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Performance Evaluation of Selected Salt Industrial Units in Thoothukudi District

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Abstract:

Salt has been a crucial aspect of human civilisation for centuries, serving as a fundamental food component and contributing significantly to international trade. In ancient times, it was even utilised as a weapon to disrupt the supply of enemies. Recently, a research initiative was undertaken to analyse the performance of select salt industries in the Thoothukudi district, specifically SSV Salt and Victory Salt. The study examined fifteen years of production and sales data, spanning from 2007-08 to 2021-22, while also identifying issues and challenges within the production and marketing of sales.

Key Words: Performance Evaluation, Issues and Challenges, Salt Industrial Units, Thoothukudi district.

1. Introduction:

Salt has been a crucial commodity in human civilisation for centuries, serving as a common ingredient in food and playing a significant role in international trade. In ancient times, salt was even used as a weapon to cut off the supply of enemies. Over time, the production methods for salt have evolved, and it now has about 14000 different uses, including food, industry, and de-icing. Surprisingly, the majority of salt production - around sixty per cent - is used for industrial purposes, while only forty per cent is utilised for various purposes such as food additives. India produces approximately 240 lakh tonnes of raw salt annually, exporting twenty per cent to countries like Japan, China, the US, and Indonesia.

Large quantities of common salt are produced in Tamil Nadu, specifically in Thoothukudi, Nagapattinam, Ramanathapuram, and Kanyakumari. Thoothukudi district, in

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particular, produces a significant amount of edible salt consumed in South India. The region is an ideal location for salt production due to its favourable climate, soil, and availability of brine, which are essential in producing quality salt. The salt production process involves about 50,000 workers, directly and indirectly, covering an area of 25,000 acres. The region produces approximately 25 lakh tonnes of salt annually, starting from the first week or middle of February and ending in September. Salt can only be considered a finished product when water in the salt pan reservoir reaches 24 degrees Baume (density), which typically takes around three weeks to a month to achieve full production. The researcher analyses the performances of selected industries in Thoothukudi district.

2. Profile of Study Area:

Thoothukudi is the largest Salt producing district of Tamil Nadu. It contributes 14% of India's and 70% of Tamil Nadu's salt production. It is well connected by three major routes of transport – roadways, railways, seaways, and airports- and favours the development of the salt industry. Traditional solar salt production is followed in Thoothukudi, which solely depends on the salt pan workers for the workforce. The salt industry in Thoothukudi is one of the unorganised sectors. The labour force in Thoothukudi is highly skilled. Still, the salt pan workers work as daily wage labourers for meagre wages, which also has an important implication on their health status.

3. Review of Literature:

Henry Pandian, Janaki Vimal D. (2021) The salt produced in Thoothukudi has gained a national and International market. Salt workers are engaged in various processes of salt manufacturing in Thoothukudi District. The salt workers are exposed to adversities of environmental conditions and the environment. Reallocating sufficient resources should guide the re-orientation of health care service delivery. This will likely ensure essential health services and better care for the salt workers. The greater focus on prevention and the early management of health problems will likely reduce the need for complicated specialist care and promote health equity by improving the economy and society, reducing discrimination, and empowering communities to improve their health conditions. The present conditions of salt workers are similar to other industrial workers. Working in a saltpan is a hazardous occupation. The study reveals that go per % of salt workers are affected by occupational diseases, and

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37.77% suffer from eye and skin diseases. The salt workers believe they do not have good medical facilities for treading occupational diseases.

Finny Christa Doss et al. (2022) Study reveals that the salt industry requires energetic young and middle-aged people of both sexes on the labour force. Most salt workers earn income from Rs.8,000- Rs11,000 per month. The majority of the salt workers are getting weekly wages. The whole salt workers' community living is based on their weekly wages. Most salt workers' total family monthly income ranges from Rs.30,000 to 40,000. The Gini concentration ratio was estimated, and the Gini concentration ratio is 0.346. This confirms that the income inequality among salt workers is low. Overall, the data suggest that the income distribution among the income groups of households does not show a wider variation.

4. Statement of Problem:

Salt is a common natural resource that humans overlook due to its abundance. However, its true value is only appreciated when it becomes scarce, possibly exceeding gold. India is fortunate to have a plentiful supply of this valuable resource, especially in Tamil Nadu, which has a coastline spanning approximately one thousand kilometres. Thoothukudi, in particular, has harnessed this potential, accounting for eighty per cent of Tamil Nadu's salt production. The researcher initiated to analyse the performance of selected salt industries in the study area.

5. Objectives of the study:

- → To analyse the production and sales of salt by the selected industries in the study area.
- → To understand the issues in the production and marketing of salt in the Thoothukudi district.

6. Null and Alternative Hypotheses:

H_O: There is no significant association between the profile variables of respondents and their opinions about the issues in the production and marketing of salt.

H_1 There is no significant association between the profile variables of respondents and their opinions about the issues in the production and marketing of salt.

7. Scope of the study:

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Thoothukudi district is the largest salt producer in Tamil Nadu. As part of a recent study, two salt production units were randomly selected from the district to analyse their production and sales. The study also examined any issues related to these industries.

8. Methodology:

This study focuses on the production and sales of salt by the selected industrial units in the study area. The researcher developed a comprehensive questionnaire based on the study's objectives and previous research to ensure accuracy and relevance. Statistical experts and salt production unit owners evaluated the survey for validity during a pre-test phase. Based on their feedback, the questionnaire was refined to improve its effectiveness. The data collection areas for the study were randomly selected as Thoothukudi. The questionnaires were distributed to the targeted population in this area, and the responses were collected and analysed accordingly.

9. Limitations:

→ The sampling method used was Judgmental sampling; therefore, the shortcomings of the non-probability sampling may also apply to this study.

→ The research is mostly based on primary data, and the validity of the research depends upon the truthfulness of the responses from the selected respondents

10. Data Analysis and Interpretation:

Table 1

Salt Production by the sample units (in '000 tonnes)

Sl.No	Year	SSV Salt	Trend	Index	Victory Salt	Trend	Index
1.	**2007 - 08**	17.21	-	-	23.04	-	-
2.	**2008 - 09**	16.18	-5.98	-5.98	25.67	11.41	11.41
3.	**2009 - 10**	17.29	6.86	0.46	27.39	6.70	18.88
4.	**2010 - 11**	18.43	6.59	7.09	29.32	7.05	27.26
5.	**2011 - 12**	18.86	2.33	9.59	28.43	-3.04	23.39
6.	**2012 - 13**	19.54	3.61	13.54	30.29	6.54	31.47
7.	**2013 - 14**	21.43	9.67	24.52	33.53	10.70	45.53
8.	**2014 - 15**	24.53	14.47	42.53	35.17	4.89	52.65
9.	**2015 - 16**	22.67	-7.58	31.73	39.24	11.57	70.31

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10.	**2016 - 17**	24.83	9.53	44.28	42.57	8.49	84.77
11.	**2017 - 18**	25.17	1.37	46.25	43.18	1.43	87.41
12.	**2018 - 19**	27.68	9.97	60.84	45.32	4.96	96.70
13.	**2019 - 20**	24.14	-12.79	40.27	31.48	-30.54	36.63
14.	**2020 - 21**	25.86	7.13	50.26	46.22	46.82	100.61
15.	**2021 - 22**	28.51	10.25	65.66	49.37	6.82	114.28

(Source: Secondary Data)

In the study period, Table 1 displays the salt production performances of SSV salt and Victory Salt. In terms of SSV salt, the year 2014-15 had the highest salt production recorded, while 2019-20 had the greatest decline in growth. The SSV salt index showed a constant increase in production performance. When analysing Victory Salt's production growth, it was found that the highest increase was observed in 2020-2021 compared to the previous year. On the other hand, the largest decrease in productivity growth was recorded in 2019-2020. These figures are considered when evaluating the company's production in the initial year.

Table 2

Salt Sales by the sample units (in '000 tonnes)

Sl.No	Year	SSV Salt	Trend	Index	Victory Salt	Trend	Index
1.	**2007 - 08**	17.42			23.58		
2.	**2008 - 09**	16.36	-6.48	-6.48	25.28	7.21	7.21
3.	**2009 - 10**	17.18	4.77	-1.47	28.04	10.92	18.91
4.	**2010 - 11**	18.87	8.96	8.86	30.01	7.03	27.27
5.	**2011 - 12**	19.31	2.28	11.55	29.10	-3.03	23.41
6.	**2012 - 13**	19.89	2.92	15.10	31.01	6.56	31.51
7.	**2013 - 14**	21.94	9.34	27.63	34.32	10.67	45.55
8.	**2014 - 15**	26.11	15.97	53.12	36.00	4.90	52.67
9.	**2015 - 16**	23.21	-12.49	35.39	40.17	11.58	70.36
10.	**2016 - 17**	24.42	4.95	42.79	43.58	8.49	84.82
11.	**2017 - 18**	23.77	-2.73	38.81	45.20	3.72	91.69
12.	**2018 - 19**	28.33	16.10	66.69	46.39	2.63	96.73

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13.	**2019 - 20**	24.71	-14.65	44.56	32.22	-30.55	36.64
14.	**2020 - 21**	26.47	6.65	55.32	47.31	46.83	100.64
15.	**2021 - 22**	29.18	9.29	71.88	49.54	4.71	110.09

According to Table 2, the study period saw salt sales in sample units. Specifically, sales of SSV salt showed a maximum increase in 2018-19 compared to the previous year but a maximum decline in 2019-20. There has been a consistent increase in SSV salt sales, except for 2008-09. About the Victory salt, a maximum increase in sales over the previous year was recorded in the year 2020 – 21and the reduction in sales was in 2019 – 20.

Table 3

Problems of Salt Producers in the study area – Ranking

Variables	Mean	S.D	C.V	"t" value	Rank
Long distribution channel	3.414	1.692	49.568	14.374	**VIII**
Fluctuations in price	4.481	1.426	31.830	20.227	**I**
No fair return	3.658	1.571	42.937	16.567	**VI**
Fluctuation in demand	4.128	1.604	38.859	18.867	**II**
Monsoon failure	3.934	1.420	36.099	19.618	**IV**
High cost of labour	3.640	1.522	41.815	16.910	**VII**
Delay in salt harvesting	4.020	1.597	39.728	17.799	**III**
Natural calamities	3.354	1.740	51.890	14.383	**IX**
Poor storage facility	3.672	1.415	38.529	18.592	**V**
Frequent strikes	3.293	1.525	46.319	13.908	**X**

Table 3 displays a ranking of the opinions of salt producers concerning the challenges and issues encountered during salt production and marketing. The first rank is allotted to the variable "Fluctuations in price" with a "t" value of 20.227, the second rank is given to the statement" Fluctuation in demand" with a "t" value of 18.867 and the third rank is assigned to the variable "Delay in salt harvesting" with a "t" value of 17.799. Besides, the fourth rank was captured by the variable "Monsoon failure", and the fifth rank was allotted to the variable "Poor storage facility".

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Table 3

Tests of Between-Subjects Effects					
Dependent Variable: Problems of Salt Producers in the study area.					
Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Corrected Model	611.525[a]	22	27.797	68.500	.000
Intercept	5085.041	1	5085.041	12531.261	.000
Gender	87.797	4	21.949	54.091	.000
Age	210.155	4	52.539	129.473	.000
Error	536.452	122	.406		
Total	**12719.000**	**145**			
Corrected Total	1147.978	144			
a. R Squared = .533 (Adjusted R Squared = .525)					

Table 3 discloses the two-way ANOVA test results between the profile of the respondents and respondents' opinions about the problems in the salt industries. "F" values for gender and age exceed the threshold level. The corresponding significance value is less than 0.01 at a 99% confidence level. Hence it is concluded that the null hypothesis, "There is no significant association between the profile variables of respondents and their opinions about the issues in the production and marketing of salt", is rejected and accepted the alternative hypothesis.

11. Findings:

- → In terms of SSV salt, the year 2014-15 had the highest salt production recorded, while 2019-20 had the greatest decline in growth.
- → The SSV salt index showed a constant increase in production performance.
- → In terms of Victory Salt, it was found that the highest increase was observed in 2020-2021 compared to the previous year. On the other hand, the largest decrease in productivity growth was recorded in 2019-2020.
- → Sales of SSV salt showed a maximum increase in 2018-19 compared to the previous year but a maximum decline in 2019-20. There has been a consistent increase in SSV salt sales, except for 2008-09.
- → In regards to Victory salt, there was a notable rise in sales during the 2020-21 year compared to the previous year, while a decline in sales was observed during the 2019-20 year.

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→ There is a significant association between the profile variables of respondents and their opinions about the issues in the production and marketing of salt in the study area.

12. Conclusion:

Salt production has been on the increase almost in all countries. The growth rate of salt production in the study area is appreciable. The production figures of selected salt industries in the Thoothukudi district fluctuate slightly due to natural conditions like rainfall, humidity in the air, climatic conditions, temperature and the like. The production of salt by the cooperative societies is very meagre in Thoothukudi. Even though the district is the largest salt producer in Tamil Nadu, the salt manufacturers need help with several problems, including high competition from Gujarat, unfavourable weather and rain, labour problems and the like. Since the production cost is high compared to Gujarat, their profit margin is less and also fluctuates. Irrespective of the above, salt producers have been doing their production work for generations. Hence, they have developed a sentimental attachment towards the production and marketing of salt in the Thoothukudi District.

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