

Health in the Post-2015 Development Agenda Knowledge Ecosystem

Introduction

A review of the 18 thematic think pieces produced by the UN System Task Team on the Post-2015 Development Agenda⁽¹⁻¹⁸⁾ (Table 1) led to the conclusion⁽¹⁹⁾ that the health sector faces major challenges of inter-sectoral competition and lack of sectoral recognition. The review proposed a Knowledge Ecosystem approach to evaluating potential collaboration and competition in the process. Knowledge ecosystems can be defined as “the complex and many-faceted system of people, institutions, organizations, technologies and processes by which knowledge is created, interpreted, distributed, absorbed, and utilized”^(20,21). The present study presents a preliminary description of the Agenda 2015 Knowledge Ecosystem, from the perspective of Health. Real-world ecosystems can be studied at a range of temporal and spatial scales, levels of detail, perspectives or processes of interest. In the same manner, the Knowledge Ecosystems in the present study are explored at a broad scale (the overall Post-2015 Development Agenda (Fig. 1)), and at a fine scale (the UN Task Team (Fig. 2)).

A Broad-scale Knowledge Ecosystem

The principal venue for discussion and debate on the Post-2015 Development Agenda is the World We Want web platform (<http://www.worldwewant2015.org>), which is a joint initiative between the United Nations and Civil Society. Both the UN and Civil Society are thus major components of the Knowledge Ecosystem (Fig. 1), the overlapping with each other and with the World We Want (shaded) indicating their shared leadership. The fact that the World We Want is essentially a virtual enterprise is also evident by its overlap with the Internet box.

Within the civil society, the Global Call to Action Against Poverty, CIVICUS and the Beyond 2015 Campaign, are specifically mentioned as they have been organizing Civil Society engagement in post-2015 discussions. The Overseas Development Institute (ODI), which is the UK's leading independent think tank on international development and humanitarian issues, is also indicated in light

of its website (<http://post2015.org/>) which deals with the debate on what should follow the Millennium Development Goals. People acting within Civil Society can contribute to the post-2015 Agenda process as individuals, or by collaborating on a submission by a group or organization.

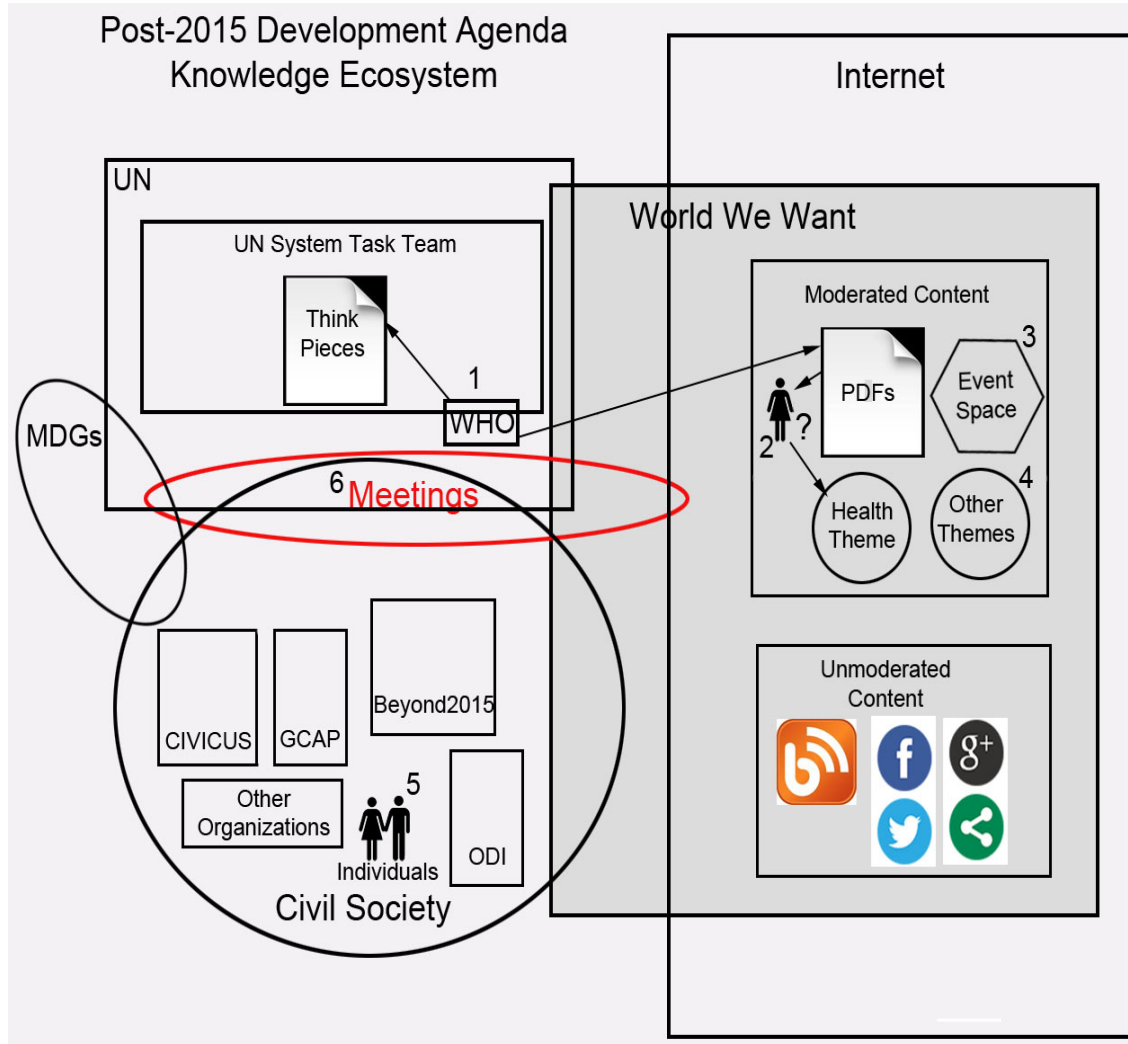


Figure 1. Health in the Post-2015 Development Agenda Knowledge Ecosystem. The arrows from WHO to the Health Theme indicate the flow from the WHO review process via an unspecified administrator to final linkage on the web site. Numbers indicate features discussed in the text.

Apart from its involvement in the World We Want, two other aspects of the UN are highlighted in the Knowledge Ecosystem as being significant to Health. Firstly, there is the UN System Task Team which was established by the UN Secretary-General to support system-wide preparations for the post-2015 UN development agenda, and some of whose member organizations produced the 18 thematic

think pieces, including one on Health⁽⁸⁾. Secondly, multiple roles of WHO are indicated, within the System Task Force as a co-author, and outside the Task Force as a reviewer for papers submitted for publication in the Health theme of the World We Want.

Within the World We Want, both moderated and unmoderated discussion and debate occur. Participation by social media is unmoderated. Facebook and Google+ participation requires user accounts on these systems, not only to participate, but also simply to view the material, while the Twitter-based content, like all other content on the site, is available to all. There is no indication of how, or by whom, the unmoderated content will be processed for extraction of salient points.

Ecosystems undergo succession, as do Knowledge Ecosystems. Thus, the MDGs themselves had a Knowledge Ecosystem from which the Post-2015 Agenda Knowledge Ecosystem will develop, as suggested in Fig. 1. Finally, meetings occur on all topics and scales: these individual meetings can themselves be considered as Knowledge Ecosystems, with a range of issues being associated with knowledge assimilation throughout the hierarchy of scales^(20,21). Also, meetings such as the Rio+20 conference have already shaped the Knowledge Ecosystem.

Specific features of Figure 1 are indicated by a numerical designation and are described more fully below:

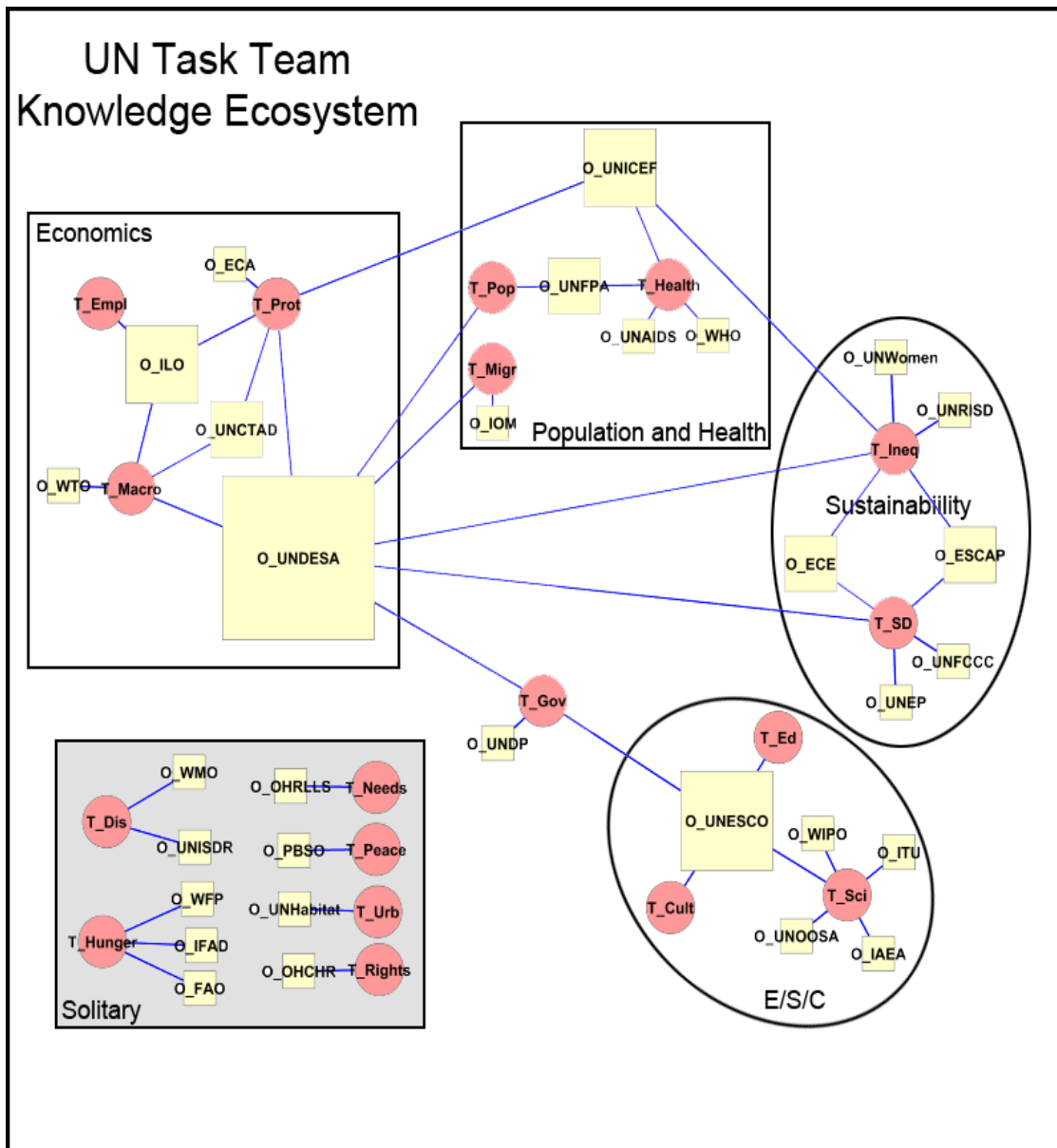
1. WHO is a member of the UN System Task Team and coauthored one of the thematic think pieces (see Fig. 2 for more detail). WHO also handles reviews of papers emailed to post2015health@who.int for consideration for inclusion in the Health theme of The World We Want.
2. On acceptance of the submitted papers mentioned in (1) above, they are posted on the World We Want web site by an administrator, who also produces a brief synopsis and includes some discussion in a weekly update. The “?” and the location of the symbol outside of the organizational entities indicate that the organizational location and identity of the administrator is not known. Is the person located in WHO? At post2015health@who.int ?

3. Health is a topic covered outside of the main Health theme, in other parts of the World We Want site, such as the Health theme within the Event Space Online Discussion on Indigenous Peoples & Inequalities.
4. Health is also a topic in other main themes, such as water which includes discussion of sanitation and hygiene.
5. Individuals can contribute directly or by participating in the submission of an organization or group.
6. A plethora of meetings where health is a major or minor topic will be occurring throughout the lead-up to 2015, as well as thereafter. For example, the water theme mentioned in (4) above indicates “Experts on water, sanitation and hygiene meet on 3, 4 and 5 December in The Hague to discuss key principles and a proposal for a new set of global targets and indicators, and related definitions for WASH monitoring after 2015.”

Competition and collaboration can occur within Health itself, as well as between Health and other thematic areas. Obvious health sector collaborations include the Water theme and also the Indigenous Peoples groups of the Event Space. Alternatively, these might be competitors in the indicator development process. Would issues raised within the Health theme have a competitive advantage over issues raised in other themes or event spaces? Do other events and themes represent potential competitors or collaborators for health-related indicators in the agenda-setting process? What is the extent of WHO's competitive advantage? Knowledge formats may also compete: does knowledge in a pdf document have a competitive advantage over Tweets, blog entries or other social media formats? How will the information from these unmoderated fora be summarized and reported; does the lack of information on how that information will be managed, combined with perceived low competitiveness of the format, inhibit or discourage participation? To what extent do the health issues raised in non-Health fora represent opportunities for collaboration, and how would that best be pursued. Is anyone (e.g. in WHO) tasked with evaluating and pursuing such opportunities?

A Fine-scale Knowledge Ecosystem

Competition and collaboration within the health sector was discussed above, based on the whole Post-2015 Development Agenda Knowledge Ecosystem (Fig. 1). As an example of inter-sectoral collaboration and competition, the UN section of Figure 1 which focused on WHO in relation to the UN System Task Team and the 18 thematic think pieces reviewed elsewhere⁽¹⁹⁾, is explored in more



detail (Fig. 2).

Figure 2. Cytoscape network diagram of the UN Task Team Knowledge Ecosystem. Think

Piece coauthoring organizations are square, scaled to the number of papers coauthored, Think Pieces are round. Table 1 shows the abbreviations used.

The Team brought together over 60 UN entities and agencies and international organizations, listed at the end of each think piece, but not all were coauthors of think pieces; in fact only 31 were coauthors, but some coauthored more than one think piece. The pattern of coauthorship was explored using Cytoscape (<http://www.cytoscape.org/>), an open source platform for complex network analysis and visualization, in which agencies and thematic think pieces formed the nodes of a network (Table 1). A circular layout was used for the initial arrangement of organization and think piece nodes, with final positioning performed manually for optimal spacing. Some natural groupings were evident, indicated by black-bordered rectangles or ellipses added in Photoshop. Some topics with a single author or 2-3 coauthors were not linked to other topics/organizations, and these have been placed in a “Solitary” grouping.

The Task team was co-chaired by the UN Department of Economic and Social Affairs (UNDESA), and that organization coauthored more Think Pieces than any other. Coauthorship did not appear to be linked to co-chairmanship, as the other co-chair, the United Nations Development Programme (UNDP) coauthored a single article, on Governance, which was not clearly associated with a particular grouping. However, the Governance Think Piece was also coauthored by UNDESA and by the United Nations Educational, Scientific and Cultural Organization (UNESCO); i.e. by the organizations with the highest and second highest rates of coauthorship.

UNDESA dominates the Economics grouping, which also includes the Economic Commission for Africa (ECA), the International Labour Organization (ILO), the World Trade Organization (WTO) and the United Nations Conference on Trade and Development (UNCTAD). Think Pieces in this group covered the topics Employment⁽⁵⁾, Social Protection⁽¹⁶⁾ and Macroeconomics⁽¹²⁾.

UNESCO dominates the Education, Science and Culture (E/S/C) grouping, which covers Think Pieces of the same names^(2,4,11). Other organizations in the group are the World Intellectual Property

Organization (WIPO), the International Telecommunication Union (ITU), the International Atomic Energy Agency (IAEA) and the United Nations Office for Outer Space Affairs (UNOOSA).

The World Health Organization (WHO) is in the Population and Health grouping which also contains the United Nations Children's Fund (UNICEF), the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Population Fund (UNFPA) and the International Organization for Migration (IOM). It covers the topics of Health⁽⁸⁾, Population Dynamics⁽¹⁵⁾ and Migration⁽¹³⁾. Note that alternatively, with a different perspective, Migration could have been included in the economics grouping, which would be appropriate given the economic roots of some migrations, and the consequences for labor.

The Sustainability grouping covers only two topics, Inequalities⁽¹⁰⁾ and Sustainable Development⁽¹⁷⁾, but includes six organizational coauthors, the highest number of any grouping. Organizations include the United Nations Entity for Gender Equality and Empowerment of Women (UN Women), the United Nations Research Institute for Social Development (UNRISD), the Economic Commission for Europe (ECE), the Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations Environment Programme (UNEP) and the United Nations Framework Convention on Climate Change (UNFCCC). At first sight, this appears to be a disparate set of entities, but together they address the three pillars of sustainability: environmental sustainability, economic sustainability and social sustainability.

Potential collaborations for WHO can be proposed from the fine scale UN Task Team Knowledge Ecosystem (Fig. 2). WHO is already collaborating with its coauthors UNAIDS, UNFPA and UNICEF, but IOM, the remaining organization in the group, would be an appropriate extension of that collaboration. This would be true even if IOM and Migration had been allocated to the Economics grouping. Through UNICEF, it could extend collaboration to the Economic and Sustainability groups.

This raises the issue of indicators: what are indicators of potential collaboration. Is the high level of interest in Health in a Theme or Event Space sufficient? Can coauthorship patterns provide the

best guide? Coauthorship, while providing meaningful groupings, showed no linkage between the Population and Health grouping and the Education, Science and Culture grouping. However, the review⁽¹⁹⁾ of the Think Pieces indicated that health was especially highly mentioned in the Science, Technology, Innovation and IPR⁽¹¹⁾ Think Piece, suggesting that Think Piece coauthorship had limitations in identifying potential collaborators.

While limitations exist, Figure 2 can provide useful guidance by comparing institutions and organizations external to the coauthorship list, including external to the UN itself, with similar entities within the Task Team Knowledge Ecosystem. For example, the World Bank, a Task Team member but not a Think Piece coauthor, could function in the Economics grouping and/or in the Sustainability grouping. Similarly, the International Aids Society (<http://www.iasociety.org/>), not a UN entity, may be analogous to UNAIDS in the Population and Health grouping.

Discussion

In the same manner that real-world ecosystems can be studied at a range of temporal and spatial scales, levels of detail, perspective or process of interest, Knowledge Ecosystems in the present study were explored at a broad scale (the overall Post-2015 Development Agenda (Fig. 1)), and at a fine scale (the UN Task Team (Fig. 2)). In addition to shedding light on potential collaborators and competitors, as well as competing knowledge formats, the Knowledge Ecosystem highlights actors in the process and their roles. The approach also illustrated several processes where the approach to management of the knowledge is unspecified; thus, participants in social media debates, or even moderated on-line debates within the themes, have no information on how (or even if) their contributions will be summarized and used, or by whom.

Potential collaborations between the health sector and other sectors may become more apparent when Goals, Targets and Indicators are being determined. At that time, a Knowledge Ecosystem of that process as it develops could be helpful. However, that point may be too late to address the second issue faced by Health in the approach to the Post-2015 Development Agenda; i.e., lack of recognition of

Health as sector rather than merely a service or target⁽¹⁹⁾. However, improving that recognition is beyond the scope of the present study, although it is to be hoped that the present study proves helpful in achieving that aim. In any event, the Post-2015 Agenda-setting process represents a Knowledge Management challenge of epic proportions.

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Table 1. Thematic think pieces produced by the UN System Task Team on some of the key issues of the post-2015 development agenda ⁽²²⁾. In Fig. 2, The Author organization names have a “O_” prefix to facilitate node grouping in the network analysis, while the think piece topics have a “T_prefix” and an abbreviated identifier, shown in parentheses under “Topic” below.

Reference #	Topic	Authors
1	Countries with special needs (T_Needs)	OHRLLS
2	Culture (T_Cult)	UNESCO
3	Disaster risk and resilience (T_Dis)	UNISDR, WMO
4	Education and skills (T_Ed)	UNESCO
5	Employment (T_Empl)	ILO
6	Ending hunger and malnutrition (T_Hunger)	FAO, IFAD, WFP
7	Governance and development (T_Gov)	UNDESA, UNDP, UNESCO
8	Health (T_Health)	UNAIDS, UNICEF, UNFPA, WHO
9	Human rights (T_Rights)	OHCHR
10	Inequalities (T_Ineq)	ECE, ESCAP, UNDESA, UNICEF, UNRISD, UN Women
11	Science, technology, innovation and intellectual property rights (T_Sci)	IAEA, ITU, UNESCO, UNOOSA, WIPO
12	Macroeconomics (T_Macro)	ILO, UNCTAD, UNDESA, WTO
13	Migration and human mobility (T_Migr)	IOM, UNDESA
14	Peace and security (T_Peace)	PBSO
15	Population dynamics (T_Pop)	UNDESA, UNFPA
16	Social protection (T_Prot)	ECA, ILO, UNCTAD, UNDESA, UNICEF
17	Sustainable development (T_SD)	ECE, ESCAP, UNDESA, UNEP, UNFCCC
18	Sustainable urbanization (T_Urb)	UN Habitat