

## RESEARCH ARTICLE

# Situation Analysis of the Entrepreneurial Ecosystem of Kouna Crafts of Manipur: Artisans' Perspective

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### Abstract

The handicraft sector plays an important role in the Indian economy, offering substantial employment and contributing significantly to exports. Manipur's *Kouna* (water reeds) crafts have a distinct position due to their aesthetic value. It is becoming popular both in the national and international markets and is in great demand. Realizing its value and market demand, different actors have started facilitating the artisans for capacity development and value addition and linking them to potential markets, which have formed an ecosystem conducive to entrepreneurship development. To support the local artisans and to analyze the existing situation of this ecosystem, the study was taken up within the Thoubal and Imphal East districts of Manipur. For analyzing the internal and external factors, SWOT analysis and TOWS /analysis were used. A total of 90 randomly sampled artisans formed the respondents of the study. The highest-scoring strength factor was "more profitable than rice cultivation," and the highest-scoring weakness was "unavailability of modern technology to improve craft quality and efficiency." In opportunities, "environment consciousness of people looking for eco-friendly alternatives to plastic" ranked the highest, while amongst threats, "unorganized value chain with many players" ranked the highest. The existing situation showed a balance between the internal and external factors, as well as positive and negative factors suggesting that the situation is good enough for the artisans if they and other stakeholders put the right intervention to turn it in their favor. Strategies derived from SWOT analysis were outlined in a TOWS matrix.

**Keywords:** Handicrafts, *Kouna*, SWOT analysis, TOWS matrix, Entrepreneurship, Artisans

### Introduction

Handicraft Industry is one of the important sectors in the Indian economy, providing ample opportunities to the people in semi-urban and rural areas. Handicrafts are becoming popular all over the world with the development of the travel and tourism industry and are in high demand nationally and internationally (IBEF, 2023). As per the Exports Promotion Council for Handicrafts (2023), Indian handicraft export accounts for US\$ 3,728.47 million from April 2022 to February 2023.

Amongst the various crafts, *Kouna* craft in Manipur occupies a distinct position due to its aesthetic value, cultural significance, and eco-friendly nature. *Kouna* (*Schoenoplectus lacustris*), commonly known as water reed or bulrush, is a perennial aquatic terete herb belonging to the family of Cyperaceae. The plant is geographically distributed in the regions of Europe, Africa, Australia, and North America. In India, the plant has been reported in Kashmir Ladakh, Kumoan, and the Northeastern state of Manipur (Jain *et al.*, 2005). India occupies the top position in terms of exporting water reeds products (Volza, 2022).

In Manipur, many locals, especially the rural women folk are earning their livelihood through *Kouna* crafts (ANI, 2018). Though traditionally, the products were limited to mats and baskets, a number of diversified products like bags, hats, chappals, cushions, flower vases, etc. are now made from

the *Kouna* plant owing to its versatility (Salam *et al.*, 2022). Recognizing its significance and market appeal, diverse actors have come forward to foster *Kouna* entrepreneurship. These actors and their services form an interconnected system called the entrepreneurial ecosystem. To further strengthen and support the entrepreneurs, especially the local artisans, it is imperative to have a holistic understanding of the existing situation of the entrepreneurial ecosystem. Hence the study was carried out with the objective of

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carrying out the situation analysis of the entrepreneurial ecosystem of *Kouna* crafts.

Guthrie (2022) described situation analysis as a process that helps to identify challenges and opportunities that are both internal and external to the organization. Situation analysis is a broad word that includes a number of more specific tasks. SWOT (strength, weakness, opportunities, threat) analysis, PESTEL (political, economic, social, technological, environmental, and legal) analysis, Porter's Five Forces analysis, 5C (company, collaborators, customers, competitors, and context) analysis, and VRIO (value, rarity, imitability, and organization) analysis are a few of these processes. The situation analysis will help in understanding the internal and external factors affecting the *Kouna* craft ecosystem and, accordingly, devise strategies for improvement.

## Methodology

The study was conducted in Thoubal and Imphal East districts of Manipur. Thoubal and Imphal East were purposively chosen for the study as it is reported that they are the two leading areas for the cultivation of *Kouna* plants and *Kouna* crafts (Singh, 2016). *Kouna* has its origin in Khangabok village of Thoubal district, and almost every household is involved in some or other *Kouna* craft activity (ANI, 2018). Khangabok, because of its large area, is divided into three zones. The study was conducted in two randomly selected zones of Khangabok viz, Khangabok-1 and Khangabok-2. From the Imphal East district, Kongba and Heingang villages were selected purposively as they are the two leading areas for the cultivation of *Kouna* plants and *Kouna* craft. There are many actors of the *Kouna* crafts entrepreneurial ecosystem, but in this study, we captured the perspective of the primary actor, the artisans. 30 artisans each from Khangabok villages 1 and 2 of Thoubal District and 15 artisans each from Kongba and Heingang villages of Imphal East district were selected randomly as respondents of the study. SWOT analysis and TOWS (Threat, Opportunities, Weakness, and Strength) matrix were used to carry out the situation analysis.

According to Forsey (2021), SWOT analysis is a strategy that helps in identifying the strengths, weaknesses, opportunities, and threats, which are internal (organizational factors) and external (environmental factors) to the organization. The external and internal factors were identified through a preliminary survey, a review of the literature, and consultation with experts in the handicrafts field, and a list of SWOT statements was drafted. A total of 9 strengths, 9 weaknesses, 6 opportunities, and 8 threats factors were identified. The SWOT statements were sent to 10 experts, who were asked to rate the statements in a four-point continuum as most relevant, relevant, somewhat relevant, and not relevant, with a score of 4, 3, 2, and 1, respectively. A total of 8 expert judges responded. The

respondent judges were the Joint Director, Directorate of Handloom and Textiles, Manipur; Manager, Manipur Handloom and Handicrafts Corporation Limited; Programme Assistant, KVK, Thoubal; Assistant Director, DC, Handicrafts, Manipur; State Co-ordinator, Export Promotion Council for Handicrafts, Manipur; a master artisan and two experienced artisans. The responses were used to calculate the item-level content validity index (I-CVI) for further determination of deletion or revision of the statements. As per Rodrigues *et al.* (2017), the I-CVI values range from 0 to 1, where for I-CVI > 0.79, the items were relevant; between 0.70 and 0.79, the items needed revision, and if the values were below 0.70, the items were eliminated. So, this criterion was set as a benchmark for the inclusion of items. Through this process, a final list of 8 strengths, 5 weaknesses, 5 opportunities, and 6 threats were retained.

The final SWOT items were administered to the selected respondent artisans, where they were asked to rate the items in a three-point continuum of 1, 2, and 3, which stand for "does not agree", "agree," and "strongly agree," respectively. To analyze the SWOT items, weighted mean score (WMS), factor priority, normalized value, and overall priority were calculated. The weighted mean score for each SWOT category and factor was obtained by multiplying the frequencies with their respective scores, adding them up, and dividing by the total number of respondents (Islam *et al.*, 2020). The mean scores of all the factors (statements) within each SWOT category are added up, and the WMS of each factor is then divided by the category sum to provide its normalized score (Islam *et al.*, 2020). The factor priority score was obtained by dividing the WMS of each factor by the total WMS of each category, and the ranking was made based on the factor priority score. The overall priority was obtained by dividing the factor priority by the normalized value (Masozera, 2006). The factor priority score and overall priority score were used to determine the effect of each factor on one another, and accordingly, their priority was determined. Finally, TOWS matrix (Wehrich, 1982) was used to systematically connect the internal and external factors and develop new strategic options.

## Results and Discussion

The results of the SWOT analysis are presented in Table 1 and discussions are presented hereunder.

### Strength

In the strength category, the WMS of the eight strength factors ranged from 1.69 to 3.31 with a mean score and normalized value of 2.691 and 0.249, respectively. The highest weighted mean score was 3.31 with the factor "more profitable than rice cultivation," followed by 2.97 for "product diversification comes easy to them" and 2.90 each for two items, "eco-friendly and comfortable to use" and "long shelf life." The factor "skills transferred from generation

to generation within the family" (WMS=2.89) was also reported by Singh and Agarwal (2021). Most of the strength factors pertain to the internal comparative advantage of *Kouna* crafts and the artisans. Strength factors related to the other actors and their interrelations were dropped due to low content validity scores.

### Weakness

In the weakness category, five factors were there, with the WMS ranging from 2.28 to 2.90, with a mean score of 2.692 and a normalized value of 0.249. The factor obtained the highest weighted mean score 2.97 "lack of modern technology" followed by "lack of IPR and GI registration"

(2.90) and "low awareness of financial support services" (2.87). Islam *et al.* (2020) and Singh and Agarwal (2021) reported similar weaknesses like the "Unavailability of modern technology to improve craft quality and efficiency." Megha (2019) mentioned lack of technological skills and lack of adequate finance as weaknesses faced by the stakeholders. India-craft (2011) listed "unawareness about international requirements and market," "lack of coordination between the government bodies and private players", "inadequate information of new technology and current market trends," and "less interest of young people in the craft industry. Nazir and Rather (2018) also reported the

**Table 1:** Descriptive analysis of the SWOT factors of the entrepreneurial ecosystem of Kouna crafts (n = 90)

Categories	Sl. No.	Factors	WMS	Rank	Factor priority score	Overall priority score
STRENGTHS	S1	Cultivation can be done easily with minimum inputs	1.69	6	0.078	0.020
	S2	Raw materials for the craft work are sourced locally	1.98	5	0.092	0.023
	S3	Skills transferred from generation to generation within the family	2.89	4	0.134	0.033
	S4	Part of traditional culture	2.89	4	0.134	0.033
	S5	Long shelf life	2.90	3	0.135	0.034
	S6	Eco-friendly and comfortable to use	2.90	3	0.135	0.034
	S7	Product diversification is easy	2.97	2	0.138	0.034
	S8	More profitable than rice cultivation	3.31	1	0.154	0.038
		Mean Strength Score	2.691	Normalized value		0.249
WEAKNESSES	W1	Low awareness of financial support services	2.87	3	0.213	0.053
	W2	Unavailability of modern technology to improve craft quality and efficiency	2.97	1	0.221	0.055
	W3	Low awareness of the market demand and trends	2.28	5	0.169	0.042
	W4	Low to no contact with incubators	2.44	4	0.181	0.045
	W5	Lack of IPR and GI registration	2.90	2	0.215	0.054
		Mean Weakness Score	2.692	Normalized value		0.249
	O1	High employment opportunities	2.83	3	0.194	0.052
	O2	Huge demand in the national and international markets	2.97	1	0.204	0.055
	O3	Social media and e-commerce platforms creating more opportunities for promotion and reaching out to potential customers	2.90	2	0.199	0.054
OPPORTUNITIES	O4	Environment consciousness of people looking for eco-friendly alternatives to plastic	2.97	1	0.204	0.055
	O5	Increased thrust of the government on local/traditional crafts entrepreneurship	2.90	2	0.199	0.054
		Mean Opportunity Score	2.914	Normalised value		0.270
	T1	Competition in the local market	2.65	3	0.176	0.041
	T2	Improper storage facilities for finished products	2.65	3	0.176	0.041
	T3	Lack of proper regulation in the market	2.88	2	0.191	0.044
	T4	Low producers' share in consumers rupee	2.88	2	0.191	0.044
	T5	Unorganized value chain with many players	2.90	1	0.192	0.045
	T6	Value/supply chain is not reliable/consistent	1.12	4	0.074	0.017
THREATS		Mean Threat Score	2.513	Normalised value		0.232

last factor. Interestingly in this present study, the weakness factor “less interest of young generation in the craft” was removed from the final list due to low I-CVI score indicating that younger generations are still interested to take up the craft.

### Opportunities

The WMS for the five factors of opportunities category ranged from 2.83 to 2.97 with two factors, namely, “huge demand in the national and international market” and “environment consciousness of people looking for eco-friendly alternatives to plastic,” each scoring 2.97. The factors “social media and e-commerce platforms creating more opportunities for promotion and reaching out to potential customers” and “increased thrust of the government on local/traditional crafts entrepreneurship” had the next highest score of 2.90 each. Islam *et al.* (2020) also listed “extensive promotion and support by the Government” as one of the opportunities. Garg and Walia (2018) opined that the “development of e-commerce” is a threat that can be used as an opportunity

### Threats

The last category of threats had six factors, with the WMS ranging from 1.12 to 2.90. The highest score of 2.90 was obtained by the item “unorganized value chain with many players,” followed by “lack of proper regulation in the market” and “producers’ share in consumers rupee,” with a WMS of 2.88. Influence of middlemen was a threat to wicker handicraft entrepreneurship according to Islam *et al.* (2020). Singh and Agarwal (2021), in their study, listed unorganized sectors and highly fragmented industries under the weakness category. India-craft (2011) mentioned “competition in the domestic market” and “quality products produced by competing countries” as threats. In the present study, the factor “competition in the local market” market had a low WMS score of 2.65, while competition from other countries did not pass the content validity test in this study. Datta and Bhattacharyya (2016) indicated that the Indian handicraft industry suffers from being unorganized and having a poor institutional framework.

Of all the four SWOT categories, opportunities had the highest overall priority score of 0.270, while threat had the lowest score of 0.232. The overall priority score of the internal categories, viz., strength and weakness, was equal at 0.249 each.

### Overall perception towards the SWOT categories

The combined priority values of positive categories (strengths and opportunities) indicate prospects, while those of negative categories (weaknesses and threats) indicate challenges. It is interesting to find that the perception of positive factors at 51.90 percent is slightly higher than the

negative factors (48.1 %). Thus, the prospect outweighed the challenges to a certain degree. It is also important to see the priority scores of the internal category (strengths and weaknesses) and external categories (opportunities and threats), where a higher internal category indicates more control of the artisans over the existing situation to turn to their favor. As can be seen in Table 2, the internal perception (49.80 %) is slightly lower than the external perception (50.2 %), indicating that the external factors are somewhat stronger. Nevertheless, the degree of difference is non-significant, and thus, given the right attitude and investment in the positive factors, the artisans can definitely make the entrepreneurial ecosystem flourish and work in their favor.

### TOWS matrix

The TOWS matrix strategies are formulated by combining the SWOT category factors and are presented in Table 3

#### S-O Strategies

The artisans can utilize social media and e-commerce platforms for the promotion and sale of diversified products, thereby helping in reaching out to potential customers. Proper utilization of mobile to connect and reach out to various stakeholders was recommended by Maring *et al.* (2023), and the use of social media for small and medium-size enterprises as suggested by Filipov (2021). Also, as people are aware about the hazards caused by plastic directly or indirectly, the promotion of *Kouna* products should be positioned around its eco-friendly and aesthetic nature. Unlike plastic bags, *Kouna* grass bags do not contribute to pollution or take centuries to decompose. Vibecity (2022) describes *Kouna* grass bags as a sustainable and stylish solution for those looking to reduce their environmental footprint while enjoying a unique and artisanal product.

#### S-T Strategies

Product diversification can be done to utilize niche markets, thereby increasing the market share. New Business Age (2014) reported that due to the increased competition in the international market, product diversification has emerged as an essentiality for business growth. It is vital for the

**Table 2:** Overall perception towards the SWOT categories

SWOT CATEGORIES	PRIORITY SCORES	PERCEPTION
<b>Internal/ External</b>		
Internal (Strengths and Weaknesses)	0.498	49.8%
External (Opportunities and Threats)	0.502	50.2%
<b>Negative/Positive</b>		
Positive (Strengths and Opportunities)	0.519	51.9%
Negative (Weaknesses and Threats)	0.481	48.1%



**Table 3:** TOWS Matrix of Kouna artisans vis-à-vis the existing ecosystem

		External Factors	
Internal Factors	Strength	<p>Opportunities</p> <p>S-O Strategies</p> <p><b>SO1:</b> Utilization of social media and e-commerce platforms for promotion and selling of diversified products thereby helping in reaching out to potential customers (S7, O3)</p> <p><b>SO2:</b> Positioning <i>Kouna</i> products as an eco-friendly and natural alternative to plastic products. (S6, O4)</p> <p>W-O Strategies</p> <p><b>WO1:</b>Public-private partnership-based tech advancements, funding awareness, and global marketing can boost traditional crafts, local entrepreneurship, and international ventures (W1, W2, O2, O5)</p> <p><b>WO2:</b>Market demand and trend analysis through social media tools will help in attracting people to <i>Kouna</i> crafts, thereby enhancing income opportunities(W3, O1, O3)</p>	<p>Threat</p> <p>S-T Strategies</p> <p><b>ST1:</b> Innovative solutions to protect finished products and extend shelf life, like coating with paint or varnish (S5, T2)</p> <p><b>ST2:</b> Exploit product diversification potential niche markets thereby reducing vulnerability to competition and increasing market share.</p> <p>W-T Strategies</p> <p><b>WT1:</b> The lack of financial services can be solved to a certain extent by mobilizing small artisans to form Producer Organizations, which will also lead to a more organized and reliable value chain(W3, T5, T6)</p> <p><b>WT2:</b>The government should ensure GI registration so that the competitiveness of the <i>Kouna</i> products can be enhanced (W5, T1)</p> <p><b>WT3:</b> The incubation centers of the state can help budding entrepreneur artisans to facilitate linkage with the market and other infrastructures, thereby increasing their share in consumers' rupee (W4, T2, T4)</p>
	Weakness		

handicraft industry to adapt and correspond to industry and consumer trends and to take advantage of them. Another strategy suggested is to come up with innovative, ingenious solutions to protect finished products, like coating with paint or varnish to extend shelf life.

#### W-O Strategies

Traditional crafts, local entrepreneurship, and multinational endeavors can all benefit from government-supported technological breakthroughs, financial awareness, and worldwide marketing. This needs to be supported and enhanced through partnerships with suitable for-profit and not-for-profit private parties. Premnath (2016) suggested public-private partnerships to augment the export of handicrafts production in particular and standardize large-scale quality production of handicrafts objects in general. Understanding market demand and trends will help to promote *Kouna* crafts and increase sales potential. This can be taken up through social media. According to Chacko (2023), social media market research gives a holistic view of the market to identify emerging trends and plan long-term and short-term growth campaigns. This will enable to take advantage of market gap opportunities and expand the market share in a focused way.

#### W-T Strategies

The lack of financial services can be solved to a certain extent by mobilizing small artisans to form Producer Organizations (PO), which will also lead to a more organized and reliable value chain. *Kouna* based POs can be formed under the aegis of Development Commissioners (Handicrafts), Ministry of Textiles, Govt. of India. Ensuring GI registration by the

government will help enhance the competitiveness of the *Kouna* products. The Department of Textiles Commerce and Industry, Government of India, applied for GI registration of *Kouna* crafts in May 2023. As per the website of Intellectual Property India(2023), the status of the application reads "Pre-examination."Joining incubators of the academic and research institutions of the state can also be of much help to budding entrepreneur artisans. According to AIM (2023), incubation support includes providing technological facilities and advice, initial growth funds, networks and linkages, co-working spaces, lab facilities, mentoring, and advisory support.

#### Conclusion

*Kouna*crafts have a high potential for the socio-economic upliftment of the artisans. The study highlighted the SWOT factors of the existing entrepreneurial ecosystem of the craft as perceived by the artisans. The situation has a balance of internal and external and positive and negative perception scores, indicating that artisans can definitely make the entrepreneurial ecosystem work in their favor, provided the right interventions are given. The identified SWOT factors and the TOWS strategies will definitely be of value to development practitioners who are on the lookout for promoting *Kouna* crafts and artisans.

#### References

- AIM. 2023. What is an Incubator? Atal Innovation Mission. <https://aim.gov.in/what-is-an-incubator.php> Accessed 26 August 2023
- ANI. 2018. Manipur's Kouna craft is casting spell on handicraft sector. Asia News International. <https://www.aninews.in>. Accessed 22 December 2022.

- Chacko A. 2023. 8 ways to use social media for market research. sproutsocial. <https://sproutsocial.com/insights/social-media-market-research/> Accessed 26 August 2023
- Datta D.B. and Bhattacharyya S. 2016. An analysis on problems and prospects of Indian Handicraft sector. *Asian J. Manag.*, 7(1): 5.
- Exports Promotion Council for Handicrafts. 2023. Handicrafts export data. [https://epch.in./index.php?option=com\\_content&view=article&id=76](https://epch.in./index.php?option=com_content&view=article&id=76). Accessed 25 June 2023.
- Filipov M. N. 2021. Social media marketing for small and medium-sized enterprises in Kazakhstan. *Central Asian Journal of Innovations on Tourism Management and Finance*, 1(4), 1-14
- Forsey C. 2021. SWOT analysis. <https://blog.hubspot.com/marketing/swot-analysis>. Accessed 23 June 2023.
- Garg P. and Walia A. 2018. SWOT analysis of hand block printing cluster of Rajasthan. *Int. J. Appl. Sci.*, 5 (3&4): 240-246.
- Guthrie G. 2022. What is situation analysis, and why is it so important. <https://nulab.com/learn/project-management/what-is-situation-analysis-and-why-is-it-so-important/>. Accessed 23 June 2023.
- IBEF. 2023. Indian handicrafts industry & exports. <https://www.ibef.org/exports/handicrafts-industry-india>. Accessed 25 June 2023.
- India-craft. 2011. SWOT analysis: handicraft industry. <http://www.india-crafts.com/business-reports/indian-handicraft-industry/swot-analysis-handicraft-industry.html>. Accessed 10 July 2023.
- Intellectual Property India. 2023. Application Details. Geographical Indications Registry. <https://search.ipindia.gov.in/GIRPublic/Application/Details/1091> Accessed 26 August 2023.
- Islam M.A., Wani A.A, Bhat G.M, Gatoo A.A, Shah M, Atta U. and Shah S.S. 2020. Diagnostic SWOT appraisal of the wicker handicraft entrepreneurship development in Kashmir, India. *Int. J. Appl. & Nat. Sci.*, 12(2): 193-201.
- Jain A., Roshnibala S., Rajshree K., Sharma H.N., Kanjilal P.B. and Singh H.B. 2005. Matting rush (*Schoenoplectus lacustris* (Linn.) Palla): Status, utility, threat, cultivation and conservation options in Manipur. *Res. Commun.*, 89(6):1018-1022.
- Maring Th. O., Devarani L., Singh R.J., Singh N.A. and Hemochandra, L. 2023. Situation analysis of small-scale mushroom enterprises of Meghalaya in the wake of COVID-19 pandemic. *Ind. J. of Ext. Edu.* 59(1): 70-74.
- Masozera M.K., Alavalapati J.R.R., Jacobson S.K. and Shrestha R. K. 2006. Assessing the suitability of community-based management for the Nyungwe forest reserve, Rwanda. *For. Policy Econ.*, 8(2): 206-212.
- Megha S.O. 2019. Study of handicraft industry strategies and its implications in marketing. *Int. J. Res. Anal. Rev.*, 6(2): 874-877.
- Nazir T. and Rather S.A. 2018. Impact of unrest on handicraft industry of Jammu & Kashmir. *Int. J. Mov. Educ. Soc. Sci.*, 7(3): 157-166.
- New Business Age. 2014. Emerging Trend: Diversification of handicraft products. <https://www.newbusinessage.com/MagazineArticles/view/704#:~:text=The%20non%2Dtextile%20products%20include,stone%20craft%2C%20and%20bamboo%20products>. Accessed on 26 August 2023.
- Premnath S. 2016. Marketing of Handicraft Products-Strategies, Opportunities and Issues. *Shanlax Int J of Mngt.*
- Rodrigues I.B., Adachi J.D., Beattie K.A. and Macdermid J.C. 2017. Development and validation of a new tool to measure the facilitators, barriers and preferences to exercise in people with osteoporosis. <https://pubmed.ncbi.nlm.nih.gov/29258503/>. Accessed 21 May 2023.
- Salam M.A., Oinam G., Singh H.R., Singh Y.B. and Irungbam S.K. 2020. Potentiality of Periphyton based aquaculture technology in water reed (*Schoenoplectus lacustris* Linn)- fish environment in Manipur, India. *Int. J. Curr. Microbial. App. Sci.* 11: 2074-2081
- Singh H. and Agrawal B. 2021. Traditional handicrafts of India- issues and challenges: A Swot analysis. *Indian Res. J. Ext. Educ.*, 21(4): 158-163.
- Singh K.J. 2016. *Kouna* cultivation in Manipur. Rajesh Publications, New Delhi, India.
- Vibecity. 2022. Shilpkara "Ethically Chic" Hand-Embroided Organic Eco-friendly Kouna Grass Bag with Embroidery. <https://www.vibecity.com/shilpkara-ethically-chic-hand-embroided-organic-eco-friendly-kouna-grass-bag-with-embroidery-multicolor/80773799> Accessed 26 August 2023.
- Volza. 2022. India export trade data. Volza Grow Global. <https://www.volza.com/p/reed/export/export-from-india/cod-reunion/>. Accessed 22 December 2022.
- Wehrich H. 1982. The TOWS matrix- a tool for situational analysis. *Science Direct*. 15(2): 54-66.