

Traditional Food Systems in Transition - Revival Strategies with Reference to Andhra Cuisine

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ABSTRACT

Traditional food systems are undergoing rapid transformation due to globalization, industrialization, and urbanization, often resulting in the erosion of cultural heritage, biodiversity, and sustainable food practices. The study focuses on Andhra cuisine as a case to examine the challenges and strategies for reviving traditional food systems. The primary aim is to analyse consumption patterns, consumer satisfaction, infrastructure support, and the effectiveness of revival programs in sustaining traditional cuisine. "A mixed-method research design is employed, combining both quantitative and qualitative approaches", with data collected from 300 respondents across different regions of Andhra Pradesh through structured questionnaires. Statistical techniques such as mean, standard deviation, correlation, and regression were applied using SPSS to test hypotheses and identify relationships between variables. The findings reveal that while taste, texture, and ingredient quality significantly influence consumer satisfaction, availability and affordability of traditional ingredients remain major barriers. Infrastructure shows a weak but significant relationship with cuisine development, suggesting that revival requires multifaceted efforts beyond physical facilities. The study concludes that strengthening policy support, promoting community initiatives, and leveraging digital platforms are critical to reviving Andhra cuisine, ensuring cultural preservation, food sovereignty, and sustainable consumption.

Keywords: Traditional food systems, Andhra cuisine, Consumer satisfaction, Globalization, Infrastructure, Sustainable food practices, Revival strategies.

INTRODUCTION:

Food systems are typically viewed as the relationship of actors and activities that engage with each other, "in an ecological, social, political/cultural, and economic space". Growing, processing, distributing, consuming, and disposing of foods involve provision of inputs to waste and recycling (Gaitan-Cremaschi, et al., 2019). One promising lever to a more sustainable food system has been suggested as ecological intensification (EI). Some food systems based on agro ecological production systems, and a few of organic farming types, with the support of alternative food networks, (including marketing cooperatives, public food procurement programmes and farmer markets), have been developed that hold potentially useful traits to the existing unsustainable dominant food systems (Gaitan-Cremaschi, et al., 2020).

Food is both a nutrition source and a cultural, an issue problem and an identity, a social organization issue. Over the years and specifically under a social aspect, traditional food systems have established the basis of livelihoods, health and cultural heritage in the community. These systems are founded on the indigenous knowledge and practice and adaptation to

ecological challenges as well as proven sustainable practice that have helped communities to survive and thrive over the years. The characteristics of the traditional food systems are local production, dependency on the biodiversity, seasonal adaptability, and the passing of the intergenerational knowledge (Johnstone, et al., 2023). Traditional knowledge is human nature relationships that view food as a subset of a larger, more important whole; and, critically, food is not a product but must be treated as a worldview, in a sense that does not distinguish between environment, health, culture and spirituality. Therefore, in the 21st century and, especially, cultural change is causing rapid, and often disruptive, transformation in the conventional food system in the name of globalization, industrialization, urbanization, changes in technologies, and climate change (Pretty, et al., 2020).

The food systems in transition term are used with reference to the transitions between the traditional modes of food production, processing, distribution and consumption to the modern, globalized and in many cases industrialized forms. It is transitional processes that are currently in the process at a global level, either the rice based agrarian systems of the Asian region, the

millet and pulse dietary systems of Africa, or the maize and tuber food systems of Latin America (Pereira, et al., 2020). Such views on food systems transformations undermine developmental models that underpin access to food, better market integration and economic growth but raise issues of nutrition security, cultural homogenization, erosion of biodiversity and sustainability. Scholars are increasingly arguing that, with the emergence of modernization and globalization, there is the possibility of the use of traditional food systems in a democratic manner and in so doing, opportunities and gains and threats are manifested (Baker, et al., 2020).

The decline of the traditional food systems is not simply a loss of the culture but also threat to global food security and ecological sustainability. In most instances, native crops and food cultures observe the causes behind the climate adjustment, insect control, and careful distribution of resources. Indicatively, the practices of traditional dryland farming, seed saving, and intercropping are more climate resilient as compared to industrial monoculture systems. Moreover, the trading of the traditional means of livestock raising and crop production implies the loss of genetic resources that can be employed in the new problems of food security in the future (Elechi, et al., 2023). There is one further side effect of food standardization, which has created the term nutrition transition, to explain the increased incidence of obesity, diabetes, and circulatory diseases in developing nations. Simultaneously, the importance of the revival and mainstreaming of the traditional food systems into the practice contexts of the contemporary environments is increasingly recognized. The processes of revival are produced on different levels such as policies (at the national, provincial, and municipal level), grassroots, and market-based initiatives (Weber, et al., 2020). Their role in the Sustainable Development Goals (SDGs) is increasingly being acknowledged by more and more governments and international organizations in the revitalization of traditional foods, especially in terms of their achievement of SDGs aiming at zero hunger, good health, sustainable consumption, and climate action. As an example, the publication of millets that India popularized to promote to mark the International Year of Millets 2023 focuses on the desire of today to reuse mostly forgotten crops that are known to be rich in nutritional and ecosystem benefits. On the same note, farm-to-table and organic food campaigns in an increasing number of areas keep reestablishing the ties between consumers and local, seasonal, and traditional foods (Trotter, et al., 2023).

Traditional food systems cultural aspects should also be part of the revival strategies. Food is identity, memory and belonging, and, on the other hand, the attempts to preserve the traditional practices might be regarded as incomplete without reference to culinary traditions, rituals and festivals. The cultural role of traditional foods can be maintained through community-based programs like seed banks, food festivals and culinary tourism; but can also offer economic reward to the community. There has been an attempt to share knowledge systems across

age groups including schools, community kitchens and online platforms to develop an awareness of traditional foods among the younger generations so that it can learn to embrace traditional foods in their intake and appreciation (Guiné, et al., 2021). New opportunities to revitalize traditional food systems are also created by developments in technology and digital media. Small farmers and traditional food producers can now engage a bigger portion of the market through e-commerce platforms, and more widespread mobile applications are telling consumers about the nutritional value and cultural importance of local foods (Zonta, & Zeidler, 2025). Social media awareness campaigns are generating interest in forgotten crops and recipes that are in turn being re-invented in cities. In the meantime, scientific studies of the nutritional and ecological virtues of traditional foods also supply empirical evidence of policy and consumer transitions to sustainable diets. The obstacles to reviving the old food systems are also there. It is difficult to scale as market entry and exit barriers, lack of infrastructure, poor policy support and market monopolization by international agri-businesses exist (Suarez, & Adibi, 2025).

The study is significant in the examination of the obstacles and recovery plans that are associated with the conventional food systems, namely Andhra food. The threat facing the majority of the traditional food systems is that it ends up in obscurity as the globalization and modernization affect the rural food practices. The Andhra cuisine with all of its local preferences and tradition is at risk of being overwhelmed by the culture of fast food and large industrial food systems. The study tries to examine how these systemic food practices might be revived, sustained and adapted to modern contexts. It underlines the need to not only maintain the cultural identity through the assistance of food but also promote sustainable cultures which could be useful in sustaining the local economy and health of the residents. The study aims to offer practical ways in which Andhra cuisine may be revitalized by analyzing its unique ingredients, techniques and practices that look forward to contributing to the broader discourse of food sovereignty and how traditional foods, using their knowledge, can impact the future food systems.

CONCEPTUAL REVIEWS

➤ Traditional Food Systems

The traditional food systems were characterised as the complex of cultural, ecological, and economic activity (food production, preparation, and consumption) that sustained most societies over the ages (Feldman, & Wunderlich, 2023). Such systems were submerged in local knowledge and biodiversity, representing a special and sustainable style of food security (Johns, et al., 2023). However, the system of traditional food underwent amazing transformations over the past few decades due to the process of globalisation and industrialisation, and the spread of western eating habits (Kennedy, et al., 2022). The shift to mass-produced and convenience-based food resulted in the extinction of local food traditions and gave rise to feelings of anxiety over the loss of culture, the environment, and health

(Akinola, et al., 2020). These changes were particularly evident in the context of states such as Andhra Pradesh, where a culinary culture is replaced by standardised foreign food (van Trung, & Quoc Dao, 2024). To this end, one examined the insider motivations of such transformations in order to develop the revival strategies that could bring back the importance of the traditional food systems (Dey, & Bharadwaj, 2024, June).

This reinvention of the old systems became the interest over the last several years with rising worry about sustainability, food sovereignty, and cultural preservation (Zocchio, et al., 2021). It is proven that the local food activities, which became a part of the modern food system, contributed to amplifying greater biodiversity, nutritional security, and climate resiliency (Rapiya, et al., 2024). In the case of Andhra cuisine, the modification of traditional food systems implied the promotion of native wisdom of local food, cooking methods, and sharing of food across communities (Singh, et al., 2020). Aiding smallholder farmers and food economies on a local level is regarded as a crucial element of the revival process (Kapoor, et al., 2024). The proper revival of Andhra cuisine helped not only to conserve the regional cuisine but also encouraged sustainable farming methods and ensured the solution of the health problem of people. The re-establishment of Andhra cuisine provided a great link to the rest of the world in the quest to re-establish ecological balance and food security as communities were reconnected with their traditional food systems (Haynes, et al., 2025).

➤ **Andhra Cuisine**

Berger, et al., (2025) stipulated that Andhra food, characterised by the use of the most vivid spices, rice, and specially developed cooking methods, was an important cultural and gastronomical legacy of the South Indian world (Bordoloi, & Das, 2025). Historically, the food system in Andhra Pradesh have been closely connected with the practices of the agricultural industry in the area, as the standard of the diet was made out of native crops, including millets, legumes, and several types of rice (Ashoka, et al., 2023). Nevertheless, the new trends in the production and consumption of food, due to globalisation and commercialisation of food, threatened Andhra cuisine to be marginalised in recent decades (Shah, et al., 2025). The increased demand for processed and fast foods resulted in the deterioration of traditional cooking techniques, recipes, and ingredients that characterised Andhra cuisine (Kumar, et al., 2022). This change in the conventional food systems raised an issue regarding the loss of cultural identity and loss of local food biodiversity (Antani, & Mahapatra, 2022). The process of Andhra cuisine revival was therefore important not only to retain the cultural value but also to encourage the practice of sustainable and healthy eating based on the local knowledge (Ankita, & Seth, 2025).

The renewal of cuisine required specific solutions that tackled both the conservation of traditional culinary practices and its modernisation in modern food systems. The importance of the local farmers, native food

production, and local community-based activities in supporting sustainable food systems in Andhra Pradesh was highlighted (Diwan, & Kumar, 2024). Helping the traditional food producers, who included small farm cultivators of native grains and vegetables, was considered a critical part in the restoration of cuisine (Dharmalingam, et al., 2021). In addition, the revitalisation focused on the reintroduction of lost ingredients and cooking methods. Documenting and sharing traditional recipes and the cultural backgrounds allowed for closing the generation gap and inviting younger generations to reaffirm their connection with cultural cuisine (Del Soldato, & Massari, 2024). Furthermore, the innovative approach of incorporating the Andhra cuisine into urban and global food markets via food festivals and innovative culinary tourism was considered one of the most prominent opportunities to support the addition of food traditions to the further recognition and conservation in the region (Prasad, et al., 2024). Under these intricate strategies, Andhra cuisine found itself in a position to be reborn and ensured its sustainability and cultural suitability in the new world (Pugra, et al., 2025).

The study on causal factors and dynamics of the shifting of the traditional food systems, i.e. in regard to Andhra cuisine is also seriously deficient. Although existing study has been used to indicate the impact of globalization, industrialization, and the introduction of western food habits to local food cultures, not much has been done in the area of inquiring on the insiders accounts of the changes in addition to community-based factors causing such changes. Second, although there is an understanding that the revival of traditional food systems might be beneficial in terms of biodiversity, health and food security, there is a lack of study carried out on the measures that can be taken to ensure a balance is achieved between preservation of culinary heritage and the demands of modern food systems. The role of the small-holder farmers and the local economies in this process has also been researched particularly on how it can be integrated into the sustainable food practice. In addition, the study available regarding the generation gap being closed by means of innovative documentation and food tourism practices is shallow and hence the need to fill this critical gap in the quest to make the traditional cuisine sustainable in the region.

RESEARCH METHODOLOGY

The research design involves a mixed approach, integrating both quantitative and qualitative designs to arrive at a comprehensive view of the dynamics of Andhra cuisine. The study takes place in the state of Andhra Pradesh, India, and it addresses various stakeholders, participants, and representatives of the food system. The purposive sampling design embraces the selection of relevant people; individuals who provide significant data concerning traditional food systems and how these systems change. The study describes and explores, presenting not only a status quo but also possible future paths along which Andhra cuisine can be restored. The information gathers from both primary and secondary sources, and the sample used includes 300

respondents. The study tool is a structured questionnaire that contains close-ended and open-ended questions to obtain full information regarding the factors that affect food habits, consumer satisfaction, and the efficacy of the currently implemented revival measures. The type of place, food taste and texture, infrastructure, facilities, and gaps that are found with recommendations are all independent variables. Consumer satisfaction, cuisine

development, perceived effectiveness of the strategies that revive it, and consumption patterns serve as the dependent variables. Data analysis involves statistical programs like Microsoft Excel and SPSS 27, and other techniques such as mean, standard deviation, and regression are employed to identify patterns, relationships, and trends within the data.

Research objectives are as follows:

- [1] To identify the consumption pattern of people at different places that include domestic and public places.
- [2] To examine the existing infrastructure and other facilities available for the consumers and to assess & analyse the development of Cuisine through various channels.
- [3] To analyse the effectiveness of the program objective and study the areas of improvisation.

RESULTS

Table 1: Demographic Variables

Sr. No.	Demographic Characteristics		N	%
1	Gender	Female	145	48.3
		Male	155	51.7
2	Age Group	Below 20 years	44	14.7
		21-30 years	52	17.3
		31-40 years	53	17.7
		41-50 years	58	19.3
		51-60 years	44	14.7
		Above 60 years	49	16.3
3	Education Level	Primary school	39	13
		Secondary school	54	18
		Higher secondary (Intermediate/ PUC)	48	16
		Undergraduate degree	42	14
		Postgraduate degree	55	18.3
		Doctorate/ Professional degree	62	20.7
4	Occupation	Employed	57	19
		Homemaker	49	16.3
		Retired	46	15.3
		Self-employed	61	20.3
		Student	35	11.7
		Unemployed	52	17.3
5	Monthly Household Income	Below Rs. 10,000	58	19.3
		Rs.10,001- Rs.25,000	49	16.3
		Rs.25,001-Rs.50,000	56	18.7
		Rs.50,001-Rs.75,000	43	14.3
		Rs.75,001-Rs.1,00,000	51	17
		Above Rs.1,00,000	43	14.3
6	Place of Residence	Metropolitan City	81	27
		Rural area	68	22.7
		Semi - urban area	78	26
		Urban area	73	24.3
7	Region within Andhra Pradesh	Coastal Andhra	108	36
		Rayalaseema	108	36
		Uttarandhra (North Andhra)	84	28
8	Frequency of Traditional Food Consumption	Daily	68	22.7
		Monthly	62	20.7
		Occasionally	67	22.3
		Rarely	50	16.7
		Weekly	53	17.7
9	Preferred Eating Place	Community functions	47	15.7
		Home	77	25.7
		Restaurants/Hotels	56	18.7

10	Access to Traditional Ingredients	Street food outlets	57	19
		Traditional food festivals	63	21
		Available but expensive	80	26.7
		Easily available in local markets	63	21
		Not available	86	28.7
11	Mode of Learning Traditional Cooking	Rarely available	71	23.7
		Cooking classes	61	20.3
		Family (Parents/ Grandparents)	80	26.7
		Online Sources (Youtube, blogs, apps)	87	29
		Self- learning / Trial & error	72	24

The demographic table 1 presented offers a comprehensive overview of the 300 respondents surveyed. In terms of gender, the sample is nearly evenly split, with 48.3% female and 51.7% male participants. Regarding age distribution, the largest proportion (19.3%) falls within the 41–50 years age group, followed by 31–40 years (17.7%) and 21–30 years (17.3%), indicating a diverse adult population. Educationally, a significant portion of respondents hold advanced qualifications, with 20.7% having a doctorate or professional degree and 18.3% holding postgraduate degrees, suggesting a relatively well-educated sample.

In terms of occupation, respondents are spread across various categories, with self-employed (20.3%) and employed (19%) groups being the most represented. Household income distribution is relatively balanced, with a notable proportion (19.3%) earning below ₹10,000, and others spread across higher income brackets. Respondents come from diverse residential areas, including metropolitan cities (27%), urban (24.3%), semi-urban (26%), and rural areas (22.7%), ensuring regional diversity.

Geographically, Coastal Andhra and Rayalaseema each contribute 36% of respondents, while Uttarandhra accounts for 28%. When it comes to traditional food consumption, habits vary—22.7% consume it daily, while others consume it weekly, monthly, or occasionally, reflecting varied lifestyle patterns. Home (25.7%) is the most preferred eating place, though restaurants, street food outlets, and food festivals are also popular. Access to traditional ingredients remains a challenge, with 28.7% stating it is not available and 26.7% saying it is expensive. Learning traditional cooking is mainly through online sources (29%), family (26.7%), and self-learning (24%), highlighting the blend of modern and traditional knowledge transmission

RESULTS BASED ON OBJECTIVES AND HYPOTHESIS

Objective 1: To identify the consumption pattern of people at different places that includes domestic and public places.

H1: There is a significant difference in the consumption patterns of people between domestic and public places.

Table 2: Paired Samples Statistics

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Type of place	24.2267	300	4.66704	.26945
	Consumption pattern	22.4067	300	5.32376	.30737

Table 2 of the Paired Samples Statistics provides a concise summary of the descriptive data for the Type of Place and Consumption Pattern variables, which were derived from the replies of 300 participants. On average, participants gave Type of Place a slightly higher rating than Consumption Pattern (mean score of 24.23 vs. 22.41), suggesting that participants valued Type of Place more highly overall. Both sets of replies display a considerable level of variety, with Type of Place showing a standard deviation of 4.67 and Consumption Pattern showing a standard deviation of 5.32. The latter collection of responses shows significantly larger variation. Thanks to the big sample size, the mean estimations are very precise (standard error of the mean = 0.269 for Type of Place and 0.307 for Consumption Pattern). To establish if the disparity between the two means is statistically significant, additional inferential tests, like a paired samples t-test, can be built upon this descriptive analysis.

Table 3: Paired Samples Correlations

Paired Samples Correlations					
			N	Correlation	Sig.
Pair 1	Type of place & Consumption pattern		300	.107	.064

Table 3 shows the Paired Samples Correlations, which are based on data from 300 participants, and it, show the relationship between Type of Place and Consumption Pattern, two related variables. With a correlation of just 0.107, it can see that the two variables are only weakly positively correlated with one another. This indicates that there is a weak

but noticeable correlation between the values of Type of Place and Consumption Pattern, with the former tending to rise somewhat as the latter rises. The p-value, or significance value, is 0.064, which is somewhat greater than the generally acknowledged 0.05 level of statistical significance. Statistical analysis at the 5% level has shown no statistically significant association between Type of Place and Consumption Pattern, suggesting that the observed correlation may be attributable to chance alone. Finally, although the data does show a slight positive correlation between the two variables, it is not strong enough to draw any meaningful or statistically significant.

Table 4: Paired Samples Test

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Type of place - Consumption pattern	1.82000	6.69405	.38648	1.05943	2.58057	4.709	299	.000

Table 4 of the Paired Samples Test examines the relationship between Type of Place and Consumption Pattern using information from 300 individuals. With a mean difference of 1.82 points, participants generally did better on Type of Place than Consumption Pattern. A standard error of 0.39 and a standard deviation of 6.69 for the differences indicate a substantial spread in the variability of individual differences. It is safe to assume that the actual population average difference falls somewhere within the 1.06 to 2.58 range of the 95% confidence interval for the mean difference. Statistical analysis shows a significant difference with a t-value of 4.709 and a p-value of .000 (less than .05). This suggests that the discrepancy between consumption pattern and type of place is probably not coincidental but rather significant.

Objective 2: To identify the level of satisfaction of the consumers pertaining to facts like Food taste, textures, innovation, availability of ingredients ease of preparation and skills required to prepare the food.

H2: There is a significant relationship between consumer satisfaction and factors such as food taste, texture, innovation, ingredient availability, ease of preparation, and required culinary skills.

Table 5: Descriptive Statistics

Descriptive Statistics			
	Mean	Std. Deviation	N
Various Factors (Food taste, texture, etc.)	24.6733	5.55363	300
Consumer satisfaction	22.5967	4.92560	300

Table 5 of the descriptive statistics presents a synopsis of the 300 participants' replies to the two variables: Consumer Satisfaction and Various Factors (including food texture, flavor, and appearance). Participants placed a somewhat higher value on the significance or quality of various food-related aspects than their overall pleasure as consumers, as indicated by the somewhat higher mean score for Various Factors (24.67) compared to Consumer pleasure (22.60). There is a moderate amount of diversity in the replies from participants, as seen by the 5.55 standard deviation for Various Factors and the 4.93 standard deviation for Consumer Satisfaction. Consistent patterns across replies are suggested by the very near standard deviations for both variables, with Various Factors showing slightly more fluctuation. These descriptive findings point to a possible discrepancy between the perceived quality of various food-related aspects and overall pleasure, implying that excellent ratings for individual components do not necessarily transfer into equally high levels of customer happiness.

Table 6: Correlations

Correlations			
		Various Factors (Food taste, texture, etc.)	Consumer satisfaction
Various Factors (Food taste, texture, etc.)	Pearson Correlation	1	.301**
	Sig. (2-tailed)		.000
	N	300	300
Consumer satisfaction	Pearson Correlation	.301**	1
	Sig. (2-tailed)	.000	
	N	300	300
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 6 displays the correlations between several factors (such as food texture, flavor, etc.) and consumer satisfaction, obtained from 300 participants. Having a Pearson correlation coefficient of 0.301 between the two variables suggests a moderately positive link. The data shows that customers are more satisfied when food-related elements are of higher quality or rated higher. Statistical significance at the 1% level is indicated by the p-value (Sig. 2-tailed) of .000, which is significantly lower than the 0.01 criterion. Due to this, it is highly improbable that the observed association is purely coincidental. Improved food flavor and texture is moderately associated with higher levels of customer satisfaction, albeit the correlation is weak. Businesses who want to do a better job for their customers can benefit from this knowledge because it shows how improving certain aspects of a product can increase happiness. The relative importance and potential influence of each aspect might be better understood with additional research.

Objective 3: To examine the existing infrastructure and other facilities available for the consumers and to assess & analyze the development of Cuisine through various channels.

H3: The development of cuisine through various channels is significantly influenced by the existing infrastructure and facilities available to consumers.

Table 7: Model Summary

Model Summary				
Model	R	R Square	Adjusted Square	Std. Error of the Estimate
1	.119a	.014	.011	4.69432
a. Predictors: (Constant), Infrastructure and facilities				

Model Summary, Table 7, displays the results of a linear regression analysis that used Infrastructure and Facilities as the independent variable and Consumer Satisfaction or a comparable outcome as the dependent variable. An extremely weak positive correlation ($R=0.119$) indicates that the relationship between this predictor and outcome is not very strong. The R Squared value of 0.014 indicates that Infrastructure and Facilities barely explain 1.4% of the variation in the dependent variable. The Adjusted R Square, which accounts for the number of predictors in the model, is significantly lower at 0.011, further supporting the model's poor explanatory power. According to the standard error of the estimate, the observed values typically differ from the regression line by an average of 4.694 standard deviations. The model indicates that other factors are more important in determining the outcome, and that Infrastructure and Facilities, although having a minor positive association, is not a strong predictor.

Table 8: ANOVA

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	93.880	1	93.880	4.260	.040b
	Residual	6566.906	298	22.037		
	Total	6660.787	299			
a. Dependent Variable: Cuisine development						
b. Predictors: (Constant), Infrastructure and facilities						

A significant threshold for the regression model that predicts the development of cuisine utilizing infrastructure and amenities is provided in Table 8 of the analysis of variance (ANOVA). After adding up the regression result (93.88) and the residual sum of squares (6566.91), we get a total of 6660.79. There is just one degree of freedom for model regression and two hundred and ninety-eight degrees of freedom for residuals. An F-value of 4.260 is related with a p-value (Sig.) of 0.040. At the 5% threshold of significance, the result is deemed significant because the p-value is less than 0.05. There is a strong correlation between Infrastructure and Facilities and Cuisine Development, even if the overall effect size is small ($R^2 = 0.014$). To summarize, the ANOVA test shows that the predictor is a significant part of the model, but a lot of the variation in the evolution of cuisine is still not explained, thus other important elements must be involved.

Table 9: Coefficients

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.820	1.169		22.092	.000
	Infrastructure and facilities	-.102	.050	-.119	-2.064	.040
a. Dependent Variable: Cuisine development						

Table 9 of the coefficients gives a detailed breakdown of how infrastructure and facilities affected the development of cuisine. A standard error of 0.050 is associated with the unstandardized coefficient (B) for Infrastructure and Facilities,

which is -0.102. So, everything else being equal, it may anticipate a 0.102 unit drop in the Cuisine Development score for every 1 unit increase in the Infrastructure and Facilities score. With a beta value of -0.119, the standardized coefficient indicates a minor negative impact. When tested at the 5% level of significance, the t-value of -2.064 and the p-value (Sig.) of 0.040 are very significant. Surprisingly, the model indicates a tiny but significant negative link, which goes against the prevalent belief that improved infrastructure can facilitate the growth of cuisine. There can be confounding variables or environmental factors impacting the relationship if this conclusion seems paradoxical. Assuming no changes to infrastructure or facilities, the predicted score for culinary development is 25.820.

Objective 4: To analyze the effectiveness of the program objective and study the areas of improvisation.

H4: The program objectives are effective in achieving desired outcomes, but there are statistically significant areas that require improvisation.

Table 10: Model Summary

Model Summary					
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.114a	.013	.010		4.93781
a. Predictors: (Constant), Identified gaps and suggested improvements					

Table 10 of the Model Summary presents the results of a linear regression study. The predictor in this analysis is Identified Gaps and Suggested Improvements, and the dependent variable is Cuisine Development or a similar outcome. The R-value of 0.114 indicates a very weak positive correlation between the predictor and the result. The R Squared score of 0.013 indicates that Identified Gaps and Suggested Improvements only explains 1.3% of the variation in the dependent variable. The variable's low explanatory power is further supported by the fact that the Adjusted R Square drops to 0.010 after accounting for all model predictors. On average, the gap between the model's predicted values and the observed values is 4.94 standard errors of the estimate. All things considered, the model's predictions show that Identified Gaps and Suggested Improvements isn't very good at predicting the outcome variable, and that other factors might be more important in explaining the variance.

Table 11: ANOVA

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	95.171	1	95.171	3.903	.049b
	Residual	7265.825	298	24.382		
	Total	7360.997	299			
a. Dependent Variable: Perceived effectiveness and outcome indicators						
b. Predictors: (Constant), Identified gaps and suggested improvements						

Table 11 of the ANOVA summarizes the significance of the regression model that employs the discovered gaps and suggested improvements as the predictor to forecast perceived effectiveness and result indicators. The model also takes into account the suggestions for changes. The Total Sum of Squares is 7360.997, with a regression coefficient of 95.171 and a residual coefficient of 7265.825. There is just one degree of freedom for model regression and two hundred and ninety-eight degrees of freedom for residuals. There is a correlation between the calculated F-value of 3.903% and a p-value (Sig.) of 0.049. The regression model is considered valid at the 5% level of significance because the p-value is slightly lower than the customary threshold of 0.05. It appears that the differences in Perceived Effectiveness and Outcome Indicators can be largely explained by the Identified Gaps and Suggested Improvements. Other factors probably have a bigger influence in deciding perceived efficacy and results, since this predictor has a little practical impact (as shown by the low R² value in the model summary).

Table 12: Coefficients

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.760	1.171		18.583	.000
	Identified gaps and suggested improvements	.098	.050	.114	1.976	.049
a. Dependent Variable: Perceived effectiveness and outcome indicators						

The relationship between the identified gaps, suggested improvements, perceived effectiveness, and outcome indicators is shown in coefficients table 12. With a standard error of 0.050 and an unstandardized coefficient (B) of 0.098 for Identified Gaps and Suggested Improvements, it can be seen that, everything else being equal, the perceived effectiveness

score rises by about 0.098 units for every one-unit increase in the predictor variable. An effect size of 0.114 is indicative of a small positive correlation, the standard coefficient (Beta). The predictor's relevant impact on the dependent variable is confirmed by the statistically significant t-value of 1.976 and p-value (Sig.) of 0.049 at the 5% level. The anticipated perceived effectiveness score when the predictor is zero is a constant value of 21.760. Despite the fact that other factors may also play a significant role, the results show that acknowledging shortcomings and suggesting adjustments favourably affect perceptions of efficacy and outcomes, albeit to a minor extent.

DISCUSSION

The systems of traditional food like Andhra Pradesh one are an important part of the cultural identity, health and ecological sustainability. Globalization, industrialization, and introduction of Western diets have led to erosion of these systems, which have already caused a lot of concern regarding food sovereignty and depleting biodiversity Singh, et al., (2020). Aich, et al., (2022) pointed out indigenous food systems such as that of Andhra Pradesh are also sustainable solutions to food security and climate resilience as it focus on indigenous crops and traditional farming methods. Rani, J., et al., (2025) these food systems can be closely connected with local knowledge and biodiversity, as the basis of health and environmental sustainability. But, as indicated, Nayar, T. (2023) the emergence of mass-produced convenience-based foods has resulted in the marginalization of such a local food culture. This is especially practiced in such states as Andhra Pradesh, where food systems are being slowly replaced by industrial food (Cheerala, et al., 2023). The revival efforts should be therefore based on cultural and ecological factors as proposed by to bring back traditional foods to the modern marketplaces and foster sustainable food production (Erdogan, et al., 2020).

The practical problem of availability of ingredients and infrastructure is also one of the aspects of revitalizing of traditional food systems (Mekonnen, et al., 2024). According to the present work, the traditional Andhra ingredients can be rather costly or unavailable, which restrains the enduring possibility of the cuisine development. Ulug, et al., (2021) The difficulty follows the revelations of who found the same hindrances in global food systems, where local foods have difficulties competing with mass-produced foods. Guell, (2024) highlighted that the success of the food system revival efforts are strongly depend on the support of the smallholder farmers and the local food producers because it is the foundation of the food security of the region. Choudhary, et al., (2022) also, the infrastructure is important in the development of cuisine, but the present study concluded a weak but significant linkage between the two, which implies that the enhancement of local facilities might not be adequate to achieve holistic renewal. Rather, policy support, community-based efforts, and digital awareness-raising is a complex solution that is required to promote long-term sustainability (Attah, et al., (2024). This view is in line with the work by who proposed that the changes needed in the food system is entail concerted efforts on various levels in order to realize significant change.

CONCLUSION

The study has concluded that the evolution of an ancient food structure, specifically Andhra, under the forces of

globalization, urbanization, and industrialization. The results show that although the traditional foods still have a significant cultural and nutritional role, their deterioration is conditioned by such issues as the decreased supply of ingredients, the loosening of the passing of the culinary tradition, and the rising of the fast-food movement. The satisfaction of consumers is positively associated with taste, texture, and quality of ingredients, but the barriers to access are still important. Moreover, infrastructure and facilities have a contribution to cuisine development, but it remains comparatively small and insignificant without associated policy, community, and market influence. In general, the cultural revival of Andhra cuisine is not just the question of cultural conservation but the necessary plan of biodiversity, healthy diets, and food sovereignty.

Implications

The study's findings have various implications on the policymakers, community organizations and the food industry. To the policy makers, the study highlights the importance of enhancing the supply chains of the indigenous ingredients, offering subsidies to the traditional food crops, and incorporating the local cuisines in the government food programs. To communities, the results promote community-level actions like culinary festivals and seed banks, as well as generational platforms, where knowledge can be shared. In the case of hospitality and tourism sector, Andhra cuisine restoration is an avenue to popularize food based tourism, hence boosting regional economies. Besides, digital platforms and e-commerce can be used to promote the level of awareness, access, and commercialization of the traditional foods and, therefore, bridge the divide between the producers in the rural areas and the consumers in the urban areas. Even though the study offers valuable information, it has its limitations. To begin with, the study uses a purposive sampling method in the state of Andhra Pradesh and this could be a constraint when it comes to generalizing the study to other states or cuisines in India. Second, the cross-sectional design identifies consumer perceptions at one time within a specific period of time but fails to indicate the long-term patterns in dietary habits. Third, although quantitative and qualitative factors were also taken into consideration, the analysis mostly focused on statistical correlations without being heavily focused on cultural narratives or ethnographic aspects. Lastly, some confounding variables that included the effects of international media, marketing policies of the multinational food industries, and the economic imbalances within the region were not clearly captured..

Scope for Future Research

The study can be expanded in a number of ways in future research. To begin with, longitudinal studies can be used

to trace the shifts in consumption behaviour and attitudes towards traditional food as time passes by and provide more comprehensive understanding of cultural shifts. Second, the comparison of various states or even the world with other states in India can assist in establishing the common and localized issues of traditional food revival. Third, the knowledge transfer and cultural symbolism in relation to food practices can be further elaborated with the help of more qualitative methods, e.g., ethnographies or oral histories. Fourth, the effectiveness of more practical revival strategies can be experimented through the intervention of digital campaigns, cooking education in schools, or policy support of indigenous crops. Lastly, it is possible to build the argument of traditional foods as a panacea to the problems of sustainability, health, and biodiversity by integrating nutritional and ecological assessments with cultural studies.

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