry and Biotechnology. doi: 10.21276/ijicab.2016.2.3.2.
- 62. United Nations Development Programme (1994) Human Development Report 1994. Human Development Report.
- 63. Varghese, S. S., Ramesh, A. and Veeraiyan, D. N. (2019) 'Blended Module-Based Teaching in Biostatistics and Research Methodology: A Retrospective Study with Postgraduate Dental Students', Journal of dental education, 83(4), pp. 445–450.
- 64. Vijayashree Priyadharsini, J. (2019) 'In silico validation of the non-antibiotic drugs acetaminophen and ibuprofen as antibacterial agents against red complex pathogens', Journal of periodontology, 90(12), pp. 1441–1448.
- 65. Vijayashree Priyadharsini, J., Smiline Girija, A. S. and Paramasivam, A. (2018) 'In silico analysis of virulence genes in an emerging dental pathogen A. baumannii and related species', Archives of oral biology, 94, pp. 93–98.
- 66. Vishnu Prasad, S. et al. (2018) 'Report on oral health status and treatment needs of 5-15 years old children with sensory deficits in Chennai, India', Special care in dentistry: official publication of the American Association of Hospital Dentists, the Academy of Dentistry for the Handicapped, and the American Society for Geriatric Dentistry, 38(1), pp. 58–59.
- 67. Wahab, P. U. A. et al. (2018) 'Scalpel Versus Diathermy in Wound Healing After Mucosal Incisions: A Split-Mouth Study', Journal of oral and maxillofacial surgery: official journal of the American Association of Oral and Maxillofacial Surgeons, 76(6), pp. 1160–1164.

Table 1: Sample size and frequencies

		Total
Gender	male	811
	female	441
Total		1252

Table 2: Public opinion on Effectiveness of administrative action in the problem of water scarcity

		Public opinion on of administrative problem of water so	Total	
		agree	disagree	
Gender male		452	359	811
	female	231	210	441
Total		590	662	1252

Table 3: Chi-Square Tests - Public opinion on Effectiveness of administrative action in the problem of water scarcity

problem of water searcity							
	Value	df	Asymptotic	Exact Sig.	Exact Sig.		
			Significance	(2-sided)	(1-sided)		
			(2-sided)				
Pearson Chi-Square	7.549 <sup>a</sup>	1	.056				
Continuity Correction <sup>b</sup>	7.227	1	.007				
Likelihood Ratio	7.546	1	.046				
Fisher's Exact Test				.046	.024		
Linear-by-Linear	7.543	1	.046				
Association							
N of Valid Cases	1252						

Table 4: Public opinion on Effectiveness of administrative action in the problem of water scarcity

Public opinion on Effecti administrative action			Total	
agree disagree				
Gender	male	364	452	816
	female	222	217	439
Total		586	669	1255

Table 5: Chi-Square Tests - Public opinion on Effectiveness of administrative action in the problem of water scarcity

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	
Pearson Chi-Square	4.076 <sup>a</sup>	1	.054			
Continuity Correction <sup>b</sup>	3.840	1	.050			
Likelihood Ratio	4.072	1	.044			
Fisher's Exact Test				.044	.025	
Linear-by-Linear Association	4.072	1	.044			
N of Valid Cases	1255					