

Research Article

A Study on Operational Performance and Growth of Milk Federation in Karnataka: A Trend Analysis

Dr. D. Siddappaji

Faculty of Economics, Department of B.A (UG), Bangalore University, Bengaluru

Corresponding Author: **Dr. D. Siddappaji**

Abstract

The present study aims to analyze the performance and growth of the milk federation in the state of Karnataka. The Karnataka Cooperative Milk Producers' Federation Limited (KMF) serves as the apex body of the dairy cooperative movement in Karnataka. It is the second-largest dairy cooperative in the country and ranks first in South India in terms of milk procurement and sales. One of the core functions of KMF is the marketing of milk and milk products under the brand name '*Nandini*', which has become a household name for pure and fresh dairy products across the state. This study is centered on the following three major objectives 1) to examine the historical background and performance of KMF in Karnataka; 2) to evaluate the trends in growth and functioning of the milk federation in the state; and to analyze the structure and performance of DCSs, memberships, and milk production under KMF.

Keywords: KMF, Milk Unions, DCSs, Memberships, Milk Production and Milk Sale.

1. Introduction

Karnataka is well known for its milk-producing cooperatives situated in almost every district of the state, and the Karnataka Milk Federation is a popular name among them. The KMF is a federation under the ownership of the Ministry of Cooperation, Government of Karnataka. The KMF is the apex body for the dairy co-operative movement in the state of Karnataka. KMF is the second largest dairy co-operative amongst the dairy cooperatives in the country. In South India, it stands first in terms of procurement as well as sales. One of the core functions of the Federation is the marketing of Milk and Milk Products. The Brand '*Nandini*' is the household name for pure and fresh milk and milk products. KMF has 16 district milk unions covering all the districts of the state which procure milk from primary Dairy Co-operative Societies (DCSs) and distribute milk to the consumers in various Towns/Cities/Rural markets in Karnataka. DCSs function at three stages in the State i.e., at the village level there are the milk producers' co-operative societies, at the district level district milk unions, and at the state level the KMF. There were 17,550 registered dairy cooperatives, out of which 15,453 primary dairy cooperative societies (DCSs) were actively functioning under 16 district milk unions, with a membership base of approximately 26 lakh milk producers. The federation offers a fair price to the rural milk producers besides catering to the requirement of the urban consumer of pure hygienic and qualitative milk, butter, ghee, Peda, burfi, paneer, khova, flavored milk, etc. The functions of a DCS such as collecting milk twice a day from farmers, making regular payments to suppliers, and dispatching the milk collected to the milk union.

2. Objectives of the Study

The present study is undertaken with the following specific objectives:

1. To examine the historical background and overall performance of the KMF in the state of Karnataka.
2. To identify and understand the various district milk unions functioning under KMF across Karnataka.

To evaluate the trends in growth and functioning of Primary Dairy Cooperative Societies (DCSs), including membership patterns and milk production under KMF in the state.

3. Hypothesis of the Study

There is a significant increase in the growth of DCSs and milk production in Karnataka

4. Research Methodology

The present paper is primarily based on secondary data sources and aims to analyze the performance and growth of milk unions, as well as their role in milk procurement, dairy products, dairy units, and related dairy activities in the state of Karnataka. The secondary data has been collected from various annual reports and published sources of the KMF reports, the Directorate of Economics and Statistics, Karnataka, the Economic Survey of Karnataka, the Department of Animal Husbandry and Dairying, Shakara Sindhu – Department of Co-operation, the Registrar of Co-operative Societies, as well as from scholarly journals, reputed articles, magazines, published and unpublished theses and dissertations, and relevant websites. The data regarding the functioning of Primary Dairy Cooperative Societies (DCSs) and milk production in Karnataka has been collected for the period from 2013-14 to 2022-23.

5. Statistical Techniques

The study employed statistical tools such as percentages, Compound Annual Growth Rate (CAGR), and correlation analysis to examine the trends and relationships related to Primary Dairy Cooperative Societies (DCSs), memberships, average milk production, and milk sales. The analysis was carried out using Excel and SPSS 21 statistical software.

6. Historical Background of Karnataka Milk Federation

The KMF is the apex organization overseeing the dairy cooperative movement in the state of Karnataka. The origins of this movement date back to 1955, with the establishment of the first dairy cooperative in Kudige, Kodagu District. A major milestone came in 1974 with the launch of the Karnataka Dairy Development Corporation (KDDC) - the first-ever World Bank/International Development Agency (IDA) funded Dairy Development Program in India. This initiative was implemented on cooperative lines, focusing on the organization of village-level dairy cooperatives to support rural dairy farmers. The adoption of the AMUL model of dairy cooperatives in Karnataka began in 1974-75, marking a significant shift in the state's dairy sector. This model was supported by financial assistance from the World Bank/IDA, as well as from Operation Flood II and III, which aimed to create a nationwide milk grid and strengthen rural dairy production.

KMF was officially registered in 1974 and has grown steadily over the decades. It now operates a three-tier cooperative structure: Primary Dairy Cooperative Societies (DCSs) at the village level, District Milk Unions at the district level, and KMF as the apex federation at the state level.

The Anand Pattern three a tier organization structure – Dairy Cooperative Societies at the village level and district milk unions at the district level to take care of the procurement, processing, and marketing of milk and provide technical input services for enhancing milk production at producers' level and Federation at the state level to co-ordinate the growth of the sector in the State, are resolutely and harmoniously working hand-in-hand in creating self-sustaining rural economy based on cooperative dairying. KMF is one of the few federations in the country, which have converted dairying from a subsidiary occupation into an industry.

Coordination of activities among the Unions and developing markets for Milk and Milk products is the responsibility of KMF. Marketing Milk in the respective jurisdiction is organized by the respective Milk Unions. The surplus/deficit of liquid milk among the member Milk Unions is monitored by the Federation. While the marketing of all the Milk Products is organized by KMF, both within and outside the State, all the Milk and Milk products are sold under a common brand name NANDINI. In 1984 the organization was renamed KMF.

7. Performance of Milk Federation in Karnataka

The milk unions become members of a Co-operative Milk Marketing Federation by subscribing to its share capital, in accordance with the provisions of the federation's bylaws. The Federation is responsible for formulating and implementing policies related to the cooperative marketing of liquid milk and milk products produced by its member unions. Its responsibilities also include determining the product-price mix, providing joint services such as artificial insemination, breeding, and cattle feed, facilitating the cooperative marketing of technical inputs to members, and strengthening the institutional framework of dairy cooperatives. The Board of the Federation comprises the elected chairmen of all member unions and the Managing Director of the Federation. In addition, the Board includes ex-officio members and technical experts to support informed decision-making and effective governance.

The Board of the Federation is responsible for developing and overseeing the implementation of policies related to all the Federation's functions. The equitable distribution of profits is carried out based on the volume of business transacted by each milk union with the Federation, in accordance with the provisions of the bylaws. The Board is supported by a Programming Committee, which provides strategic and operational advice. This committee comprises the Chief Executive Officers (CEOs) of each member union, the Federation's Chief Quality Control Officer, and one or more non-voting co-opted technical experts. The committee meets regularly and is also responsible for ensuring the day-to-day implementation of the Board's policies and plans. As of 2025, KMF comprises 16 district milk unions across Karnataka. These unions procure milk from Primary DCSs and distribute it to consumers in both urban and rural markets throughout the state. The Federation encompasses over 17,000 dairy cooperatives and 26.44 lakh milk producers, with a robust infrastructure for procurement, processing, and marketing. Table-1 presents details on the functioning of the district milk unions, which cover all districts in Karnataka

Table -1 Functioning of District Milk Unions under KMF in Karnataka (2025)

S. No	Milk Unions	Full Name of District Milk Unions	Excellence
1	BAMUL	Bengaluru Urban, Rural and Ramanagara District Co-operative Milk Producers Societies Union Limited.	Biggest Fully computerized Dairy with no human handling of milk in South India with the distinction of having highest procurement and highest sale of milk by any dairy in Karnataka and highest seller of curds in the country; Union with lowest Distribution transportation cost.

2	HAMUL	Haveri District co-operative Milk Union	Newly Started
3	BEMUL	Belgaum District Co-operative Milk Producers' Societies' Union Limited	Highest procurement of Buffalo milk; Famous for delicious kunda; and Selling 40 TLPD of milk in Goa
4	RBKMUL	Raichur, Ballari & Koppal Districts Co-operative Milk Producers' Societies Union Ltd.	Record production and supply of high yielding SSG Hybrid Maize seeds; Sale of market milk in neighbouring areas of AP
5	VBMUL	Vijayapura & Bagalkot District Co-operative Milk Producers' Societies' Union Ltd	Union has turned around after wiping off huge accumulated losses
6	CHAMUL	Chamarajanagar District Co-operative Milk Producer's Societies Union LTD.	All DCS in the district are covered under the "Cluster Artificial Insemination (AI) Centers
7	DKMUL	Dakshina Kannada Co-operative Milk Producers' Union Limited	Highest patronage of pouring member producers; Highest milk procurement price to producers; Highest per animal off take of Cattle Feed, much above the standards set by any nutritional Board
8	DHMUL	Dharwad District Co-operative Milk Producers' Societies' Union Ltd	Known for quality Dharwad Peda, Kuduke Mosaru (set curds in earthen pot) and 10g butter chiplets
9	HAMUL	Hassan Co-operative Milk Producers' Societies Union Ltd	Union has more National Energy Conservation awards; Highest AI done per center; Union with highest surplus milk
10	KBYMUL	Kalaburgi-Bidar and Yadgir Co-operative Milk Producers' Societies Union	Union with resplendent of Self-Help Groups and women societies with

		Limited	four Women Directors on the Union's Board for the first time in the State.
11	KOMUL	Kolar District Co-operative Milk Producers' Societies' Union Limited	Pioneer in implementing Clean Milk Production Programme, in starting Community Milking parlors, BMC Installations, first to launch Goodlife UHT milk with highest production, Known for quality cheese, Flavored drinking Yoghurt, Ghee in pearlpet jars; Masti Dahi. Obtained primacy by having a first elected Woman Director on the Board
12	MAMUL	The Mandya District Co-operative Milk Producers' Societies' Union Limited	Union with highest milk procurement from a single compact district; Leading in BMCs sanctioned under NDP for any Union in the country; Excellent Skim Milk Powder packed in 50 gm in metalized polyester packs, 200 and 500 gm cartons, first union to export powder and to adopt rationalized price structure
13	MYMUL	Mysuru District Co-operative Milk Producers' Societies' Union Limited	Union with highest milk parlors in the city; Pioneer in establishing Fodder Densification Unit in South India; First to construct ground level water storage tanks in many DCSs for making available drinking water to

			cattle during drought
14	SHIMUL	Shivamogga Co-operative Milk Producers' Societies' Union Limited	Pioneer in promoting growing herbal medicinal plants by women farmers
15	TUMUL	Tumakuru Co-operative Milk Producers' Societies' Union Limited	First milk union to turn around after availing the financial assistance under rehabilitation scheme of GOI
16	CHIMUL	Chikkaballapura District Co-operative Milk Producers Union Ltd	Newly Started

Source: Annual Report of KMF - 2025

8. Result and Discussion

Growth in DCSs, Memberships, Milk Production of KMF in Karnataka

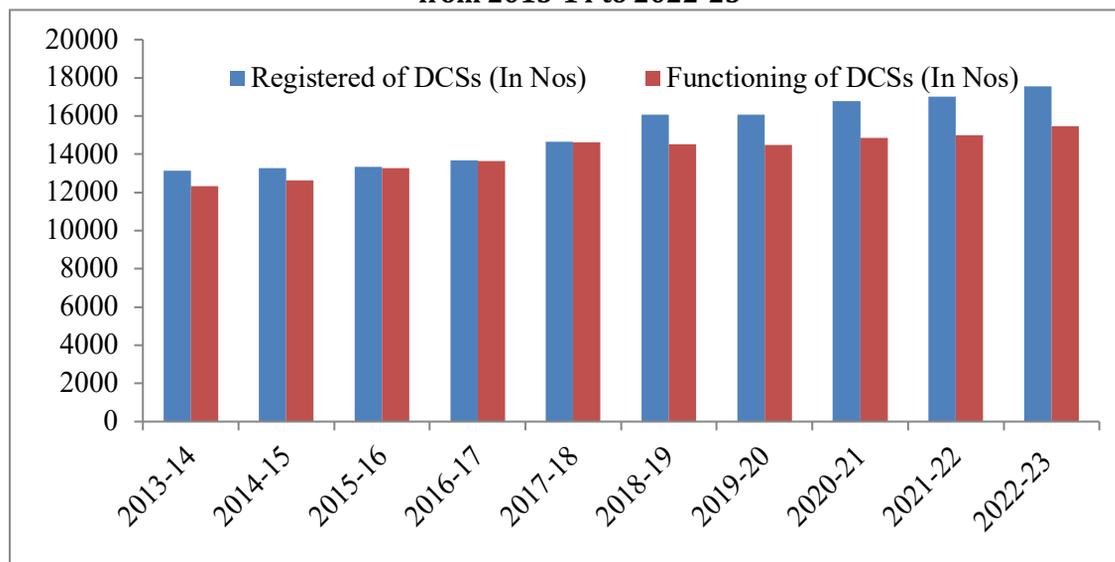
The federation brings efficiency in dairy processing plants/producer-owned and controlled dairy institutions, thereby enabling optimum value of milk-to-milk producer farmers and supply of quality milk to consumers. KMF has 16 Milk Unions covering all the districts of the State which procure milk from Primary Dairy Cooperative Societies (DCS) and distribute milk to consumers in various Towns/ Cities/ Rural markets in Karnataka. The KMF has 27 dairy processing plants with a capacity of 92.50 lakh liters/day. The organization has 44 milk chilling centers, 1941 bulk milk center units, and 7 milk product dairies which manufacture 288 million Tonnes (MTs) of milk powder and different milk products every day. The Karnataka Milk Federation has 7 cattle feed plants that produce 70616 MTs of cattle feed and 550 MTs of Mineral mixture/ month. These plants have secured quality mark certification for quality production and supply of cattle feed and mineral mixture to producers. At present, 17,000 Primary Dairy Cooperative Societies (DCSs) are functioning under 16 district milk unions, with 26.44 lakh milk producers enrolled as members. Out of these, 8.76 lakh farmers are active members. The mission of the Federation is to usher rural prosperity through dairy development.

Table -2 Trends in Growth of Functioning and Memberships of DCSs under KMF in Karnataka from 2013-14 to 2022-23 (In Numbers)

Year	Registered of DCSs	Functioning of DCSs	Memberships (Nos. In Lakhs)
2013-14	13124	12334	22.47
2014-15	13264	12628	23.07
2015-16	13347	13287	23.50
2016-17	13667	13646	24.05
2017-18	14641	14616	24.60
2018-19	16059	14512	24.74
2019-20	16071	14493	24.75
2020-21	16789	14864	25.71
2021-22	17014	15005	25.90
2022-23	17550	15453	26.44
Average	15152.6	14083.8	24.523
CAGR (%)	3.76	2.44	1.72

Source: Annual Report of KMF – 2015-15 to 2020-23.

Graph-1 Trends in Growth of Registered and Functioning of DCSs under KMF in Karnataka from 2013-14 to 2022-23



Graph-2 Trends in Growth of Enrolled Memberships under DCSs by KMF in Karnataka from 2013-14 to 2022-23



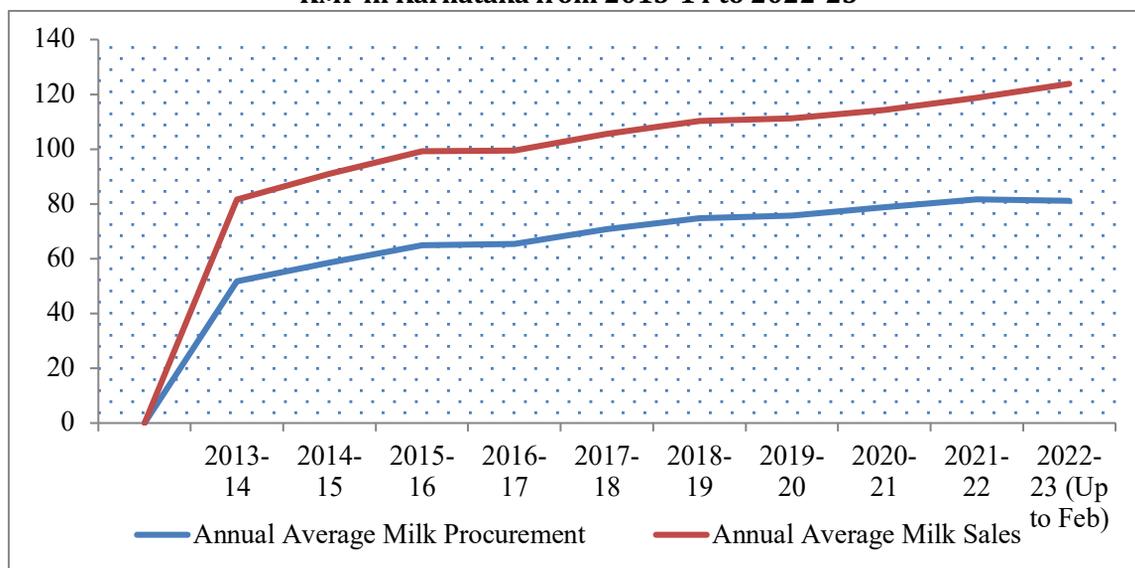
The above table and graph present data on the trends in the growth and functioning of Primary Dairy Cooperative Societies (DCSs) and their membership under KMF in Karnataka during the period from 2013-14 to 2022-23, analyzed in terms of averages and Compound Annual Growth Rate (CAGR). In 2013-14, the total number of registered DCSs stood at 13,124, which significantly increased to 17,550 by February 2022-23. Similarly, the number of active DCSs functioning across districts under KMF rose from 12,334 in 2013-14 to 15,453 by February 2022-23. Furthermore, the number of milk producers enrolled in DCSs increased from 22.47 lakh in 2013-14 to 26.44 lakh by the same period.

Table -3 Trends in Growth of Annual Average Milk Procurement and Milk Sales under KMF in Karnataka from 2013-14 to 2022-23(Milk Procurement in LKPD and Milk Sales in LLPD)

Year	Annual Average Milk Procurement	AGR (%)	Annual Average Milk Sales	AGR (%)
2013-14	51.64	-	29.92	-
2014-15	58.67	13.61	32.31	7.99
2015-16	64.86	10.55	34.37	6.38
2016-17	65.48	0.96	33.92	-1.31
2017-18	70.77	8.08	34.72	2.36
2018-19	74.80	5.69	35.47	2.16
2019-20	75.61	1.08	35.57	0.28
2020-21	78.73	4.13	35.59	0.06
2021-22	81.66	3.72	37.17	4.44
2022-23	81.05	-0.75	42.82	15.20
CAGR (%)	4.86		2.79	

Source: Annual Report of KMF – 2013-14 to 2022-23.

Graph-3 Trends in Growth of Annual Average Milk Procurement and Milk Sales under KMF in Karnataka from 2013-14 to 2022-23



The above table presents the trends in the growth of annual average milk procurement and milk sales under the Karnataka Milk Federation (KMF) during the period from 2013-14 to 2022-23, analyzed in terms of Annual Growth Rate and CAGR. In 2013-14, the annual average milk procurement under KMF was 51.61 lakh kilograms per day (LKPD), which significantly increased to 81.66 LKPD in 2021-22. However, it showed a slight decline to 81.05 LKPD by February 2022-23, indicating a minor fluctuation in procurement. Similarly, the annual average milk sales under KMF in Karnataka rose steadily during the same period. In 2013-14, average daily milk sales were 29.92 lakh liters per day (LLPD), which increased significantly to 42.82 LLPD by February 2022-23, reflecting a consistent upward trend in demand and distribution.

9. Testing Hypothesis

Null Hypothesis (H0): There is no significant correlation between the number of DCSs and average milk procurement in Karnataka.

Alternative Hypothesis (H1): There is no significant correlation between the number of DCSs and average milk procurement in Karnataka.

Table -4 Correlation Result between DCSs and Average Milk Procurement under KMF in Karnataka

Variables	Mean	Std. Devi	Pearson Correlation	Sig.
DCSs (In Nos.)	14083.8000	1052.70971	.972*	0.000
Average Milk Procurement (LKPD)	70.3270	10.00342		

*. Correlation is significant at the 0.01 level (2-tailed).

The above table presents the correlation between the number of DCSs and average milk procurement in Karnataka. The calculated mean values for DCSs and average milk procurement are 14,083.80 and 70.33 lakh kg per day (LKPD), respectively. The standard deviations for DCSs and average milk procurement are 1,052.71 and 10.00, respectively. The Pearson correlation coefficient was found to be 0.972, which is highly significant at the 1% level, indicating a strong positive correlation between the two variables. Based on this result, the null hypothesis (H_0) stating that “there is no significant correlation between DCSs and average milk procurement” should be rejected, and the alternative hypothesis (H_1) should be accepted. Therefore, it can be concluded that there is a significant positive correlation between the number of dairy cooperative societies and average milk procurement under KMF in Karnataka, suggesting that the expansion and effective functioning of DCSs play a crucial role in enhancing milk procurement.

10. Conclusion Remarks

It can be concluded that the performance and growth of the KMF have been remarkable in the state of Karnataka. It has widely recognized as a leading and profitable dairy cooperative; it has evolved into one of the most successful farmer-led organizations in the region. The KMF performs several key functions: it ensures the provision of inputs for milk production, establishes processing facilities, and facilitates the transfer of technical know-how to dairy farmers. A major objective of KMF is to promote rural development by creating opportunities for self-employment at the village level, discouraging migration to urban areas, and supporting the emergence of a sustainable rural cash economy.

The Federation has taken significant steps to ensure that primary DCSs function as viable business units, while also encouraging active participation of producer members in the management of their societies. Continuous efforts are being made to build the capacities of member producers through substantial investments in education and training. KMF is also upgrading its training infrastructure to state-of-the-art facilities and has conducted numerous need-based training programs tailored to the requirements of farmers. In terms of market outreach, KMF has made notable strides in market development and currently holds a dominant market share of over 65% in liquid milk sales - the highest achieved by any cooperative brand in any Indian city. These accomplishments highlight KMF's pivotal role in transforming the dairy sector in Karnataka and strengthening the livelihoods of rural milk producers.

References

1. Annual Report (2021), Directorate of Economics and Statistics, Bangalore, Government of Karnataka, PP.56-58.
2. Annual Report (2022), Directorate of Economics and Statistics, Bangalore, Government of Karnataka, PP.56-58.
3. Benni, B. S. (2003). Dairy Co-Operative Societies in Karnataka. *Finance India*, 17(2), 648.

4. Dohmwirth, C. (2014). The Impact of Dairy Cooperatives on the Economic Empowerment of Rural Women in Karnataka. *Ph. D Dissertatio. Berlin: Humboldt University Berlin.*
5. Government of Karnataka (2021), Economic Survey of Karnataka, Planning, Programme Monitoring and Statistics Department, Bengaluru-2021-22.
6. Government of Karnataka (2022), Economic Survey of Karnataka, Planning Programme Monitoring and Statistics Department, Bengaluru-2022-23.
7. KMF (2022), Annual Reports of Karnataka Milk Federation (2013-14 to 2022-23), Bengaluru: Progress Report of KMF, Office Records
8. Murthy, P. S., & Geetha, R. S. (2021). Evolution of Dairy Cooperatives in Karnataka: A Special Focus on Women's Dairy Cooperatives. *Asian Journal of Agricultural Extension, Economics & Sociology*, 39(9), 1-7.
9. Popker, S. M. (2016). *The Performance Evaluation of Primary Dairy Milk Co-Operative Societies in Goa* (Doctoral dissertation, Goa University).
10. Rajaram, G. M. (2011). Production Pattern of Milk: A Study at KMF. *Adarsh Journal of Management Research*, 4(1), 38-45.
11. Ravishankara, K. M., Dixit, A. K., Datta, K. K., & Singh, S. P. (2019). Effect of Cooperative Dairy Society on the Performance of Dairy Farms in Mandya District of Karnataka. *Indian Journal of Economics and Development*, 15(4), 580-585.
12. Santhosha, K. M., Gaddi, G. M., Yadava, C. G., Shashidara, B. M., & Gagana, M. D. Composite Performance Analysis of Milk Producer Cooperative Societies in the SHIMUL Jurisdiction of Karnataka.
13. Sirohi, S., Chauhan, A. K., & HM, R. (2018). Value Chain Analysis of Input Delivery System for Liquid Milk in Bengaluru Milk Union of Karnataka.

Citation: Dr. D. Siddappaji 2025. "A Study on Operational Performance and Growth of Milk Federation in Karnataka: A Trend Analysis". *International Journal of Academic Research*, 12(1): 58-67.

Copyright: ©2025 Dr. D. Siddappaji. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.