

**Research Note****Perceptions of Dietitians about Sustainable Food Systems and Dietetic Practice**

Emily Finlay and Liesel Carlsson\*

*School of Nutrition and Dietetics, Acadia University, Canada*

**ABSTRACT** In an effort to better understand the role of dietitians in contributing to sustainable food systems (SFS), an exploratory survey about the perceived importance of SFS to dietetic practice was distributed to a convenience sample of dietitians practicing in Asian countries who attended the Asian Congress of Dietetics in Hong Kong, July 9 -11, 2018. Results from 36 participants across 8 countries emphasize that dietitians in Asian countries place a strong importance on this topic, regardless of their age or current role in practice, and that they can identify several important ways to approach this work. These findings align very closely with similar work in other regions, however, Asia-specific data on sustainable dietary patterns, and dietetic practice-based guidance would expedite this work in the Asian context. Similarly, integration of SFS into formal education and training is an important long-term investment.

**Key words:** sustainable food systems, dietitians, Asia

**INTRODUCTION**

Food systems are creating complex challenges to our social and ecological systems (1-2). Amidst global calls for collaboration among disciplines, professions and sectors to address food systems sustainability challenges, dietitians are very well placed to participate. They work in many different roles with influence throughout food systems (food industry, health care, consumer choices, institutional menus). Sustainable food systems (SFS) "*ensure food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition of future generations are not compromised*" (3, page 13). Some work is being done in various parts of the world to explore and define the relevance and role of dietitians in sustainable food systems (4-7) however, to the authors' knowledge, none focusses on the Asian countries. There is some work highlighting potential opportunities for public health nutrition to contribute to the Sustainable Development Goals (published after the data for this study was gathered), but no studies gather intelligence from dietitians and in the broader dietetic field of practice (8). The purpose of this research was to explore, through a small pilot study, the perspectives of dietitians and nutritionists practicing in Asian countries about the role of dietitians and nutritionists in sustainable food systems (SFS).

**METHODS**

A convenience sample of dietitians practicing in Asian countries was drawn from participants who attended the Asian Congress of Dietetics in Hong Kong, July 9-11, 2018. Participants were recruited by word of mouth, and through invitation cards freely circulated and left outside presentation rooms. The invitation cards included a QR code to the online survey. The survey asked questions about the country in which they practice, their perceptions of sustainable food systems, their perceived level of importance of

sustainability in various areas of practice, including their own, and the importance of various types of approaches/activities in carrying out this work. Data was analyzed using descriptive statistics using Microsoft Excel.

Ethical approval for collection of this data was obtained by the Research Ethics Board at Acadia University.

**RESULTS**

Thirty six conference participants from eight countries responded to the survey. The highest percentage of participants were employed in India (30.56%), followed by Hong Kong (25.00%) and China (16.67%). Places of employment of the survey participants varied. This survey included dietitians and nutritionists working at hospitals or clinics, universities, in the food industry, in food service, with government or non-government organizations, and "other". The greatest number of participants were employed in a hospital or clinic (33.33%), followed by employment at a university (22.22%). Participants of this survey were all above the age of 19, with the majority of participants (75.00%) above 40 years of age.

Participating dietitians articulated their ideas about what sustainable food systems are, and responses covered a range of social, economic and ecological topics. Some were very comprehensive, for example: "*A sustainable food system is a collaborative network that integrates several components in order to enhance a community's environmental, economic and social well-being. It is built on principles that further the ecological, social and economic values of a community and region.*"

When asked "*How important is the role of nutritionists and dietitians in promoting SFS?*" 72.2% (n=26) of participants agreed that promoting SFS is a very important role of dietitians and nutritionists. The average importance rating was 4.58 out of 5

\*To whom correspondence should be addressed:  
liesel.carlsson@acadiau.ca

(Figure 1). Qualitative responses from the participants further emphasized the importance of dietitians and nutritionists promoting SFS. For example, by sharing messages about how to do so: “*We (should) eat local food. We (should) thank for the harvest. Do not eat too much. Do not throw away food. We should educate how to eat and how much we eat*”, was a comment from one participant. Many participants also strongly expressed that it is important for everyone to promote SFS, and to work collaboratively. One participant wrote that “*It is everybody's responsibility. Not only dietitians. We should work together with others from the same work environment; food tech, food workers, restaurants etc. To help prevent the increasing food waste and promote proper food distribution or donation instead of throwing food away. This would also help with malnutrition and food imbalance.*” Another wrote: “*Engaging with ALL stakeholder(s) is essential. Need to identify the incentives within each sector (government, industry, academia, dietetics) to work towards a sustainable food system*”. Additional comments from participants strengthened this positive response to SFS: “*Everybody should have the mindset, we have one earth, we have one mission (to) keep the sustainable environment.*”

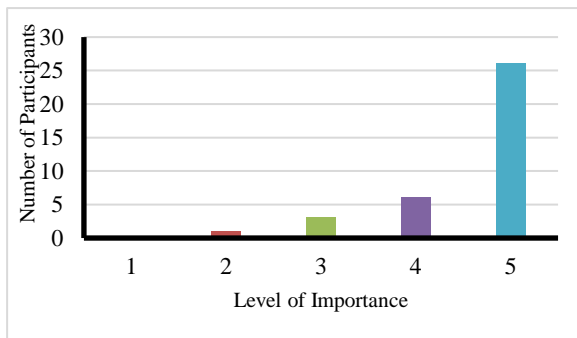


Fig 1. Perceived level of importance of the role of dietitian and nutritionists in promoting SFS (1=Not important, 5 = Very important)

Results show that regardless of work role participants felt that the level of importance was at least moderate. When the level of importance was broken down across five areas of work, or roles, (hospitals or clinics, universities, food industry, food service, government or non-government organizations, and other), the mean rating of importance was three (moderately important).

The survey asked participants to rank the level of importance of several approaches in contributing to SFS *in general*, and *in their own workplace*. These approaches included: education, helping food industry, advocacy, research and other. Regarding the approaches that dietitians and nutritionists can use in promoting SFS, in general, participants rated advocacy (mean = 4.53) and education (mean = 4.50) to have the highest level of importance. When participants were asked about their specific role in promoting SFS in their own workplace, on average, participants ranked their role in education (mean = 4.24) and research (mean=4.00) to have the greatest level of importance (Figure 2). No significant differences emerged across age groups and places of employment. All approaches were ranked highly across participant roles.

Finally, through the survey’s open comments, dietitians recognized that there are barriers to applying some of these ideas in practice, and they are related to knowledge. One participant expressed that we “*need more research evidence to show sustainable food is not only good to environment, but also to health*”. Another suggested that “*Dietitians should get advance training on sustainability and modern agricultural methods*”.

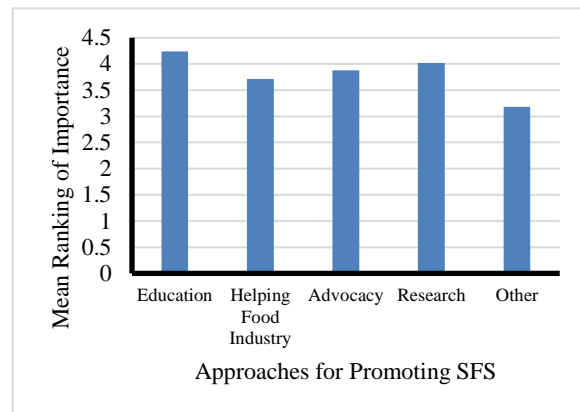


Fig 2. Perceived level of importance across approaches, *within current roles*, for promoting SFS.

## DISCUSSION

Results of this exploratory work indicate that dietitians practicing in Asian countries, like their colleagues in other parts of the world (7, 9, 10) have a nuanced understanding of what sustainable food systems are, and that regardless of age or roles in the food system (e.g., clinical, food industry, etc.), the majority of participants felt that dietitians and nutritionists have an important role in promoting SFS. Further, similar to work in other regions (6, 11), participants identified several important approaches that can be applied to this work, and emphasized using education, advocacy, and research. For example, dietitians working in food industry can advocate for setting industry regulations that support sustainability, and those working with clients (individuals, families, communities, organizations) have opportunity to educate for SFS. As many participants in this study worked in research, participating in research teams to understand sustainable diets in the Asian context is one important opportunity. Results support the idea that dietitians are indeed well positioned to contribute meaningfully to more sustainable food systems.

It is critical to note some participants emphasize that while dietitians have an important role, this is an issue that requires participation and leadership from many other disciplines and sectors – that this is a “mindset” that is needed in the work.

The question we ask ourselves now is “Where do we go from here?” The barriers identified related to knowledge are significant, and will take time to address. While some good resources about sustainable dietary patterns exist (2, 12), and some specific to Asian countries (13), further research about the comprehensive sustainability (i.e., not only climate impacts) of dietary patterns across Asian countries would be a valuable contribution to supporting this work. Advocating for, or participating in research

teams which produce research on sustainable dietary patterns in the Asian context is needed.

Further, little is published about the level or type of training in sustainable food systems that dietetic trainees receive, although research from Australia shows that more work needs to be done (14). The International Confederation of Dietetics Associations has been working to support international member associations and dietitians with knowledge development for sustainable food systems through development of an online toolkit (15), but acknowledge that there is a dearth of Asia-specific resources. Dietitians practicing in Asia can support one another within the profession about how to incorporate SFS into practice, share resources, and to seek appropriate professional development in this topic if needed. A practice network with a focus on this topic may be helpful.

This exploratory, pilot study is limited in its generalizability to the entire population of dietitians and nutritionists practicing in Asia due to the small sample size. The results suggest significant interest in this area and invite further study.

#### ACKNOWLEDGEMENT

The authors gratefully acknowledge Dr. Edith Callaghan's contributions to survey design, and to ACD 2018 organizers to allowing the collection of this data. Financial support from the International Confederation of Dietetics Associations enabled data collection, and from Acadia University Faculty of Pure and Applied Science enabled student support.

#### REFERENCES

- 1) International Panel of Experts on Sustainable Food Systems. Unravelling the Food-Health Nexus: Addressing practices, political economy, and power relations to build healthier food systems. 2017. <<http://www.ipes-food.org/health>> (accessed: 14/11/2018).
- 2) Willett W. et al. Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *Lancet* 393: 447–92. 2019. <[https://doi:10.1016/S0140-6736\(18\)31788-4](https://doi:10.1016/S0140-6736(18)31788-4)>.
- 3) High Level Panel of Experts on Food Security and Nutrition. Food Losses and Waste in the Context of Sustainable Food Systems. Committee on World Food Security, Rome. 2014. <<http://www.fao.org/3/a-i3901e.pdf>> (accessed 19/09/2018).
- 4) Italian Association of Dietitians. Role of dietitians in food sustainability: position of the Italian Association of Dietitians (ANDID). 2010. <<https://icdasustainability.org/wp-content/uploads/2020/05/ANDIDPositionStatementFoodSustainability.pdf>> (accessed Jan. 20, 2019)> (accessed 14/11/2018).
- 5) British Dietetic Association. British Dietetic Association Policy Statement: Sustainable Diets. 2017. <[https://www.bda.uk.com/improving-health/healthprofessionals/policy\\_statement\\_sustainable\\_food](https://www.bda.uk.com/improving-health/healthprofessionals/policy_statement_sustainable_food)> (accessed 11/02/2019).
- 6) Spiker M, Reinhardt, S, Bruening M. Academy of Nutrition and Dietetics: Revised 2020 Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Sustainable, Resilient, and Healthy Food and Water Systems. *J. Acad. Nutr. Diet.* 120(9):1568-1585.e28, Sep. 2020. <<https://doi:10.1016/j.jand.2020.05.010>>.
- 7) Carlsson L, Seed B, Yeudall F. The Role of Dietitians in Sustainable Food Systems and Sustainable Diets. Dietitians of Canada, Toronto. 2020. <[https://www.dietitians.ca/Advocacy/Toolkits-and-Resources?n=The%20Role%20of%20Dietitians%20in%20Sustainable%20Food%20Systems%20and%20Sustainable%20Diets%20\(role%20paper\)&Page=1#](https://www.dietitians.ca/Advocacy/Toolkits-and-Resources?n=The%20Role%20of%20Dietitians%20in%20Sustainable%20Food%20Systems%20and%20Sustainable%20Diets%20(role%20paper)&Page=1#)> (accessed 11/02/2021).
- 8) Binns C, Lee MK, Low WY, Zerfas A. The Role of Public Health Nutrition in Achieving the Sustainable Development Goals in the Asia Pacific Region. *Asia Pac J Pub Health* 29(7). 2017. <<https://doi.10.1177/1010539517736441>>.
- 9) Carlsson L, Callaghan E, Laycock-Pederson B. Building Common Ground for Sustainable Food Systems in Nutrition and Dietetics. Report to the International Confederation of Dietetics Associations. Acadia University; Blekinge Institute of Technology. 2019. <<https://icdasustainability.org/about>> (accessed 11/09/2020).
- 10) Burkhart S, Verdonck M, Ashford T, Maher J. Exploring the Concept of Sustainability in Nutrition and Dietetics: Student, Academic and Practitioner Perspectives. *J. Nutr. Educ. Behav.* 52(7):S63. 2020. <<https://doi:10.1016/j.jneb.2020.04.146>>.
- 11) Vogliano CT, Brown K, Steiber A. Strategies for Registered Dietitian Nutritionists to Advance Sustainable, Nutritious Food Systems and Improve Health Outcomes. *J. Acad. Nutr. Diet.* 115 (9):SA73. 2015. <<https://doi:10.1016/j.jand.2015.06.259>>.
- 12) Clark M, Macdiarmid J, Jones AD, Ranganathan J, Herrero M, Fanzo J. The Role of Healthy Diets in Environmentally Sustainable Food Systems. *Food Nutr. Bull.* 41(2):31S-58S. 2020. <<https://doi:10.1177/0379572120953734>>.
- 13) Adhikari B, Prapasongsa T. Environmental Sustainability of Food Consumption in Asia. *Sustainability* 11(20):5749, 2019.
- 14) Carino S, McCartan J, Barbour L. The Emerging Landscape for Sustainable Food System Education: Mapping Current Higher Education Opportunities for Australia's Future Food and Nutrition Workforce. *J. Hunger Environ. Nutr.* 15 (2):1–22. 2019. <<https://doi:10.1080/19320248.2019.1583621>>.
- 15) International Confederation of Dietetics Associations. ICDA Sustainability Toolkit – Supporting Sustainability in Nutrition. 2020. <<https://icdasustainability.org/>> (accessed 11/09/2020).

