Reviews in Aquaculture

REVIEWS IN Aquaculture

EDITORIAL

Healthy Diets and Global Aquatic Food Production

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The health and well-being of all people—*including all those persons reading this editorial*—depends by a very large extent upon the nutrient content of their diet or food that they regularly consume. It is not surprising therefore that nutrition-related disorders still remain the number one preventable health challenge facing all countries globally: over 735 million people suffering from hunger and under-nutrition in 2022, and over-nutrition and obesity, and resulting metabolic disorders such as coronary heart disease, diabetes and hypertension, resulting from the increased consumption of fast foods and processed meat products, affecting over 890 million adults in 2022 [1].

Notwithstanding the above global crisis, aquatic food products, whether derived from aquaculture or wild capture fisheries, offer a much healthier alternative to fast foods, highly processed foods and terrestrial meats [2]. Aquatic foods include freshwater and marine fish, crustaceans, molluscs, and several other invertebrate species, such as sea urchins, sea cucumbers, sea squirts, marine worms, as well as aquatic plants, seaweeds, and algae. According to the latest statistical information from the FAO, total global aquaculture production in 2022 reached a new high of 130.92 million tonnes (Mt, live weight) and was valued at $312.75 billion, with the total global production increasing at a compound annual growth rate of 5.19% per year since 2000. By contrast, landings from capture fisheries have remained relatively static since 2000, decreasing from 94.78 Mt in 2000 to 92.29 Mt in 2022, with total global production from aquaculture and capture fishery landings increasing to a new high of 223.21 Mt in 2022 [3]. Seafood currently contributes 14.79% of total animal protein consumed globally; however, great variety of contribution is notable across countries and continents, with values higher than 20% in Asia and about 5% in North and South American countries (Table 1) [4]. Increased consumption of aquatic foods (blue foods) is commonly advocated from various viewpoints and considerations, including environmental as well as health-related factors [5].

In fact, in contrast to traditional capture fisheries, aquaculture offers a series of added advantages, including the ability to significantly increase global fish and seafood production and market availability, reducing harvesting pressure on wild stocks, and thus potentially benefiting biodiversity, and, in the case of fed-aquaculture fish and crustacean species, the unique and so far not fully utilized potential to tailor the nutrient profile of the target species to the consumer, through feed ingredient selection and sustainable feed use. By doing so, aquaculture can maximize the potential health value and benefit of farmed aquatic food products to the consumer.

With this in mind, we believe there is significant value in exploring new research horizons and objectives in aquaculture science. Specifically, our aim should not only be to increase seafood production sustainably, and make it more geographically and economically accessible to people worldwide, but also to explore options to enhance the nutritional composition of cultured species to better benefit consumers. For instance, in regions facing micronutrient deficiencies, tailored aquaculture production systems could help alleviate these issues. This approach requires a conceptual shift from viewing aquaculture merely as a means of producing kilograms of seafood to seeing it as a system capable of delivering specific quantities of essential and beneficial nutrients, where these are needed.

We believe that this revised objective will not only potentially benefit malnourished populations worldwide, contributing to the achievement of SDG 2, 'Zero Hunger', but will also enhance

TABLE 1 | Contribution of fish and seafood, terrestrial meats, milk and eggs to global food supply in 2021 [4].

Country/region	Aquatic foods (kg/cap/year)	% total animal protein	Terrestrial meat (kg/cap/year)	% total animal protein	Milk (kg/cap/year)	% total animal protein	Eggs (kg/cap/year)	% total animal protein	Total
Africa	9.61	17.65	17.78	50.09	35.20	22.31	2.25	4.46	94.51
Asia	24.20	20.33	33.45	43.10	68.44	21.49	11.39	10.88	95.80
Europe	21.71	8.96	77.64	48.05	200.92	33.78	13.91	6.30	97.09
Caribbean	9.30	7.80	45.46	61.69	82.45	19.81	7.13	6.81	96.11
Central America	11.93	7.13	66.99	58.37	111.56	19.46	17.93	11.26	96.22
Northern America	22.18	5.73	122.77	60.82	224.41	26.95	15.80	5.91	99.41
South America	9.66	4.73	84.55	64.21	111.56	19.46	17.93	11.26	99.66
Oceania	22.59	9.62	91.20	61.37	147.36	21.25	6.76	3.37	95.61
World	20.16	14.79	43.12	48.60	87.59	24.09	10.41	8.69	96.17

the aquaculture sector as a whole. In fact, a more ethically focused effort towards nutritionally enhanced seafood production can also help in expanding aquaculture social acceptability, and facilitating aquaculture to be recognized as a sustainable, scalable, equitable and nutritionally effective pillar of the global food system.

In concluding this editorial, we would like to share a technical update and express our gratitude. Starting in 2025, *Reviews in Aquaculture* will transition to continuous publication. This change aligns with industry trends and is expected to be well-received by authors and readers alike, as it allows for a faster turnaround from acceptance to publication, enabling quicker and more effective dissemination of knowledge. However, this shift will affect our ability to continue offering translated abstracts. In fact, aquaculture is a truly global industry, with producers spread across various countries, many of which do not predominantly use English. Recognizing this, *Reviews in Aquaculture* has been a pioneer in providing translated abstracts in multiple languages, including Chinese, Arabic, Spanish and Brazilian/Portuguese. Unfortunately, with the move to continuous publication, this service will no longer be feasible. Nevertheless, thanks to the recent advancements in the efficiency and availability of online translation tools, we are confident that anyone interested in aquaculture, even those with limited English proficiency, will still be able to access and understand the abstracts of our papers.

We would like to extend our sincere thanks to Doctor Itziar Estensoro, Doctor Esther Leal Cebrian, Professor Rasha M. Reda, Professor Daniel Lemos, Professor Maria Célia Portella and Professor Liu Jiashou for their exceptional support in translating abstracts for us, in addition to be highly valuable and active members of the Journal's Editorial Board. I am also extremely pleased and honoured to have co-authored this short editorial with Albert (AGJT). As a founder of this journal, Albert's visionary approach, passion and unwavering support for the sector have been invaluable. I (GMT) am deeply grateful to Albert for his guidance, mentorship and steadfast commitment to the global aquaculture community. Together, Albert and I hope you enjoy this issue of *Reviews in Aquaculture*.

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