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ORIGINAL ARTICLE

Community Media 4 Kenya: a partnership approach to building collective intelligence

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Abstract Collective intelligence for the common good is considered here in terms of its contribution to social transformation at the micro level of community. A critical evaluation of the knowledge limitations of research programmes currently focussing on collective intelligence is presented before the case is made to widen collective intelligence research efforts and understanding. The application of a 'common good' focus to collective intelligence research and practice provides a contextualising space for community practice in the digital age to be considered through a philosophy of community technologies. Community media is presented as providing tools, spaces and processes for such critical considerations to be made. Community learning and community-based learning theories are discussed and drawn together to illustrate how community–university partnerships can be developed to facilitate and promote collective intelligence for the common good. The paper concludes with an introductory discussion of the Community Media 4 Kenya (CM4K) community–university partnership as an exemplar of collective intelligence for the common good.

Keywords Collective intelligence · Common good · Community ICT philosophy · Community–university partnerships · Community learning · Community-based learning · Community media · CM4K

1 Introduction

Funding priorities for academic investigations into collective intelligence have, in recent decades, tended to focus on the design and utilisation of communication networks, computer technologies and applications. This research emphasises the development of organisation and management theories aimed at stimulating improvements in organisational efficiency, effectiveness and economic practices. Improvements achieved by harnessing the collective potential and capabilities of human interaction and creativity in the workplace with the processing power and capacities of digital technologies.

As Malone (2006) suggests, the key question appears to be, "how can people and computers be connected so that collectively they act more intelligently than any individual, group, or computer has ever done before?" Miorandi and Maggi (2014, p. 55) take this a stage further by arguing that the social collective intelligence approach, "has the potential to greatly enhance the problem-solving capabilities of individuals and groups by combining the power of ICT with the knowledge and competencies of billions of people worldwide".

Whilst producing much of interest to the collective intelligence discourse, research and development strategies such as these restrict knowledge and understanding of collective intelligence to organisation theory and practice. As such, their contribution to collective knowledge is limited. Attempts to understand intelligence as a collective resource for action need to consider the learning ecologies that facilitate and enable the development of collective intelligence processes in a much broader social context than the economics of the market.

Collective intelligence for the common good is considered here in terms of its contribution to social

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transformation before discussing community-learning processes and illustrating how community-based learning might contribute to and support community learning through the development of collaborative and collective partnerships.

2 Technology as a democratic social structure

This paper suggests that the complexity of human social structures (Haslanger 2015), such as community, and the diversity found in them, create unique challenges to the design of collective intelligence systems. However, these challenges become more complex when digital technologies, clearly social structures when understood as constructs of the network society (Castells 2010) or digital age, are added to the mix.

It is widely understood that social structures such as law, politics, religious and cultural beliefs, the economy and even languages often shape social interactions and that, in turn, social experiences and interactions often shape social structures. However, despite this, it is noted that a deep-rooted and passive acceptance of technologies and applications exists in the digital age (Flynn 2007). Why such a passive attitude to digital technologies should exist whilst other social structures can be shaped by social attitudes is something worthy of further inquiry but lies beyond the scope of this paper, with the exception of these passing observations.

It appears that as a society, we are more inclined to accept social circumstances resulting from the implementation and use of digital technologies than we are for other, more familiar, social structures, e.g. legal or political (Sclove 1995). The portrayal of digital technologies as modern, inevitable, and of course, fun—depicted as the next 'must have' gadget and of course the consumption of entertainment goods and services—means that the reality of their social significance and impact is often hidden from the same public scrutiny that other social structures receive, despite their pervasiveness.

The truth is that most people are not interested in and do not want to analyse the role digital technologies play in society, preferring instead to simply accept their existence with little in the way of critical social analysis. The complexity and meaning of the knowledge (computer science and information systems), thought and power that exists behind the design and implementation of digital technologies is often lost on social policy makers let alone the general public. This ignorance of the nuts and bolts of information and communication applications and networks results in an acceptance of digital technologies being the preserve of 'experts'. Many of these experts hail from academic or commercial organisations with little interest

in, or engagement with, the common good or the realities of the challenges found therein. The almost mythical status (Illich 1990) bestowed on digital technologies and the levels of power (to those who own the means of production and the points of sale) they leverage to shape and manage other social structures, and consequently social behaviour in the digital age, is quite alarming.

The development of digital age social policy driven, as it is, by the production and consumption of entertainment goods and services, gives little consideration to issues of democracy and citizenship and often fails to meet the broader social needs, ideals and aspirations of culturally diverse citizens and their communities in a democratic society, i.e. the common good. Of course, interpretation of democracy is subjective and can take many forms (Giddens 1993). However, participation is a fundamental component of both democracy and community and as such is central to valorisation and celebration of diversity in society (Galbraith 1994).

3 Collective intelligence for the common good—through a community lens

Whilst much of the collective intelligence (CI) research literature focuses on formally structured social entities, e.g. organisations, commercial enterprises and their communications networks, in which the purpose is to acquire and apply knowledge to the solution of shared problems—there is also scope for this institutionalised and economised understanding of collective intelligence to be interpreted for the common good. An illustration of this can be found through work at the MIT Center for Collective Intelligence where it is argued that "collective intelligence relies upon the individual knowledge, creativity, and identity of its constituent parts, and emerges from a synergy between them. In its highest forms, participating in collective intelligence can actually help people self-actualize while solving collective problems" (Al-Hakim 2008, p 65). Al-Hakim's emphasis on self-actualisation echoes earlier work by Levy, who suggested that an indispensable characteristic of collective intelligence, "is the mutual reorganization and enrichment of individuals" (1997, p 13).

Whilst limiting the understanding of collective intelligence to certain types of organisations, these observations from business and cyber theorists do enable us to draw parallels with experiences in the work of community engagement, community empowerment and community technology practitioners. (1) The significance of individuals to the collective and by definition, the significance of the diversity that accompanies different individuals; (2) the manner in which individuals connect and communicate with one another; and (3) the purposes for which they connect and engage in collective enterprises.

The motivation for engaging in collective activities is complex and this paper turns to that presently but it should be remembered that the purposes for which collective social structures (comprising diverse individuals) connect and communicate with each other are equally as complex. When understood as a space of networked resources for the common good, collective intelligence often possesses different social values and agenda and sometimes has the capacity to perform as a contested space. However, whilst the differences and diversity of individuals and groups within the collective can be problematic at times, this complexity also brings with it capacities for creativity and new ways of understanding social environments in which community and individual capacities can be enhanced.

Understanding, embracing and learning from the complexities that exist in collective activities is not without its challenges but it also provides opportunities for significant social rewards—"New overarching paradigms—like civic intelligence[1]—that may provide the next steps in the evolution of the conscious development of ICT for the amelioration of social and other problems are emerging in ways that integrate many worldviews in a non-hierarchical network fashion." (Day and Schuler 2006, p. 44).

Diversity in collective intelligence is portrayed here ultimately as a social strength that should be celebrated. This heterogeneity of the human condition is something to be valorised and encouraged in both the design of technological systems and the planning and implementation of social policies—rather than the homogenising blueprint approach or 'one best way' (Taylor 1911) so often encouraged in socio-economic models and practices.

4 A community philosophy of digital technologies

The application of such an understanding of democracy in the digital age leads naturally to an argument for a human-centred approach to, or community-centred philosophy of, technology. If the empowerment of citizens, to participate in determining the basic structures of society, is a fundamental aim of democracy, and if technologies are an important species of contemporary social structures, then it follows that both technological design and practice need to be democratized (Sclove 1995). This then, is the central challenge facing the collective intelligence for the common good discourse.

It is a basic tenet of a community philosophy of technology that as citizens participate in the design,

implementation and development processes of community ICT initiatives, changes can result in the hegemony of the existing technological order. These in turn have the potential to exert structural influences on the democratic process. The potential of deliberation and sense-making technologies speak to this. Williamson and Sande (2014, pp 85) suggest,

> Digital is valuable when it can be used effectively. It extends traditional concepts of media into an interactive experience where the views of many can be expressed and potentially disseminated widely. It extends the experience to support (and encourage) discourse (thought of themselves, digital applications have not proven particularly effective as discursive tools). It is this potential to reach out and to bring people together that sets digital tools apart from traditional print and electronic media. It is this which offers us the greatest potential for citizens to become more involved in the political and democratic processes, even though that process is not necessarily carried out entirely online.

However, arguments relating to participative democracy in a digital age remain abstract unless they are expanded into a framework of specific guidelines for democratic design, or democratic design criteria (Sclove 1995). It is beyond the scope of this paper to develop such a framework but it should not be beyond the scope of this network to make this an important focus of its mission.

Perhaps this edition of AI and Society and the subsequent discussions that ensue from it might act as a catalyst to dialogue in this respect. Before that, however, it is important to emphasise that such design considerations should not be reified. They can and should be adapted to suit social circumstance and needs. Within local communities such design criteria should always represent the citizens' best assessment of collective intelligence for the common good, whilst taking into account the aspirations and needs of individuals and collective alike.

Collective intelligence has been defined as groups of human beings, rather than a collection of independent agents, taking decisions about which actions to take to solve problems together (Hiltz and Turoff 1978; Smith 1994). This distinction emphasises the power of the group or collective (comprising individual) members. Levy (1997) provides a similar definition but takes the definition further by contending that intelligence goes through a process of ongoing enhancement. These enhancements are the learning processes that enable individuals to contribute to the intelligence of the collective.

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[1] For further discussion of the concept of civic intelligence see, Schuler (2001) and for insights into and an exemplar of the concept in collaborative authorship see Schuler (Ed), 2008.

5 Reflections on why people engage in the common good

Smith suggests that the notion of a 'common good' has Aristotelian roots, describing it as "a good proper to, and attainable only by, the community, yet individually shared by its members" (Smith 1999, p 625). Involvement in the common good or collective action by individuals is driven by any number of reasons but those reasons bring with them all manner of assets and gifts for the collective intelligence. It is worth remembering therefore that, "the recovery of a strong participatory idea of citizenship should not be done at the cost of killing individual liberty" (Mouffe 1991, p 71).

This raises the question of why individuals engage in the collective. Research by MIT's Centre for Collective Intelligence into business organisations suggests that money, love (the intrinsic enjoyment of the activity itself; the act of socialising with others and the altruistic pleasure gained from contributing to a cause) motivate some, whilst glory gained from such acts that can boost the ego can all be identified as motives for engagement in collective actions (Malone et al. 2009). So although collective activities are not always, or even usually, driven by financial incentives there are similarities between the rationale behind collective engagement organisations and communities.

Examining online group formation, Shirky (2008) presented three motivations or reasons for coming together: sharing; co-operation and collective action. Shirky's explanation is not unlike the four causes of community involvement proposed by Batson et al. (2002), who suggest: (1) egoism—increases the individuals own welfare; (2) altruism—increases the welfare of other individuals; (3) collectivism—increases the welfare of a group or a community; and (4) principlism, where one or more moral principles are upheld.

The reasons individuals engage in community activities differ for many reasons. What is important here is understanding community as social systems that is to say, in terms of their human, rather than technological components. Recognising communities as communicative ecologies in which collaboration and collective action can be planned and undertaken despite the social diversity. It is here that learning in the community is of significance. Once the primacy of people has been accepted, digital technologies can be understood as tools, spaces and processes that contribute significantly to the learning of communities. The subordination of technology to human purpose provides a more solid platform from which to develop collective intelligence for the common good. As Shirky (2008, p. 160) reasons, "[r]evolution does not happen when society adopts new technologies, it happens when society adopt new behaviours".

6 Community media for the common good: an academic learning partnership

The introduction of digital technologies into social settings often occurs in ways insensitive to socio-cultural structures, norms, values and belief systems—this is a particular problem in international development where communications and media policies and practices often reflect the social agenda and priorities of modern Western culture to the total disregard of the indigenous populations (McPhail 2009; Day et al. 2009). Attempts to develop collective intelligence for the common good based on digital technologies need to be grounded in principles of participatory design sensitive to and respectful of the socio-cultural worldviews, practices and traditions existing in local communities (Day 2001). With the need for sensitivity and cognisance in mind, this paper now focuses on the mutuality and reciprocity of learning activities that have occurred through collaborative community media activities for the common good.

The appropriation of digital technologies by communities to support community development and empowerment processes and activities (Packham 2008) requires an understanding of how and why communities learn, if the full potential for community technology is to be realised in a contextualised manner (Day and Farenden 2007). There is a strong similarity between the capacity-building workshops of community media (Day et al. 2014) and the emerging discipline of learner generated contexts (Luckin et al. 2007). In community (media) learning activities, participants learn to generate content that relates to community issues and needs (community voice). They take responsibility for the purpose of their learning (community engagement) and participate in the design, organisation and implementation of the learning processes that shape community outputs and outcomes (community empowerment), or to put it another way—community media for the common good.

7 Community learning

Community learning is described as a process or processes enabling the capacities and capabilities of communities to be built in an informal but contextualised and relevant manner (Day 2011). This is achieved by equipping people with the skills, information, knowledge and support through which community voices can be heard. Community learning seeks to promote a confidence among participants to converse and sustain dialogue with others—an ingredient essential in effective partnership collaborations (Day et al. 2014).

Whilst community learning can focus on any matter relevant to the needs of community life. It should always be participatory in approach and seek to build dialogue between learners. Dialogic exchanges occur when information and knowledge are exchanged between learners. This can be through conversational communications and/or through groups of people learning by doing. Community learning therefore encourages community-networking processes (Schuler 1996; Day 2009) in which dialogic exchanges are the transactions between community-learning network nodes, i.e. learners (Nielsen 2002).

Packham provides a similar illustration of community-learning processes describing them as:

- *Learning with others* (recognising the importance of the participant's identity, connectedness to the community and a sense of agency to achieve something worthwhile);
- *Learning from experience* (based on evaluation and critical reflection);
- *Learning and doing* through collaborative activities undertaken by groups. (Packham 2008, p. 110).

Community learning is very much a community development or community-building process. It requires planning and effort if it is to be sustained. It is founded on a training the trainers approach in which newly trained people go on to work with and train others in a cyclical process. Building the capacities of local people in this way to take control of their own activities provides them with the capabilities to build and enrich community life.

8 Community-based learning

Community-based learning builds on community learning through dialogic network and resource interventions, by academic partners, in community learning. The purpose of community-based learning is twofold—both of which are built on an understanding of multiple intelligences. That is to say that all individuals learn, understand, and can teach, in different ways (Gardner 1993) and as such individuals possess and can contribute unique gifts and assets to collective intelligences.

The first purpose is to challenge students (in the first instance) and subsequently community workshop participants to question their built-in assumptions about social justice and the way they perceive the world. The second purpose is to engage in ongoing dialogic exchanges about the activities they engage in and the learning that occurs during the planning and implementation stages of their community media practices as well as reflecting critically on these processes during and afterwards. Reflecting not only on their interactions with others but also on how they felt and what

they thought throughout. Using inquiry—questioning, analysing and seeking solutions to problems (Kiely 2005), e.g. how to raise the funds to make the projects and fieldwork they are about to embark upon (see below) a reality. In essence community-based learning is a form of transformative learning, intended to refine, elaborate, transform and create new meaning and challenge what is already learnt through communicative learning (Mezirow 1991).

This is achieved through open, cooperative and critical exchanges of skills and knowledge between students, academics and community as equal learning-partnership participants rather than the more philanthropic approach often found in service learning. Community-based learning is about learning by doing 'with' community partners rather than doing 'to' or 'for' them. Whilst there is often an element of philanthropy in all service learning approaches, community-based learning emphasises sustainable partnerships of learning and development (Annette 2002).

This symbiosis between 'teaching' and 'learning'—in which all participants actively contribute to teaching and being taught—highlights the reciprocal nature of community-based learning (Clark 2013; Bringle and Hatcher 2009) and has much in common with the leaner-generated contexts group (Luckin et al. 2007).

The purpose of community-based learning is not only to promote the development of mutually beneficial and sustainable learning partnerships that effectively meet student and community learning needs through inquiry and discovery but also emphasises learning as a process of action and empowerment in which the capacities and capabilities of the communities can be realised.

Understanding collective intelligences in terms of multiple and diverse worldviews is an essential part of community-based learning, grounded as it is in a capacity-building approach. Often when terms like capacity building are used there is a tendency to focus on the development of skills, competencies and abilities through workshop activities. Whilst these are undoubtedly significant components of the capacity-building process, understanding the role that communications—that is to say the social interaction through conversational and dialogic exchanges—plays in developing the relationships, reciprocity, confidence and trust necessary for building or developing human capacities is essential but often overlooked. A Fisheries and Agriculture Organisation of the United Nations working party defined human capacity development as:

> The process by which individuals, groups, organisations, institutions, and societies develop their abilities—both individually and collectively—to set and achieve objectives, perform functions, solve problems and to develop the means and conditions required to enable this process. (FAO 2004).

Definitions such as this undoubtedly provide useful platforms from which to write a policy documents but do little to assist us in understanding the nuts and bolts of human capacities; how they might be best developed and how these capacities contribute to collective intelligences. A recent attempt at developing a framework of capacities for civic intelligence (Schuler 2014) goes someone to start this much needed discussion. The next section seeks to further this discourse through an applied discussion of the purpose and practices of Community Media 4 Kenya.

9 Community Media 4 Kenya (CM4K)—a community-based learning partnership

CM4K (Day et al. 2014) emerged as a community-based learning partnership network comprising students and staff from the University of Brighton, Rongo University College and Kenyatta University as well as community groups, NGOs and government representatives in Kenya. CM4K started to evolve over 10 years ago when a group of former students—some Kenyan—decided that the community informatics principles and practices they were engaging with during the Community Project module which formed part of their Library and Information and Media Studies degrees at the University of Brighton could be applied to benefit Kenyan civil society.

It was this early partnership, together with the subsequent enthusiasm of final year media studies students 6 years ago, that led to the establishment of CM4K as part of the Community Project module. Originally established as an experiment the module was influenced by but different to the US model of service learning. The module started by focussing on the creation of knowledge sharing and learning environments for students and community partners in the city of Brighton and surrounding communities. Students were encouraged to engage community partners in dialogue and identify ways in which their media skills, knowledge and experience could be utilised to design solutions to community problems.

These dialogic processes enabled participants to get to know one another and develop relationships of trust and reciprocity; whilst assessing community needs and mapping community assets at the same time—whilst at the same time contributing to the enhancement of civic intelligence. The idea was to identify how community media tools, spaces and processes could be developed and shared, in ways that not only stimulated reciprocal learning opportunities for students and community partners alike as well as addressing local needs; building local assets and capacity; empowering local voices; supporting opportunities for socio-economic development; celebrating cultural

diversity and promoting socio-cultural understanding between students and community.

Today, CM4K's modest activities are totally self-financing. Students who elect to participate in the Community Project module, become part of CM4K and collaborate on the planning and implementation of fundraising activities to finance the implementation of the fieldtrips. Students pay for their own flights to Kenya and once in Kenya, the fieldwork relies totally on the skills, knowledge, expertise and enthusiasm (assets) of the students and participating partners—individuals from diverse social, cultural and economic backgrounds collaborating as a collective for the common good.

Students participating in the fundraising, organisation and planning of the fieldtrip identify with CM4K's goals readily and quickly develop a determination to make a difference by helping to address the needs and aspirations of participating community partners. In addition to facilitating knowledge exchanges and mutual learning through the capacity-building workshops, student fundraising also contributes in equipping the training workshops. The media equipment bought as a result of the student fundraising and used in the workshops remains with our partners so that the trainers, we collaborate with can continue both the training and their own community media activities in their communities after our departure.

Participants in the community media capacity-building workshops are identified by CM4K's Kenyan partners. In the past they have included university students, residents from marginalised communities, NGOs representing disenfranchised youth, women's groups, farmer's groups, etc., from Kenya. CM4K has facilitated participatory learning workshops (Day and Farenden 2007) for the UN Volunteers Programme and the President's Youth Enterprise Fund and currently collaborated with Rongo University. Kenyatta University, the Focus Youth Initiative and SEMA Media (a community media youth NGO)—other universities are also expressing an interest in including CM4K's community media approaches in their curriculum and thereby facilitate student/community learning partnerships of empowerment and voice.

These collaborations led to a programme of capacity-building workshops and community-planning discussions—in Nairobi and rural communities in Migori County and always result in significant personal development and growth among the participants. CM4K is collaborating in plans to establish community media centres and community radio in a number or locations. Whilst the Kenyan partners plan the fieldwork activities, and the students raise awareness and funds, it is important to engage in and maintain a dialogue between all partners to ensure the capacities, capabilities, assets and needs of all partners can be matched to the needs of the Kenyan partners.

Invitations to participate are generated through local community, policy and civil society networks in Kenya. An interesting but unplanned by-product of this mode of invitation generation has been a growing interest to participate from other countries, especially in Africa but Asia also. CM4K is not in a position to support such interventions at this moment but it is certainly bearing the possibilities in mind.

Participating communities gain from the participatory-learning (community media) workshop (PLW) approach of CM4K through the acquisition, or improvement of practical media skills. The PLW processes facilitates and encourages: collaborative inter and intra community dialogues; learning by doing; active project planning and implementation; experience in knowledge sharing; confidence and capacity building; self-expression and community voice; the articulation of community needs; and finding local solutions to these needs among participants. The capacity-building approach we adopt is intended to empower participants to engage in dialogue about needs and go on to plan, organise and implement community actions to address these needs through the utilisation of community media.

Trust is a major element for developing these kinds of community partnerships. It is also a prerequisite to unlocking community motivation to use ICT for the kind of community building activities described above (Day 2001). Relationships built on trust and sustained over time can prevent dissatisfaction when things do not go to plan—something not uncommon in the kind of short-term and under-resourced program like CM4K (Martin et al. 2009). Building trust between partners from hugely different backgrounds, cultures, believe systems and circumstances requires open communications and this is often a significant contributor to the transformative learning processes encountered by participants, including the author of this paper.

The CM4K partnership approach is rooted firmly in an understanding that the majority of successful and sustainable community-based learning projects are built on strong relationships with community partners (Cleary and Simons 2006) in which trust, reciprocity (respect) and mutuality are nurtured. CM4K seeks to develop these strong partnership foundations based on an approach it calls PEARLS—Participatory Education: Action Research and Learning Scenarios (Day et al. 2014).

The partnership relationships that CM4K has managed to build and sustain has enabled each year's student cohort to engage in meaningful and ever more complex community media projects designed to meet the needs of our community partners (Eyler 2002). The establishment and nurturing of these relationships has played a crucial part in enabling each year's student to build on the work of students from previous years in meeting the needs of the Kenyan partners. Successful community projects do not occur by accident (Werner et al. 2002). Strategies of planning, engagement, implementation and reflection are the foundations for effective community projects and it is these that form both the challenges and learning environments for students and communities alike.

10 Conclusion

To date, the work of the CM4K partnership has focussed on small scale collaborations that contribute in the first instance, through community–based learning, to transform and develop students as critical scholars with a strong sense of social justice and the common good. Second, through its promotion of a training the trainers approach based on a range of participatory learning workshop techniques has stimulated community learning and enabled ongoing outreach programmes to be facilitated within the CM4K participants community networks.

However, the network of partners is expanding and whilst this work will continue we have been approached by politicians and officers from the national government, and perhaps with more immediately possibilities, high level politicians and officials at County level in two neighbouring rural counties in Homa Bay and Migori Counties. Their desire is to explore possibilities for community media practices and research to support the empowerment of impoverished and marginalised communities. There is a long way to go and some serious discussions to be had as the politicos will need to illustrate their desire for community empowerment rather than political expediency if we are to work with them but there are encouraging signs that community media for the common good might receive a higher level of support and encouragement in the near future.

For now, however, it can be conclusively argued that students, who at the start of each module, come into the CM4K partnership as individuals excited by the prospect of travelling to Kenya; doing some interesting media activities and getting to visit the Maasai Mara. As the processes of intense and challenging activities start to unfold and realisation of and excitement about what they are involved in develops so does their capacities and capabilities as undergraduate students start to transform; first, through communicative activities with each other, and second with our Kenyan partners. The relationships and friendships they develop contribute to their transformation as young scholars and their experiences in the various social environments encountered in Kenya first introduce them to humility and second to embrace social justice and responsibility.

The work of CM4K is an unfolding and exciting story. There is no definitive pathway mapped out for the partnership and its activities. The reality is that much of this will depend on the resources the network can build and acquire. There will be no doubt of many unexpected forks along the path where decisions made about which way to go will affect our activities but CM4K is very much about the journey rather than the destination and one of the main characteristics of the partnerships has been to try and learn from each experience and feed that into our development. Whether this is the development of CM4K as a network partnership; or the participating youth groups, NGOs and communities; the participating Universities or the individual students/learners—we process, problematize, analyse, discuss and seek solutions for the common good. In this sense, CM4K makes a fascinating case study for those seeking to broaden and challenge understanding of collective intelligence for the common good in the digital age.

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