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Contribution of scaling up nutrition Academic Platforms to nutrition capacity strengthening in Africa: local efforts, continental prospects and challenges

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Addressing contemporary nutrition problems often requires application of knowledge from multiple disciplines. The scaling up nutrition (SUN) movement harnesses multiple sectors for effective global and in-country planning and implementation. Although the role of knowledge networks (academia and research institutions) is recognised, the how of engaging knowledge networks in the current SUN architecture is only now becoming apparent. For relevant sectors to play their roles effectively, observed capacity gaps, particularly in developing country settings, need to be addressed. The present paper presents the work being undertaken by the Ghana SUN Academic Platform (AP), a local knowledge network, towards strengthening nutrition capacity in Ghana. The AP presently provides technical support, evidence and capacity towards scaling up effective nutrition interventions in Ghana and beyond. The data presented draws heavily on the observations and collective experiences of the authors in practice, complemented by a review of relevant literature. The ultimate goal of the AP is to build capacity of professionals from nutrition and cognate sectors (including planning, agriculture, health, economics, research and academia). This is an essential ingredient for effective and durable SUN efforts. The paper recognises that both disciplinary and interdisciplinary capacity is required for effective SUN efforts in Africa, and offers an approach that utilises cross-sector/inter-professional, peer-learning and experiential learning initiatives.

Scaling up nutrition: Academic platforms: Nutrition capacity building: Ghana

Abbreviations: AfN, Association for Nutrition; ANEC, African Nutritional Epidemiology Conference; ANLP, African Nutrition Leadership Programme; ANS, African Nutrition Society; AP, Academic Platform; CSPG, Cross-sectoral planning group on nutrition; FANUS, Federation of African Nutrition Societies; MSP, multistakeholder platforms; SUN, scaling up nutrition.

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The establishment of the scaling up nutrition (SUN) movement in 2010 focused substantial attention on nutrition at all levels. Transformational leadership and institutional capacity have been identified as binding constraints to the translation of this attention into improved nutrition outcomes, especially in Africa⁽¹⁾. As a result, there is increasing demand for investing in nutrition capacity development^(1,2). The 2014 Global Nutrition Report indicates that delivering nutrition at scale cannot be met if it is not accompanied by investments in the capacities of people, and institutions⁽²⁾. It is imperative that sustainable capacity building and strengthening happens at all levels as these are prerequisites for realising not just the SUN-specific targets, but also those of the UN sustainable development goals⁽³⁾, and Africa's Agenda 2063 development framework⁽⁴⁾.

Traditionally, nutrition capacity building has focused narrowly on the biological aspects with limited attention to the behavioural or social aspects⁽⁵⁻⁷⁾. Present evidence has brought better understanding of how the various competencies beyond biological aspects of nutrition are needed to scale nutrition actions. For example, Fanzo *et al.*⁽¹⁾ have suggested the need for a conscious horizontal (e.g. across sectors) and vertical (e.g. from national to district and community levels) coordination of nutrition actions and the capacities needed to achieve this.

The Ghana SUN Academic Platform (AP) is a local academic network in Ghana with the purpose of contributing to nutrition scale up in Ghana. One of its key objectives is to contribute to capacity strengthening across all relevant sectors in Ghana. The AP recognises that the capacities needed to tackle the existing nutrition challenges are varied across settings, institutions and sectors and therefore seeks to strengthen nutrition capacity by employing an interdisciplinary approach.

The present paper aims to discuss the prospects and challenges of the AP approach to nutrition capacity building. The present paper draws on a non-exhaustive review of published and grey literature focusing on nutrition capacity building. The search strategy for this review made use of search terms including 'capacity, capacity building, capacity development, capacity strengthening'. The review enabled a summary of definitions, concepts and relevance of capacity building in general and in the context of SUN. The outcome of the review process, complemented by the collective experiences of the authors, enabled conceptualisation of a strategy for applying capacity-building principles to SUN.

The present paper is organised into five thematic areas. Firstly, background concepts on capacity building, and the need to build capacity are presented; the second part summarises past and present nutrition capacity-building efforts in Africa; part three traces the evolution of SUN AP, with a focus on Ghana. The penultimate section describes a generic AP framework for capacity building in the context of SUN. In the final section, challenges, gaps and opportunities to nutrition capacity building in support of SUN in Africa that have been identified are discussed.

Capacity-building concepts

Although capacity and capacity-building issues have been in the discourses of the development agenda the concepts require clarification. It is recognised that capacity building is complex, both conceptually and operationally⁽⁸⁾. As such, diverse conceptualisations of capacity is evident in the literature, including: technical skills; availability of sufficient human, financial, or technological resources; overall capability of an organisation; or organisational utilisation of available inputs to produce result. The UN Development Programme has defined capacity as the ability of individuals, organisations and systems to perform functions effectively, efficiently and sustainably⁽⁹⁾. Capacity building meanwhile is defined as an approach to the development of sustainable skills, organisational structures, resources and commitment to health improvement in health and other sectors, to prolong and multiply health gains many times over⁽¹⁰⁾. Although used interchangeably, capacity development differs from capacity building. Whilst capacity development emphasises acquisition, strengthening, and maintenance of skills and capabilities developed over time, capacity building emphasises *de novo* building/generation of capacity/competencies. Workforce development or learning according to Hawe *et al.*⁽¹¹⁾ can be achieved in three ways: (1) Incidental learning where the learning appears to be by 'accident' and people are not aware that they are learning. For example, in casual conversations or when a person is engaged in activities such as attending the launch of a health promotion program or product. (2) Informal learning where the learner is aware of being engaged in the learning process. There are three types of informal learning activities: proactivity, such as encouraging people to take on new responsibilities; creativity, such as encouraging people to breakout of old patterns of thinking; reflectivity, which is learning from reframing a problem or issue and looking at new solutions, which may be superior to the ones initially tried by the learner. (3) Formal learning strategies where the learner or their workplace has identified learning or training need and develop strategies to meet these. For example, mentoring schemes, training programs or post graduate university courses. These are described in detail later within the present paper.

Capacity development in nutrition is equally a complex process of developing sustainable skills, organisational structures, resources and commitment to improve nutrition outcomes. There is the recognition that nutrition spans diversity of stakeholders, as such capacity development in the context of nutrition or SUN pays heed to these stakeholders. It is thus defined as the process through which relevant stakeholders (including government agencies, civil society, international organisations, donors, the private sector and knowledge networks, etc.) improve their abilities to perform their core roles and responsibilities, and to effectively work together to ensure the SUN. We adopt the reasoning by Gillespie⁽⁸⁾ that capacity building in the context of SUN encompasses a continuous process of

improvements that are specific to existing capability and identified needs. Many calls exist for investing in nutrition capacity development^(1,2). Increased capacity on the ground could definitely improve effective nutrition interventions to deliver or scale them up. Aside from nutrition outcomes, capacity development in the health sector improves overall programme design, implementation, greater accountability and efficient use of resources^(9,11). Indeed, building capacity to improve health is an important element of effective health promotion practice. It increases the range of people, organisations and communities who are able to address health problems, and in particular, problems that arise out of social inequity and social exclusion. The work of Hawe *et al.*⁽¹¹⁾ details a number of important reasons for the health system to focus on capacity building. These include its ability to multiply health gains, increase visibility of efforts of diverse stakeholders in the health system, improve accountability of practitioners, and increase systemwide responsiveness.

Nutrition capacity-building efforts in Africa: past and present

Shrimpton *et al.*⁽¹²⁾ provide an excellent summary of historical background to global efforts towards building nutrition capacity. Workforce development, they note, has been a central focus of earlier approaches to capacity development. Palpable global efforts to establish a framework and strategy for developing nutrition capacity in lower middle-income country setting began at a meeting in Manila hosted by the UN University and the International Union of Nutritional Sciences⁽¹³⁾. Those early efforts, focused on building the capacity for advanced training in food and nutrition, and research capacity. Reference has also been made to the concept of a national training pyramid emphasising three types of functional categories: policy/decision makers; researchers/planners/trainers; and programme implementers.

Another major effort was championed by the UN System Standing Committee on Nutrition working group on capacity development in food and nutrition. Created in 2000, the working group established regional task forces for Asia, Africa, the Middle East, Central and Eastern Europe and Latin America. However, one of the main obstacles reported by the task force in Africa was the lack of enthusiasm for capacity building among donor agencies⁽¹⁴⁾. Pepping also provides a comprehensive analysis of the capacity for training in public health nutrition in West Africa⁽⁶⁾. This work notes a lack of attention to the societal dimensions of capacity development including governance issues. The relatively more recent work by Shrimpton *et al.*⁽¹²⁾ shows that most African countries have insufficient nutrition capacity. Even in countries such as Nigeria and Ghana where relatively more nutrition graduates are produced, they are eventually not employed in nutrition positions⁽¹²⁾.

Oyewole and Amosu also lament about the very limited institutional capacity for training people in the field of nutrition in sub-Saharan Africa. They noted

that where such trainings are done, the quality is often technically deficient⁽¹⁵⁾. In Africa, there are very few opportunities for building the capacity of young people and developing their leadership potentials. The present active initiatives include the African Nutrition Leadership Programme based in South Africa, the African Nutrition Society (ANS) and its African Nutritional Epidemiology Conference (ANEC), the Federation of African Nutrition Societies (FANUS), Food Science Network for Africa, West Africa Health Organisation and the Economic Commission of West African States Nutrition Forum.

The African Nutrition Leadership Programme (ANLP), which has been in existence for about a decade and-a-half is a champion of transformational leadership capabilities in individuals and institutions aimed at improving the delivery of programmes and services⁽¹⁾. The ANLP training comprises a 10-d intensive individual leader-focused programme. Participants, drawn from several African countries congregate in South Africa for this training, which emphasises working in multidisciplinary teams. To date, the ANLP has over 300 alumni networked across over thirty African countries. In addition, the ANLP is presently developing a group of twenty master trainers, drawn from the alumni, which will further increase its capacity to develop institutional leadership capabilities on the continent in both anglophone and francophone countries. Present activities include leadership development programmes in Zambia, Uganda, Rwanda and South Africa. Content covered by the programmes include, change leadership, self-awareness, communication, value-driven teamwork, team effectiveness, managing resistance to change, lobbying and advocacy, organisational diagnosis, self-management, results-oriented action planning, gaining stakeholder commitment and continued personal and institutional growth and development.

The ANS is a professional society, which provides a networking forum (the ANEC conferences), which indirectly promotes skills in research and research communication. The ANEC conferences, which have been running since 2002, are held every other year and incorporate training in academic writing, proposal development, biostatistics and networking, particularly targeting young scientists. Aside from ANEC and its associated training workshops, ANS is developing a new technical capacity development eLearning platform known as e-Nutrition Academy (www.enutritionacademy.org). The ANS is also developing professional practice frameworks that will lead to professional registration and accreditation. The long-term aim of the professional practice framework is harmonisation of nutrition training across Africa, particularly in higher education institutions.

The African Union and the New Partnership for Africa's Development consider strengthening capacity to mainstream nutrition in national agriculture and food security as important. In order to fill capacity gaps in nutrition, the African Union and New Partnership for Africa's Development, with technical support from the Food and Agriculture Organisation, the UN, and financial support from the German Cooperation, launched the

Comprehensive Africa Agriculture Development Programme Nutrition Capacity Development Initiative in 2011. Key strategies of the Initiative included capacity development (through three sub-regional capacity-building workshops for West, East, Central and Southern Africa on nutrition-sensitive agriculture and food systems. The workshops are targeted at stakeholders intervening at regional and country levels in food and nutrition security-related areas⁽¹⁶⁾. During these workshops organised between 2011 and 2013, countries developed nutrition papers summarising the national nutrition environment and roadmaps/action plans for integration of nutrition into their National Agricultural and Food Security Investment Plans. Brown *et al.*⁽¹⁷⁾ report on one of such workshops, which focused on strengthening public health nutrition research and training capacities in West Africa, highlighting the present nutrition and health situation in West Africa. They estimated the resource needs for trained nutritionists in the West African region (see Table 1).

An Ellahi *et al.*⁽¹⁸⁾ desk review of available nutrition-related training opportunities offered by higher education institutions across Africa show a wide gap in nutrition workforce capacity to meet present and future expectations of the SUN in Africa. Sodjinou *et al.*⁽¹⁹⁾ recently conducted a systematic assessment of the present capacity to act in nutrition in thirteen West African countries. They identified 305 nutrition degree programmes offered by 113 tertiary-level institutions and 127 training programmes offered by fifty-two health professional schools. They concluded that nutrition programmes in West Africa are characterised by a critical shortage of skilled human resources, limited funding, high dependency on donor resources, weak logistic and infrastructural systems, and lack of supervision and coordination of nutrition activities at lower levels.

Evolution of the scaling up nutrition Academic Platforms/knowledge networks

The SUN AP was initiated in 2012 by academics who were involved with establishing the SUN movement at global level. These academics realised the unmet need for nutrition expertise to enhance the SUN agenda. Subsequently, the Global SUN AP have been incorporated into the SUN movement as Academia Subcommittee and has the mandate to facilitate the engagement of the scientific community to support the SUN movement. This is achieved through knowledge management, capacity development and technical assistance as required by the SUN countries. At country levels, the AP acts as a catalyst to bring together resource teams, organisations, and networks at regional, sub-regional or local levels to address the gaps and barriers of a country in question to end malnutrition through concrete recommendations and action plans. The specific tasks of the SUN AP include the following:

Integrate scientific competencies and information for a useful communication in the SUN movement; Build consensus on the knowledge and skills required for a professional education that addresses issues related to SUN

movement; Discuss global proposals of competency development in the regions, facilitate regional communication to build consensus and support coordinated regional action; Standardise the process of generating helpful services for both competency and capacity building in the overarching Nutrition agenda relevant to SUN movement; Identify bottlenecks in the participation of academics to contribute to the SUN movement and facilitate strategies to alleviate these inhibiting factors; Using the relevant information from the country groups itself in training the trainer for valued capacity building and internal networking with other arms of SUN movement.

Evolution of the Ghana scaling up nutrition Academic Platform

As described earlier, the AP in Ghana is a knowledge and research network set up to support implementation of nutrition policies and programmes in Ghana using the best capacity and evidence. In Ghana, Academia and research institutions have a long, albeit poorly documented history of participation in nutrition policy planning and implementation⁽²⁰⁾. These roles have been performed beyond the traditional role of pre-service training of staff nutrition officers for public and private institutions. Academic researchers' involvement cuts across primary research to the development of solutions (efficacy and effectiveness). For example, Ghanaian nutrition scientists have played key leadership roles in the conception and implementation of the epidemiological studies that unearthed the burden of Vitamin A deficiency and disorders, suboptimal infant and young child feeding, and poor iodine status in Ghana⁽²¹⁾. Beyond these community-based studies, various pilot interventions have been implemented either independently or in collaboration with Government Agencies to address nutrition. For example, nutrition staff of the University for Development studies played key roles in the implementation of the Linkages project, which contributed immensely to the scale up and promotion of appropriate Infant and Young Child Feeding practices in the three northern regions of Ghana between 1997 and 2004⁽²²⁾. Other important examples include the Hunger Project and more recently, the International Lipid-based Nutrient Supplements project by the University of Ghana, both of which involved the development and testing of food-based interventions targeting malnutrition in children in the eastern region of Ghana. Furthermore, a team of researchers at the Kwame Nkrumah University of Science and Technology in collaboration with the University of Southampton and Rafael Landivar University, Guatemala, with funding from the Department for International Development, UK, working through the Nutrition Embedding Evaluation Programme, are building capacity of in-service and pre-service health professionals across the Ashanti region of Ghana. The essence is for scaling up, prevention and treatment of severe acute malnutrition in infants and children, through the Malnutrition eLearning Evaluation Project. It is within these contexts that the AP evolved.

Table 1. Estimated human resource needs for trained nutritionists in West Africa

Country	Population (millions)	BSc needs			MSc needs			PhD needs		
		Total	Annual	Present capacity	Total	Annual	Present capacity	Total	Annual	Present capacity
Benin	9	180–900	18–90	10	18–90	2–9	5	9–45	1–5	1–2
Burkina Faso	15	300–1500	30–50	?	30–150	3–15	5	15–75	2–8	2
Cameroon	14	280–1400	28–140	?	28–140	3–14	20	14–70	2–7	2–3
Cote d'Ivoire	19	380–1900	38–190	?	38–190	4–19	?	19–95	2–10	?
Gambia	2	40–200	4–20	?	4–20	1–2	?	2–10	1	?
Ghana	23	460–2300	46–230	>100	46–230	5–23	10	23–115	2–12	3–4
Guinea	9	180–900	18–90	?	18–90	2–9	?	9–45	1–5	?
Guinea-Bissau	2	40–200	4–20	?	4–20	1–2	?	2–10	1	?
Liberia	4	80–400	8–40	?	8–40	1–4	?	4–20	1–2	?
Mali	12	240–1200	24–120	?	24–120	3–12	?	12–60	1–6	<1
Mauritania	3	60–300	6–30	?	6–30	1–3	?	3–15	1	?
Niger	14	280–1400	28–140	10	28–140	3–14	?	14–70	2–7	?
Nigeria	148	2960–14 800	296–1480	?	296–1480	30–148	>100	148–740	15–74	>5
Senegal	12	240–1200	24–120	?	24–120	3–12	3–5	12–60	1–6	1–2
Sierra Leone	6	120–600	12–60	?	12–60	1–6	?	6–30	1–3	?
Togo	7	140–700	14–70	?	14–70	1–7	1–2	7–35	1–3	1
All Anglophone	180	3600–18 000	360–1800	>100	360–1800	36–180	>110	180–900	18–90	~8–10
All Francophone	114	2280–11 400	228–1140	>20	228–2240	23–224	>30	114–1120	11–112	~6–11
All West Africa	296	5920–29 600	592–2960	>120	592–2960	59–296	>140	296–1480	30–148	~14–21

Source: Brown *et al.*⁽¹⁷⁾; ?, data not available.

Fig. 1 presents a description of the main activities that led to the establishment of the Ghana SUN AP.

2011: Ghana signed up as an early riser country of SUN Movement with the Ghana Nutrition Association playing a key convening role.

2011: The Ghana Nutrition Association championed formation of a network of Civil society organization working in nutrition for SUN.

2012: The AP invited to play leading roles as part of the multi-stakeholder platform (MSP) for SUN by the National Development Planning Commission.

2013: The AP served on committee to finalise and validate the national nutrition policy.

2014: The AP showcased at the 2014 ANEC. The AP presented two papers on nutrition training and financial tracking; both papers have been published^(23,24). The AP was part of the national delegation that represented SUN movement in Ghana at the 2014 Global gathering. Worked with the Global Social Observatory to develop a framework for addressing conflicts of interest within the SUN movement.

2015: The AP is registered as a non-profit organisation with the Registrar General's office in Ghana. The AP was invited to provide document drafting services for the SUN cross-sectoral planning group on nutrition (CSPG).

2016: The AP instituted a governance structure by appointing an interim management.

Contribution to scaling up nutrition: cross-sectoral planning group on nutrition activities in Ghana

Presently registered in Ghana as a knowledge sharing network, the AP is recognised as a participating member

of the SUN CSPG (the CSPG facilitates coordination across sectors for SUN movement in Ghana; see Fig. 2).

The AP has contributed severally to the workings of the CSPG and its partners including providing technical support to the tracking of national nutrition spending, assessment of the capacity for SUN focusing on pre-service training in West Africa⁽²³⁾, completion of desk analysis that determined Ghana government budgeting and spending on nutrition⁽²⁴⁾, contributed to the drafting, finalisation and validation of the Ghana National Nutrition Policy, the drafting of National Universal Salt Iodisation Strategy, development of a concept paper on moving the local SUN actions forward (this was presented to the National SUN focal person in 2016) and drafting an issues paper on mainstreaming nutrition in social protection in Ghana. Perhaps, one of the major capacity-building efforts by members of the AP is the co-writing of a grant that catalysed the formation of the Ghana Coalition of Civil Society Organisations for SUN, which aims to harmonise and coalesce the different shades of civil society organisations advocacy activities so as to ensure coherence and unity in achieving local and national SUN goals.

At the international level, the AP has contributed to SUN initiatives in a number of ways. In 2014, members of the AP availed themselves to serve in the local organising committee of the ANS ANEC VI in Ghana. The AP was called upon to facilitate two 'Enhanced Learning Exercises for the Consultation Process on Engaging in the SUN Movement: Preventing and Managing Conflicts of Interest' in Accra, Ghana (2014), and in Geneva, Switzerland (2015). The AP was represented in the 2015 FANUS Conference held in Arusha, Tanzania. At this conference, a presentation focusing on engaging research and policy in SUN framework was made by a

member. At the invitation of the Global SUN movement secretariat, members of the AP contributed two 'In Practice Briefs' addressing conflict of interest issues in the SUN process⁽²⁵⁾ and bridging the gap between research and policy⁽²⁶⁾. Members of the AP recently contributed to the drafting of Ghana's 40-year development plan, which has a major emphasis on nutrition.

The Academic Platform's focus and approach to capacity building in the context of scaling up nutrition

A recent proceedings of a workshop that considered how to develop the capacity of a global cadre of nutrition professionals for the post-2015 development era⁽¹⁾ acknowledged several proposed frameworks for measuring nutrition capacity gaps^(1,2,12,27), however, noted that few of these frameworks have been used in a systematic manner. Gillespie *et al.*⁽²⁸⁾ had earlier recognised the lack of effective leadership and advocacy skills training. Pelletier *et al.*⁽²⁹⁾ argue that nutrition workforce requires not only specific skills but also the development of broader skills that enable individuals to work as part of multi-sectoral, multi-stakeholder or multidisciplinary teams.

While the authors of the present paper are wholly supportive of capacity-building initiatives that focus on teaching nutrition as a multidisciplinary subject within academic institutions, they equally place premium on strengthening capacity of nutritionists, and other professionals in cognate fields. With a key focus on strengthening capacity to scale up nutrition, and inspired by previous conceptions of capacity building^(29,30) the authors propose a number of non-traditional capacity strengthening initiatives, including in-service capacitation. Potter and Brough⁽³⁰⁾ identify a pyramid of nine separate but interdependent components to emphasise that capacity can only be developed in the context of the purpose for which it is seeking to operate or address issues. In the context of capacity to scale up nutrition, the present paper's capacity strengthening focuses on all the elements of professional provision in relevant nutrition-related training, mentoring, knowledge transfer, practical and transferrable skills development, research, leadership and competences in individuals.

Our approach also pays heed to other frameworks^(10,27,29-31). Baillie *et al.*⁽²⁷⁾ capacity-building framework for public health nutrition practice illustrates the relationship between the different domains of capacity building in public health nutrition practice. Workforce development is one of the pillars of this framework which recognises the multi-level and multi-disciplinary nature of the work required to be effective in public health nutrition practice. Palermo⁽³²⁾ identifies continuing competence development as a key element of capacity building or workforce development. Hawe *et al.*⁽¹⁰⁾ indicate that workforce development can be achieved in three ways: incidental learning where the learning appears to be by 'accident' and people are not aware that they are learning (for example, in casual conversations or when a person is engaged in activities such as attending the launch of a

health promotion programme or product); informal learning where the learner is aware of being engaged in the learning process; and formal learning strategies where the learner or their workplace has identified learning or training needs and develops strategies to meet these. Pelletier *et al.*⁽²⁹⁾ argue that nutrition workforce requires not only specific skills but also the development of broader skills that enable individuals to work as part of multi-sectoral, multi-stakeholder, or multidisciplinary teams.

Against this background, the AP does not seek to build capacity of nutritionists *de novo* through formal learning; it seeks to strengthen the capacity of nutritionists, as well as professionals in cognate fields. National and local SUN MSP are prime targets. The approach recognises all of Hughes'⁽³¹⁾ competency areas (analytical, socio-cultural and political, public health services, communication, nutrition science and professional). While the various outputs of the AP presented within the present paper qualify, the AP resolves to deploy other approaches such as experiential learning; continue their higher education training initiatives; and mentoring/informal training with partnerships as an important catalyst in this endeavour.

Higher education as a capacity-building initiative

In nutrition and related fields, technical learning generally occurs in formal academic institutions, particularly in the university environment. This is characterised by a combination of classroom-based theoretical knowledge and practical training. It is almost axiomatic that university-based education is a foundation to competent practice. University education provides deep learning opportunities and, combined with practical experience and prepares nutrition professionals for practice. Many national governments over the years, including Ghana, have focused predominantly (if not exclusively) on this kind of capacity building. Today, quite a number of African countries have several generations of well-trained nutrition scientists, who are more than equal to the task of directing nutrition capacity-building initiatives. Even so, their efforts to attenuate the problems of malnutrition have met with little success. Galal⁽³³⁾ offers some reasons for this failure, including the lack of understanding of the culture and behaviour of local populations and the failure to integrate this understanding into programmes and policies. Until very recently, lessons learned from social and behavioural sciences were not being integrated into nutrition training programmes. Second is the incongruence of training and practice. Hughes⁽³⁴⁾ attributes this partly to the exclusive focus of present workforce training on nutritional science and little or none on behavioural or social sciences. It is now acknowledged that other disciplines such as public health and epidemiology, nursing, planning, journalism and communication science, economics and public policy analysis; agricultural and food sciences; social sciences; planning, management, and even adult education are required in nutrition problem-solving⁽⁷⁾. Unless addressed, these problems threaten to leave formally trained nutrition



Prior to 2011	Researchers in Nutrition engaged with various programs/Projects related to nutrition policy and programming in Ghana, including drafting of NNP
2011	Academics in the Ghana nutrition Association actively engage with other CSOs to support advocacy for the SUN movement in Ghana
2013	Ghana SUN AP idea conceived and shared with selected nutrition researchers in Ghana
2014	Ghana SUN AP participates actively in planning and implementation of ANEC 2014 in Accra
2015	Ghana SUN AP registered as a Non-profit organization
2016	Ghana SUN AP Establishes Interim management
2014	Ghana SUN AP Partners with Evident-Ghana to implement workshop on Evidence-informed decision making Case study in Ghana

Fig. 1. (Colour online) Evolution of the Ghana scaling up nutrition Academic Platforms (SUN AP). CSPG, Cross-sectoral planning group on nutrition.

scientists almost entirely out of the loop of present SUN practices. Our proposed approach pays heed.

Mentoring and short-term training

Defined as a deliberate yet voluntary, non-judgmental relationship providing support for professional and personal development, mentoring is one of a range of supervisory models to support performance and development in practice⁽³⁵⁾. There is a high degree of consensus in the literature that this approach provides support for personal and professional growth^(35,36). Morton-Cooper and Palmer⁽³⁶⁾ distinguish mentoring from other models, which involve direct observation of performance and assessment, such as supervision, or preceptorship. They describe preceptorship as an imposed and formal mechanism that focuses on guidance and orientation in a workplace setting⁽³⁶⁾. Short-term training is another approach to individual and organisational capacity strengthening. Galal⁽³³⁾ writes about the role of training for specific skills through short courses, workshops and in-service training. Unlike formal education, short-term training is flexible, emphasises experiential learning, and is more responsive to changing nutritional needs and problems⁽³³⁾. Such training can be accomplished by concerted, collaborative efforts of local, regional and international SUN stakeholders.

Experiential learning

Also referred to as practical, or on-the-job learning, Palermo⁽³²⁾ defines experiential learning as the learning gained through the application of knowledge in real life settings and reflection on this practice. Experiential

learning is accepted as an effective method of developing competence and bridging the gap between theory and practice^(37,38). The application of this approach in real life draws inspiration from Kolb's theory of experiential learning⁽³⁹⁾. The theory recognises the role that both personal and social experiences have in shaping learning. There is some evidence to suggest that experiential learning or learning on-the-job may be an effective method of developing competence in public health nutrition^(31,40).

Our framework links all three (experiential learning; enhanced higher education trainings; mentoring) in a single concept of empowerment (Fig. 3). All three initiatives, if implemented effectively should lead to empowered SUN MSP, capable of SUN locally. The proposed is possible with effective partnerships based on the literature reviewed and the collective experience of the authors (who have a combined professional experience in nutrition capacity building in the global south of over 100 years). Thus, partnerships with MSP partners (government, UN, donor, agencies; civil society coalitions, AP, community organisations and members), with relevant regional bodies (ANS, ANLP, FANUS, West Africa Health Organisation, New Partnership for Africa's Development/Comprehensive Africa Agriculture Development Programme), with global SUN Movement Secretariat, with relevant International Non-governmental Organisations and with higher education institutions.

To implement this, the SUN AP should continue to support disciplinary capacity strengthening efforts, advocating for enhancement of existing training curricular (emphasising non-traditional nutrition competencies such as socio-cultural and political, public health services, communication, professional, etc). We are mindful of the challenges associated with modifying or harmonising existing formal training curricular. Implementation

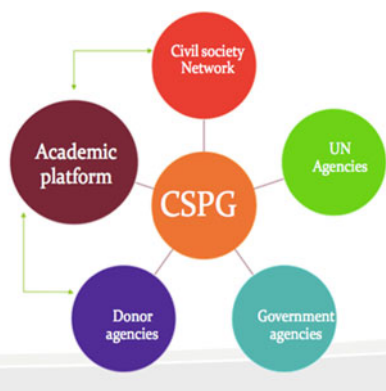


Fig. 2. (Colour online) Partners of Ghana's scaling up nutrition Cross-sectoral Planning Group on Nutrition (CSPG).

would therefore be done in a phased manner. At the country level, inter-university platforms would be initiated to discuss formulation and adoption of universal core set of competencies and curricula for the nutrition professionals. Aside pedagogic firewalls, challenges relating to resources and linguistic diversity are real, and ought to be addressed. As a member of the SUN MSP, the AP is in a position to act as a facilitator, between relevant higher education institutions in the continent on these matters.

While recognising the value of university classroom-based education, the SUN AP is supportive of other approaches such as learning through practical experience. This will be implemented in many ways. In-country senior-level nutritionists could purposively engage fresh graduates in nutrition or cognate disciplines in relevant projects and platforms. Second, and in partnership with regional and global partners, the AP plans to design affordable training workshops for those working in nutrition at national and regional levels. This will focus on the soft skills necessary for creating an enabling environment for SUN at the community level. Recommended training skills include advocacy, talking to different disciplines, budgeting, managing large-scale programmes and policy formulation⁽¹⁾.

Third, capacity-building interventions should consider consolidating the efforts of members of MSP and sister networks for effective coordination and knowledge dissemination. The present paper suggests that SUN AP coordinate the activities of the local and national levels actions and share through enhanced learning exercises at the regional levels. Existing platforms such as the ANS, FANUS and the ANLP are well positioned to support this effort. SUN AP can continue in their present role of interfacing between nutritionists, government policymakers, industry and consumers. These are all in line with the Academia Subcommittee mandate to facilitate the engagement of the scientific community to support the mission of the SUN movement through knowledge management, bridging research frontiers, capacity development and technical assistance as required by the SUN countries. Using the relevant information from the country groups itself in training the trainer for valued capacity

building and thus internally also network with other arms of SUN movement.

Challenges, gaps and opportunities

There is no shortage of references to the global inadequacy of nutrition workforce, or the lack of data on nutrition capacity-building initiatives. The 2014 Global Nutrition Report concludes that data on capacity are lacking and that a systemic assessment of capacity gaps is needed, especially within high-burden countries⁽²⁾. This lack of data in itself is a challenge to capacity-building efforts globally. The AP is faced with a number of challenges that impacts on effort to improve nutrition in Ghana. First, there is a lack of data for member of the AP to understand and appreciate the capacity-building initiatives that exist in Ghana. However, this is a problem that is not only peculiar to Ghana but the rest of the African continent. According to the 2014 Global Nutrition report, the lack of data on capacity building on nutrition span all Africa countries, and that a systematic assessment on capacity gaps was needed if Africa was to move forward with addressing its numerous nutritional challenges. Although the AP has made some efforts in developing the capacity of nutrition leaders, limited funding has been a significant barrier to making impact. Since its establishment, the AP has operated on zero funding. Its driving force has been the passion to contribute to the SUN agenda at both the national and global levels. This passion, which is not matched with financial resources, has however, hindered some of its planned capacity-building activities such as workshops and short courses.

The second challenge of the AP's capacity-building efforts is its inability to organise all Ghanaian academics to support the course of its work in Ghana. There is a significant pool of research capacity and experience within academia capable of delivering evidence and capacity building to the SUN movement, and to inform nutrition policy in Ghana. However, many of these experts have not yet engaged with the SUN movement nor with policy-making in Ghana. To motivate interest from eligible academics, the AP is encouraging joint publications and clear communication of benefits to potential members.

Third, the lack of evidence-based guidance on the workings and management of MSP are challenges that need to be addressed. Research could address for example, what management capacities and training processes are required for optimal functioning of MSP; how do training and motivation needs differ for various stakeholders; what factors determine motivation of academics and other stakeholders to engage in MSP. The AP has presented elsewhere⁽²⁵⁾ challenges of this nature that were encountered by members of the AP during the establishment of the Ghana SUN Civil Society Coalition. Briefly, perceived conflict of interest issues; actual lack of transparency regarding disbursement and utilisation of the Coalition's funds; potential conflict of duty and loyalty regarding the dual roles simultaneously

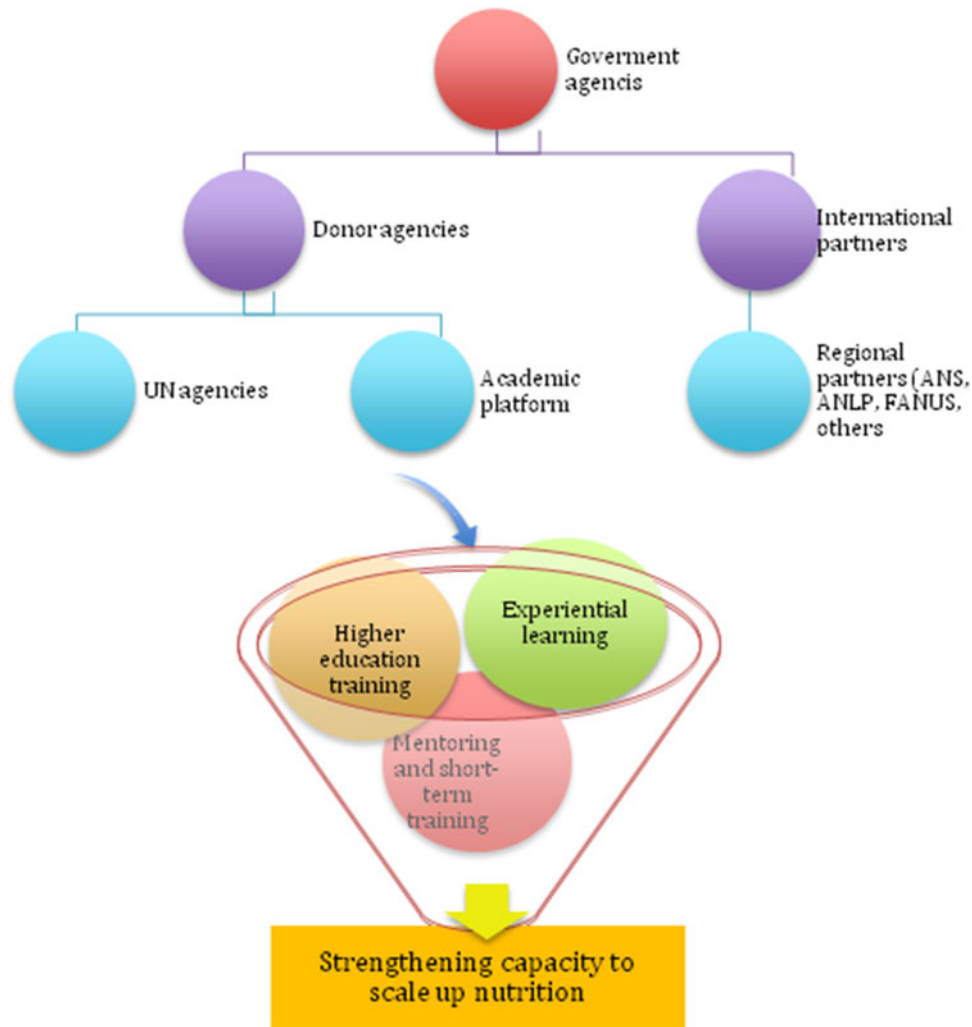


Fig. 3. (Colour online) Partners and elements of scaling up nutrition Academic Platforms capacity strengthening efforts. ANS, African Nutrition Society; ANLP, African Nutrition Leadership Programme; FANUS, the Federation of African Nutrition Societies.

played by the members of the Coalition; some Coalition members open aversion to development of legally-binding governance documents were identified. The lack of guidance on how to manage these led to disintegration. Useful lessons were, however, learnt from this experience, which facilitated a rebranding of the Coalition’s fragments.

Finally, the challenges associated with modifying or harmonising existing formal training curricular is worth noting. The AP plans of initiating discussions on formulation and adoption of universal core set of competencies and curricula for the nutrition professionals are laden with challenges. Aside pedagogic firewalls, challenges relating to resources and linguistic diversity in the African region are real. As a member of both the SUN MSP and the higher education institutions, the AP is in a position to act as a facilitator, between relevant higher education institutions in the continent on these matters.

Opportunities do however exist. Notwithstanding the earlier challenges, which may seem daunting, there are a number of opportunities to work creatively with

stakeholders towards addressing nutrition capacity and eventually the long-standing problem of malnutrition in the African region. First, the global SUN movement and the political commitment it has generated offer a great hope for country and regional-level multi-sectoral engagements. Six years following its founding, it is globally recognised as an important initiative. At our last count, there were fifty-seven countries in the SUN movement (most of them in Africa (www.scalingupnutrition.org)). Similar to Ghana, these countries, as part of the SUN principles of engagement, should/do demonstrate conducive policy and legal environment for SUN and have multi-sectoral coordinating platform, amongst others. The SUN AP, sees these commitments as opportunities. Also the sustainable development goals presently provide an opportunity and inspiration for tackling global challenges such as malnutrition.

While the calls for addressing capacity deficits in nutrition are not new, the present initiatives are distinguished from others given the level of interest and commitments. For instance, in the African region, the ANS (which is

committed to the SUN movement) has expressed its readiness to work with the regional SUN AP on capacity-building initiatives. The ANS is in a position to play an enabling role in bringing pan African nutrition professionals together and setting in place the infrastructure required to develop a strong professional presence. As described earlier, the ANS sub-regional inter-ANEC capacity-building workshops and trainings is an example. With exemplary human resource and experience in academic nutrition, and in practice, the commitments of the ANS, and others such as the ANLP, the FANUS, West Africa Health Organisation to nutrition capacity strengthening is an opportunity waiting to be tapped by the SUN AP in Africa.

To this end, the ANS has identified the Association for Nutrition (AfN) as the partner to work with, in the hope to developing appropriate professional regulation for nutritionists in Africa. On-going discussions with AfN and several options have been discussed amongst which were as follows: (1) Nutritionists presently working or studying in Africa could apply to AfN for UK volunteer registered nutritionists registration either 'by portfolio' or by direct entry, depending on their prior skills and experience, using AfN's existing procedures. (2) Undergraduate and post-graduate nutrition courses in African universities could apply for AfN course accreditation. (3) AfN could provide, at cost, AfN staff and expert AfN registrant assessors on a consultancy basis to help develop an ANS/African system (starting with Ghana) of professional registration and course accreditation based on UK standards. AfN would help ANS identify, train and develop relevant local expertise in professional regulation and course accreditation, and develop appropriate systems and procedures, akin and comparable with the AfN's operation in the UK. The AfN anticipates this may be a long-term relationship to provide practical assistance. (4) AfN could partner with ANS to develop a process of local or pan-African nutrition registration and course accreditation based on UK principles, using both UK and African expertise, relevant and appropriate to the African context. The costs, benefits and risks of such a system were shared by AfN and ANS.

All four options enumerated earlier have costs implications; however, they hold promise in helping to build the capacity issues in Africa.

Conclusion

The paper recognises that both disciplinary and interdisciplinary capacity is required for effective SUN efforts in Africa. Aside recognising interdisciplinarity in nutrition curricular of higher education institutions, the paper encourages utilising cross-sector/inter-professional, experiential learning, mentoring and short-term trainings, in support of building nutrition capacity in the African region. Such capacity-building interventions should consider consolidating the efforts of MSP and cognate networks for effective coordination and knowledge dissemination. The present paper suggests that SUN AP

coordinate the activities of the local and national level actions and share through enhanced learning exercises at the regional levels. Existing platforms such as the ANS, FANUS, West Africa Health Organisation and the ANLP are well positioned to support this effort. SUN AP can continue in their present role of interfacing between nutritionists, government policymakers, industry and the stated platforms.

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Conflict of Interest

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Authorship

A. K. L. led in designing the review and in drafting the manuscript. R. N. O. A. and F. B. Z. contributed to design, drafting and editing of the manuscript; P. A. and A. L. provided insights and guidance towards the establishment of the Ghana SUN AP. R. A., P. A. A., F. K. A., R. A. and M. E. L. provided significant intellectual inputs towards the drafting and revising the manuscript. All authors read and approved the manuscript.

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