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To Enable Positive Behavioural Change, Does Development Need a Structured Approach to Inspiration?

A STUDY OF THE iWOMEN INSPIRING WOMEN PROJECT



To Enable Positive Behavioral Change: Does Development Need A Structured Approach To Inspiration? A Study of the iWomen Inspiring Women Project

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Disclaimer: The following report is the result of a collaboration between Dr Sammia Poveda, Research Fellow of the United Nations University Institute on Computing and Society (UNU-CS) and Eleonora Gatti, iWomen App Project Lead (International Consultant) of the United Nations Development Programme (UNDP) in Myanmar. The views expressed in this publication are those of the authors and do not necessarily represent those of the United Nations, including UNDP, UNU-CS or their Member States.

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ABOUT THE AUTHORS

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Eleonora Gatti is an Environmental Scientist, alumni of Imperial College London MSc in Environmental Technology. Eleonora is the iWomen Inspiring Women App Project Lead and currently serves UNDP Myanmar as Innovation Specialist for Women’s Social and Economic Empowerment (International Consultant). Eleonora has worked for UNDP Myanmar since 2014, leading the design and development of the iWomen Inspiring Women Mobile App. Eleonora is responsible for transitioning May Doe Kabar into the first Network of Myanmar Rural Women having worked on the design and implementation of the May Doe Kabar Governance Structure. Eleonora’s work both inside and outside the United Nations is to integrate the Science of Inspiration as a fundamental component in all Development Programmes. Eleonora is the founder of UK charity Great Women Speak Out, a charity which works to establish a scientific approach to putting inspiration and mentoring at the heart of development programmes. Eleonora’s vision is for every single woman in the world to be inspired and to live a fulfilled life. Eleonora has previously worked on women’s financial inclusion for UNCDF Myanmar and as an environmental scientist on women’s access to low-carbon household energy technologies in Cambodia, Nepal, Vietnam and Chile for the not-for-profit sector. Eleonora has co-authored the award-winning W+ Standard methodology ensuring economic and environmental benefits to women in development projects. Eleonora has a strong commitment to ethical fashion and is the country coordinator for Fashion Revolution Myanmar.

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EXECUTIVE SUMMARY

The pace of scientific and technological innovation is revolutionising the way people experience their daily life and how they perceive the world around them. This is especially true in a country like Myanmar, which is transitioning from 50 years of military government into a fledgling democracy while undergoing one of the fastest digital revolutions in the world: mobile phone penetration has gone from less than 13% in 2013 to over 89% in 2016 and internet penetration skyrocketed from 8% in 2013 to 80% in 2016.

In 2014, UNDP Myanmar had a development challenge to unite 2,000 saving and lending groups with a combined membership of 20,000 rural women into one national rural women's network. From 2003 to 2012, UNDP had been growing autonomous saving and lending groups at village level across eight states in Myanmar, channelling financial and capacity building support through a traditional vertical structure, from UNDP to 31 women-led regional offices (Township Leading Groups) serving 2,000 village level groups (Self-reliant Groups). Although this development programme brought benefit at village level, it was impossible for the 2,000 village level groups to integrate into one national network without the addition of substantial financial and structural resources. By taking advantage of Myanmar's digital revolution, UNDP set out to unite these 2,000 village level groups into one network by using mobile phone technology to network the 2,000 groups together onto one app platform. The digital revolution had made a national rural women's network technically possible. Simultaneously, as the digital revolution in Myanmar was taking place, changes in legislation by the Myanmar Government made it possible for UNDP to facilitate the set-up of institutional governance structures for the nascent rural women's network (known as May Doe Kabar).

The process of introducing technology was co-designed between a development team at UNDP Myanmar, UNDP Asia-Pacific Innovation Fund and the leaders of the rural women's network, resulting in an innovative development-communication tool which became known as iWomen Inspiring Women App. The iWomen App is the only app in Myanmar (and one among very few in the world), which simultaneously targets both social and psychological needs of rural women. The co-design process did not just result in a development-communication tool that allowed rural women to share the same tech platform, but resulted in a multi-thematic sequenced content methodology aimed at capacity building rural women into confident and respected community leaders.

iWomen App captures rural women's attention by sharing human interest personal stories (Be Inspired Function); gives rural women hard knowledge on topics such as renewable energy, entrepreneurship, market, laws, rights, technology (Be Knowledgeable Function); provides a sharing platform where women can discuss, in private, issues of concern and receive remote mentorship (Talk Together and Be Together); runs competitions with prizes to embed the knowledge in the rural women's minds and

functioning as a project monitoring and evaluation tool (Ready to Play Function).

iWomen App was launched in March 2016. Since then, close to more than 10,000 rural women and their immediate families have become iWomen App users. A total of over 1,490 inspiring poems, personal stories and lessons have been shared through the app. Thousands of posts have been uploaded in the Talk Together chat board by rural women (on topics such as health, advocacy, financial literacy, commodity prices, migration, gender-based violence, etc.). Since March 2016, iWomen App users viewed content in the app over 1,000,000 times with an average reading time of 8 minutes per content.

Research conducted for this report shows the iWomen Project has a unique approach to wellbeing. Instead of just considering how to support rural women's social needs, this project also targets their emotional needs, envisioning wellbeing from a psychosocial perspective, one that aims for behavioural change. Changes in the women's perception of their role as women, increased self-esteem and self-confidence, increased sense of community and increased digital inclusion, are amongst many of the impacts of the iWomen Project. These impacts will ultimately unlock the human development potential of the women in rural Myanmar. Altogether, the iWomen App is an innovative project, one of the few applications that targets both social and emotional wellbeing. Initiatives such as the iWomen Project are extremely important as they show, first, alternatives of how to address wellbeing from a holistic understanding of the human being, as one that is both social and psychological. Second, they provide evidence of the benefits of approaching wellbeing from a psychosocial perspective.

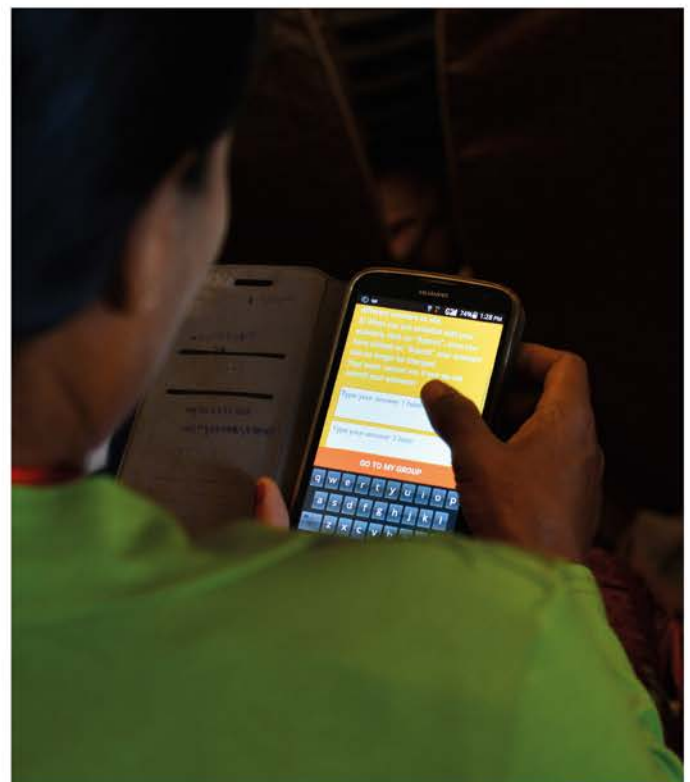


Figure 1 : iWomen Inspiring Women App Launching

The aim of this report is three-fold:

(1) To tell the co-design development story of the iWomen App, in the form of a practical guide, which fellow development practitioners can use as an example of how to develop educational and capacity building mobile apps as well as civic technologies (**Part 2 (by Eleonora Gatti) iWomen Project: App Design, Development and Growth – a Practical Guide**);

(2) To present the reader with an analysis of the impacts that the iWomen Project had on improving women's psychosocial wellbeing as a way to enhance their empowerment (**Part 3 (by Dr Sammia Poveda) iWomen Project Evaluation**);

(3) To provide recommendations on how technology should be developed and used to inspire and inform individuals, in developing countries, to achieve the 17 Sustainable Development Goals (SDGs). These recommendations combine learning both from the two and half year journey of development and growth of the iWomen App and from the project evaluation carried out by UNU-CS (by Eleonora Gatti and Dr Sammia Poveda) (**Part 4 Recommendations**).

Research Conclusions

Three questions were proposed for this study and highlights are shown below.

What role do Information and Communication Technologies (ICTs) have in supporting psychosocial wellbeing as defined for this research?

- From a social perspective, the iWomen App provides a platform for the women of the May Doe Kabar Network to read inspirational and useful information, reflect, share and discuss in the different forums, and to know more about their own network. Many inspirational stories from May doe Kabar members, in particular from the leaders of the Network, have also been shared, inspiring other members to become leaders.

- From a psychological perspective, the iWomen App has increased the level of interaction between the women. The inspirational stories combined with the aforementioned interaction, has served to improve women's self-esteem, self-perception and overall emotional wellbeing. Behaviour change related to the iWomen Project was visible in their relation to technology. While traditionally mobiles are men's property, the iWomen Project has motivated women to own their own mobiles, regardless what is socially accepted. To support the women the May Doe Kabar Network is selling devices with an affordable instalment plan.

What methods of implementation need to be considered to effectively incorporate ICT into initiatives aimed at the improvement of psychosocial wellbeing?

- UNDP had a strong relationship with the rural women as a result of more than 10 years of working with them. Knowing the target group, increased the rapport necessary to develop the iWomen Project.

- The use of participatory methods, allowed the identification of, first, emotional and informational needs and second, the promotion of technological appropriation.

- The iWomen Project used more than one method of participation. When large groups are considered, such as the 20,000 women of the May Doe Kabar, it is impossible to include them into participatory activities. However, the iWomen Project showed it is possible to design various activities (small groups, forums, phone interviews, call centre, etc.), allowing a different number of people to be part of the process at different stages of the project, welcoming participation of more people. This allowed this project to gather a variety of perspectives and voices making the iWomen App more representative of the larger group.

- The iWomen Project used both online and offline interaction. It is the extent of the embedding of the iWomen App within the May Doe Kabar National Network of Rural Women, and the associated support from UNDP Myanmar, which are the reasons of the success of this app.

What are the benefits and detriments that ICT can cause on initiatives focusing on psychosocial wellbeing?

- ICT only magnifies the intent and capacities of those using the technology. ICTs benefited the institutionalisation of the May Doe Kabar network by allowing greater information sharing, and by allowing women to increase their interactions despite physical distance.

- Introducing ICT requires the beneficiaries to be capable to use technology. When the iWomen Team realised the women lacked the necessary digital skills, the iWomen Team incorporated into the project digital skills training for the women. Other constrains that limit the impact of ICTs, besides digital literacy, are the lack of electricity, poor Internet connectivity, lack of time, limited financial resources, among others. Allowing for the iWomen App to be used offline, once the content has been downloaded, was one solution the iWomen Team designed. However, the other mentioned constrains are harder to tackle by projects such as the iWomen Project.

- Be aware that being able to use ICT is not a guarantee that people will use it to improve their development. How ICTs will be used remains the users' choice, and critical thinking skills-based training can aid to motivate people to use technology for their own development growth.

- ICT is not a silver bullet, just introducing technology will not solve any issues. The iWomen Project showed that the online-offline interconnectedness of the May Doe Kabar Network and UNDP Myanmar, and the use of participatory methods to promote ownership and raise women's self-perception, through inspiration, mentoring, interactive dialogue and topic selection were as important as ICT in this project.

Recommendations: From Practice to Policy

The authors' recommendations answer the question: How to inspire and inform people in developing countries to achieve the 17 Sustainable Development Goals with the aid of technology and innovation?

Co-design and co-develop technologies directly with the users

Development actors wishing to develop technologies to empower people should actively choose co-design and co-development over other tech development techniques which do not involve users in the design process. The evidence presented in this report shows that, thanks to the use of participatory approaches (such as the human-centered design and the principles of digital design), the development journey of a tech tool can become in itself an empowering journey. In the case of the iWomen Inspiring Women App, the co-design method and co-development process has enabled rural women, who before the participatory process felt they were not worthy of using a mobile phone, to build up enough self-confidence and self-esteem to shape the development of the app. Tech co-design and co-development ensures project buy-in and ownership by those who will become the ultimate users of the technology.

Sequence the content: inspiration is an essential component when disseminating information using technology

ICT tools can meaningfully contribute to users' positive mindset changes if content is shared in a sequenced way. To share information with rural communities it is essential for development actors to model on human behavioural patterns. First capture the reader's attention using inspiration through human interest stories. Inspiration is an essential component of communicating with people. For development actors to disseminate knowledge effectively through tech, rural people in developing countries have to be inspired to want to read that information. iWomen App has a sequenced content methodology that puts inspiration first, followed by knowledge, peer-to-peer sharing and prized competitions. By embracing the principles of human-centered design (creative confidence, empathy, embracing ambiguity, iteration), development practitioners will be able to co-develop, with their users, context-appropriate sequenced content methodologies.

Use technology platforms to deliver multi-thematic development interventions

Meeting the aspirations of the 17 SDGs will require an unprecedented effort by development actors targeting specific population groups, such as rural women, but working in distinct thematic areas (i.e.: health care, disaster risk reduction, gender-based violence), to increasingly synchronize their interventions. ICT platforms, such as mobile apps and Internet Bots offer such an occasion. This report recommends development actors to take advantage of technology platforms to synchronise their knowledge and capacity building activities to achieve better value for money. The multi-thematic approach of the iWomen App represents a successful example of how development actors can collaborate to disseminate information through technology.

Plan in advance how to guarantee digital inclusion

Implementing technology initiatives in a development context is not straightforward. Disadvantaged populations will most likely be poor or have no electricity and connectivity services, have low levels of education, and restricted financial resources, among others. Projects should identify these problems and plan solutions from the start. Some questions may help identify these issues: i) are we acknowledging characteristics such as age, gender, race and education level in the design of our project?; ii) are we allowing our future users to be part of the design, creation and production of our project?; iii) how will different levels of digital literacy of future users be tackled?; iv) are we addressing different technology preferences in our project?; v) how will different levels of cognitive skills in our future users, for instance critical thinking skills, be tackled?; vi) how will any deficiencies in telecommunications infrastructure, hardware, software and/or connectivity where we plan to implement our project be tackled?.

ICTs are not silver bullets, match technology with offline initiatives

ICT is not a silver bullet. ICTs are tools that support the intent and the capacity of those using them. Just introducing technology will not solve any issues. The iWomen Project showed that the online-offline interconnectedness of the May Doe Kabar National Rural Women Network and UNDP Myanmar, and the use of participatory methods to promote ownership and raise women's self-perception, were as important as ICT in this project. To meet the aspirations of the 17 SDGs, matching great initiatives on the ground with technological innovation may provide the necessary online-offline interaction that has benefited the iWomen Inspiring Women Project.

Adapt existing scientific scales that measure impact of inspiration on human behaviour

Considering that sharing knowledge and experience through inspirational stories is one of our oldest and most effective forms of communication, the number of development programmes using inspirational stories as an effective empowerment tool is still limited. There is an emerging, growing body of scientific scales, which measure different aspects of inspiration and its impact on decision-making, human behaviour and psychosocial wellbeing. This report recommends for development actors to adapt existing scientific scales. By using such scales, development actors will be able to i) measure the effectiveness that inspiration and inspirational stories have on empowering people, and ii) demonstrate a causal relationship between exposure to different degrees of inspirational content and resulting positive behavioural change of the project beneficiaries.

PART 1 CONTEXT

1.1 INTRODUCTION

The transformative power of science, technology and innovation is abundantly clear; achieving the Sustainable Development Goals will require transformations at many different levels and scales, changes that can only happen through science, technology and innovation. We have to collectively step up our efforts to leverage science and technology in support to concrete actions towards the aspirations of the sustainable development goals.¹

Achieving the Sustainable Development Goals is imperative yet extremely challenging. Evidence and case studies are needed as examples of how to successfully implement technology and innovation projects that promote human development and positive behavioural change. The present report aims to provide such evidence, by analysing the impacts of the iWomen Inspiring Women Project, on the lives of Myanmar rural women. iWomen App was launched in March 2016, and this application at the time of publication has 10,507 subscribers. This application aims to capture rural women's attention by sharing human interest personal stories (Be Inspired Function); giving access to knowledge on topics such as renewable energy, entrepreneurship, market, laws, rights, technology (Be Knowledgeable Function); providing a platform where women can discuss, in private, issues of concern and receive remote mentorship (Talk Together and Be Together); running competitions with prizes to embed the knowledge in the rural women's minds and functioning as a project monitoring and evaluation tool (Ready to Play Function).

This four-part report is the result of a collaboration between Dr Sammia Poveda, Research Fellow of the United Nations University Institute on Computing and Society (UNU-CS) and Eleonora Gatti, iWomen Inspiring Women App Project Lead (International Consultant) of the United Nations Development Programme (UNDP) in Myanmar:

- **Part 1** provides a brief introduction to the Republic of the Union of Myanmar, a historic overview of the work undertaken by the United Nations Development Programme to foster the formation of the first National Network of Rural Women in Myanmar and the literature that inspired the project and research.
- **Part 2** (by Eleonora Gatti) tells the co-design development story of the iWomen App, in the form of a practical guide, which development practitioners can use as an example of how to develop educational and capacity building mobile apps and development technologies using the human-centered design methodology and the Principles for Digital Development.
- **Part 3** (by Dr Sammia Poveda) is the result of an independent research study conducted in 2016-2017, in partnership with UNU-CS. This in-depth study visited five different locations and interviewed over 60 May Doe Kabar rural women, to

analyse the impacts that the iWomen Project were having on improving rural women's psychosocial wellbeing as a way to enhance their empowerment.

- **Part 4** answers the question of how to inspire and inform people in developing countries to achieve the 17 Sustainable Development Goals through technology. Recommendations presented combines learning both from the two and half year journey of development and growth of the iWomen App and from the project evaluation carried out by UNU-CS.



Figure 2 : May Doe Kabar Member Using iWomen App

1.2 TECHNOLOGY FOR DEVELOPMENT IN MYANMAR

The iWomen Inspiring Women Project is set in Myanmar, a country undergoing tremendous social, economic and political change. To accurately understand the impact of such a project, what is occurring in Myanmar needs to be introduced. The following sections provide context information about the Republic of the Union of Myanmar and a historic overview of the work undertaken by the United Nations Development Programme to foster the formation of the first National Network of Rural Women in Myanmar. For this reason, it is important to understand the iWomen Project within its context in terms of understanding the current social, economic and political change affecting Myanmar as well as its host institution, UNDP Myanmar.

¹ Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals, 18th May 2017, New York (UN 2017).

Myanmar Context

Myanmar, formerly known as “Burma” during British Colonial times, is a diverse country in terms of its natural resources and population. The estimated population of 51.4 million consists of 135 recognized ethnic groups, speaking over 100 languages and dialects, and expressing an extremely complex web of different cultures and history. Poverty levels are still high at an estimated 26% of the population. Poverty is twice as high in rural areas where 70% of the population lives². The remote border areas, mainly populated by Myanmar’s minority ethnic groups, and areas emerging from conflict are particularly poor. Access to electricity is limited to only 26% of the population and firewood is a major source of energy. The country is highly vulnerable to climate change and extreme weather events, such as the devastating Cyclone Nargis of 2008. This heightens the risks and vulnerabilities for the rural poor, and particularly women and children and other vulnerable groups, a challenge for which local communities are still unprepared. Myanmar is currently undergoing a “triple transition”: nation-building, including securing a sustainable peace with ethnic minorities; state-building, democratizing and modernizing state institutions; and economic liberalization, moving the country from a closed, command economy to an open and transparent market. This triple transition is underpinned by one of the fastest digital revolutions in the world.

Mobile phone penetration has gone from less than 13% in 2013 to over 89% in 2016 (ITU 2016a), the amount of Internet users has grown from 8% in 2013 to over 25% in 2016 (ITU 2016b) and the cost of SIM cards has dropped from over US\$2,000 before 2011 to US\$250 in 2013 to US\$1.5 in 2015. According to a 2016 study, 83% of Myanmar households owned a mobile phone as of June 2016 vs 2% owning a tablet and 4% owning a desktop or laptop computer (Galpaya et al. 2016). On average, each Myanmar household owns 3 SIM cards and 2 phone devices. There is a geographical gap and a gender gap in terms of mobile phone usage and ownership:-

80% of people living in urban areas own a personal smart phone vs **55%** in rural areas;

Urban mobile phone penetration is **82% vs 74%** rural phone penetration;

78% of people with a phone own a smart phone;

72% of males own a personal phone vs **52%** of women.

UNDP Myanmar – From 2,000 Savings Groups to One National Network of Rural Women

UNDP has been operating in Myanmar since the 1960s. For more than four decades, it provided development assistance aimed at improving the livelihoods of rural Myanmar people and especially rural women and girls using a variety of methods, one being the creation of over 5,000 rural women saving and lending groups (hereby known in this report as Self-Reliant Groups – SRGs).

Until 2012, Myanmar lived under a military-led government. In 2011/2012, there was a change of regime to a semi-democracy. The UNDP HDI came to an end, being replaced by the 2013-2017 Country Program, developed in partnership with the newly elected Myanmar Government. The UNDP 2013-2017 Country Program set goals to support Myanmar to achieve the “triple transition”: nation-building, state-building and economic liberalization to improve governance and public service delivery, with a focus on strengthening Civil Society Organizations (CSOs). As part of a UNDP mandate to strengthen CSOs, UNDP consulted with existing Self-Reliance Groups (SRGs), resulting in an ambition to establish the first National Network of Rural Myanmar Women, clustering 2,000 women groups into 31 Township Leading Groups (Township Leading Groups) of women-led regional CSOs. Rural women leaders in Myanmar are pushing the boundaries of their gender roles and responsibilities in civic life, and are facing resistance both from within their families and from others in their communities. One of the key factors that animated their discussion of forming a national network was the inspiration and strength they found through sharing common personal experiences and hearing stories of courage and success from women leaders, both within their network and beyond. Women in Myanmar are severely under-represented at all levels of public and political life in Myanmar, with emerging women leaders in rural areas in particular facing significant barriers of overcoming restrictive social norms, lack of personal confidence and lack of role models that can help them succeed in taking up new roles of participation and leadership in Myanmar’s opening democratic space. Before the October 2015 elections, 42 out of 16,789 (approx. 0.2%) ward and village tract administrators were women and and less than 3% of the regional and national Hluttaws’ membership were women. After the 2015 elections, these statistics have improved, and there are now 88 female ward and village tract administrators, many more 10 households leaders are women and 12% of the Hluttaw members are women. The 2015 UNDP report on female Village Tract Administrators highlights that key barriers for women to be appointed as village leaders and village tract administrators are the lack of other women role models, the lack of support from other women in the communities and the lack of self-confidence (Röell 2015). This is especially true in remote and isolated communities where access to telecommunication is still very limited.

² According to recent estimates, an increasingly significant number of people are migrating from rural areas to urban, peri-urban areas as well as neighbouring countries for better income opportunities.

³ During the HDI Transition phase (November 2012 – September 2013), HDI staff held dialogues with SRGs and explained that the role of UNDP is changing from direct service delivery to working with Government for improved governance and public service delivery, with a focus on strengthening Civil Society Organizations (CSOs). The response to these dialogues was quite positive. Following the HDI transition dialogues in 2013, 3,100 or 56% of these SRGs undertook concrete steps to consolidate and continue their activities, leading to the formation of 188 Cluster Leading Groups (CLGs) and 26 Township Leading Groups (TLGs).

Prior to the establishment of the May Doe Kabar National Network of Rural Women, the 2,000 SRGs had no communication system to interact with each other. Establishing a national network meant that individual SRGs and their leaders in 31 different townships (Township Leading Groups - TLGs) had to first understand the potential of being a part of a nationwide network.

UNDP Myanmar sought support from the Regional Bureau for Asia and the Pacific's (RBAP) Innovations Facility to find ways in which innovation could help first connect these 2,000 SRGs groups and 31 TLGs into a network and secondly to inspire members of the SRGs and TLGs to understand the benefits and the potential of aggregating themselves into a nationwide rural women's network registered with the Myanmar Government. To achieve this the network needed, among others, two things: 1) a communication tool that networked all 2,000 saving and lending groups together, and 2) the willingness of rural women to cooperate as a nationwide network and to work in partnership with the government. Funding from the UNDP Asia-Pacific Innovation Fund (RBAP) focused on achieving these two purposes through the iWomen Inspiring Women Project.

1.3 INSPIRATION, GENDER AND ICTS: A REVIEW OF THE LITERATURE

Development is a contested concept. While traditionally it continues to be seen as economic growth, shaping as such policy-makers' decisions, there are growing alternatives, which conceptualise development in more holistic ways. One such concept is "development as freedom", proposed by 1998 Economics Nobel Prize Winner, Prof Amartya Sen. According to Sen, development is a process "that concentrates on the capabilities of people to do things -and the freedom to lead lives - that they have reason to value" (1999, p.85). This freedom to choose is both end and means to development, and considers in a "comprehensive and integrated manner ...the links between material, mental, spiritual and social well-being, or to the economic, social, political and cultural dimensions of life" (Robeyns 2003, p.8). This perspective, known as the Capabilities Approach, was adopted by UNDP and inspired the Human Development Index (HDI) and its annual reports. For this research, this conceptualization of development was used, trying to have a more holistic perspective of development. Also, due to the nature of this research, both the psychological and social aspects of the individual were considered. For this, a critical psychosocial perspective is used, which is understood as a perspective that focuses both on the bodily (social wellbeing) and emotional (psychological wellbeing) experience, and its relation with the social structures that enable and constrain them (Stenner and Taylor 2008; Taylor 2011). Then, combining the capabilities approach with a critical psychosocial perspective allows us to see how the social structures (i.e.: social norms, policies, project interventions) interact and affect the individuals' psychological and social wellbeing. Namely, understanding the individual and development from these perspectives will help the research part of this report, to understand what impacts the iWomen Project has had on the interviewed women of the May Doe Kabar National Network of Rural Women.

Inspiration and Development

Inspiration (from the ancient Latin "inflare, blow into") has been interpreted as a mythical and divine force delivering creative ideas into the minds of human beings seen as passive receivers (Hart 1998). It is only relatively recently that inspiration has become the subject of a rigorous scientific research leading to a substantial body of academic work (Milyavskaya et al. 2012; Oleynick et al. 2014; most notably Thrash and Elliot 2003, 2004; Thrash et al. 2010; Thrash et al. 2014).

In the relatively new body of scientific work, characteristics, key components and transmission processes of inspiration have all been redefined as has having three core distinct characteristics (Thrash and Elliot 2003): transcendence (the individual gains an awareness of new or better possibilities), evocation/receptivity (the individual is inspired by something or someone), and approach motivation (the individual feels compelled to bring one's new idea or vision into fruition). The inspiration process has also been redefined as having two key components (Thrash and Elliot 2004): inspiration by (being awoken to the perceived intrinsic value of a person, action, or scene); and inspiration to (motivation to actualize/taking actions on the perceived inspiring qualities), bringing together the historical view of human beings as passive receivers of inspiration to that of human beings as active agents of inspiration. The way inspiration is transmitted has been redefined with the following three methods: i) transmission (one, having been inspired by the qualities in an object or a person, seeks to reproduce/emulate them); ii) actualization (one, having been inspired by the qualities of a seminal idea during a moment of insight/awareness, seeks to bring the seminal idea to fruition); iii) expression (one, having been inspired by well-informed ideas, seeks to express them in their own words and actions). This same empiric scientific evidence has further demonstrated that:

- Inspiration correlates positively with intrinsic motivation, work mastery and creativity: individuals are more creative in days when they are more inspired (Thrash and Elliot 2003).
- Inspiration is directly related to goal pursuit and attainment: people who are generally more inspired also tend to set inspired goals, which are then more likely to be successfully pursued (Milyavskaya et al. 2012).
- Inspiration positively affects both emotional wellbeing and material wellbeing including positive effects on life-satisfaction, vitality and gratitude (Thrash et al. 2010).

In an article published by Harvard Business Review "Why Inspiration Matters" (2011), Professor Scott Barry Kaufman, Scientific Director of the Imagination Institute, University of Pennsylvania, presents a wealth of scientific evidence which demonstrates that inspiration bolsters psychological resources such as perceived competence, self-esteem and optimism. According to this author, inspiration is "a surprising interaction between our current knowledge and the information we receive from the world" (Kaufman 2011, np). Kaufman argues that to become personally inspired, "the best we can do is set up the optimal circumstances for inspiration" (2011, np). The human-centered design of the iWomen App used these concepts and definitions in its process, as will be detailed in Part 2.

As indicated above, the study of inspiration is a growing field, and its influence on development has not been yet analysed. However, behavioural economics is a growing science that provides evidence on how inspiration might be relevant for international development. Mullainathan and Shafir's (2013) study of human behaviour patterns of individuals under emotional pressure due to scarcity of money, time or health, shows how the mind of a human being, instead of opening to options on how to overcome the problem, closes down, narrowing this person's options. This process is referred to as 'tunnelling', a mental state which prevents an individual under the pressure of scarcity to come up with creative solutions to his/her own problems. For example, those facing financial troubles, scarcity of money, more often choose the most expensive financial service providers, leading to a worsening of their indebtedness. Mullainathan and Shafir (2013) demonstrate that emotional pressure due to scarcity reduces an individual's IQ and this person's personal mental capacity leading to bad decision making. Conversely, these authors state that when poor individuals do have extra resources, their performance can be dramatically lifted to create far more rational and stable behaviour, called the theory of scarcity (Mullainathan and Shafir 2013). For example, if a street vendor borrows funds at 5% every day to finance trade, that expensive form of finance can be broken through education and support from peers who can help to show how a short period of saving rather than borrowing can transform vendors profits by freeing the vendor from expensive debt systems. Then, having access to inspiration may have the same impact as having access to the extra resources mentioned above. The human-centered design of the iWomen App followed this rationality.

Gender, Women's Empowerment and Development

Social constructs result from the interaction of the economy, society, law, politics and culture, that influences and defines how each sex is understood, and what it means to each person to be male or female within a specific society (Gregson et al. 1997; Lagarde 1996). Gender inequalities, then, are the unequal roles and relationships between genders resulting in one gender having power over another, intentionally or unintentionally (Roberts 2016a).

Development work first addressed this issue from a paternalistic view, focusing only on improving women's lives without challenging unequal gender relations present in society. In the 70s-80s a new movement known as 'Women in Development' (WID) changed the focus to access, with a compelling argument that combined equality with efficiency. It was argued that opening opportunities for women would not only reduce gender inequalities but improve their development as a whole. This movement, however, disregarded the "importance of social and political structures within which women were located and acted" (Rai 2011, p.29). The critiques to WID led to another shift, which argued in favour of a change in gender relations rather than just the inclusion of women. This last movement is known as 'Gender and Development' (GAD).

This shift enriched the discussion, considering first hand the specific social and political contexts where individuals live. By doing so, it differentiates from interventions that address immediate needs and those that aim to change structural constraints (Molyneux 1985; Moser 1993). This movement also acknowledges women's agency, advocating individuals should not be passive receptors of aid, but active participants of their own development (Nussbaum 2000; Sen 1992; Wilson 2011).

In 1995 at the United Nations Fourth World Conference on Women held in Beijing, it was agreed to introduce gender perspectives and attention to the goal of gender equality in all development initiatives, an activity defined as gender mainstreaming later in 1997 (UN Women 2012). In 2000, gender became a priority of the Millennium Development Goals (MDGs), keeping its importance in the Sustainable Development Goals (SDGs). SDG 5, Achieve Gender Equality and Empower all Women and Girls, is composed of 9 targets and 14 indicators ranging from ending gender-based violence, enabling access to technology, to increased political participation (United Nations 2017). There are increasing critiques on the outcomes of gender equality initiatives. Supported by research, authors believe there has been a lack of focus on the structural causes of inequality (Bishop and Bowman 2014; Chopra and Müller 2016; Cornwall and Rivas 2015; Cornwall 2016). For Rai (2011), the GAD movement was unable to influence development planning. Quantification and measurement of women's empowerment has been seen as one of the various causes why gender mainstreaming is currently closer to WID conceptualisations of gender equality than those of the GAD movement (Kabeer 2001; Verge and De la Fuente 2014).

According to Cornwall (2016), to effectively address the root causes of inequalities, "two vital levers are needed. The first is processes that produce shifts in consciousness. This includes overturning limiting normative beliefs and expectations that keep women locked into situations of subordination and dependency, challenging restrictive cultural and social norms and contesting the institutions of everyday life that sustain inequity. [...] The second is engagement with culturally embedded normative beliefs, understandings and ideas about gender, power and change. This takes the process of change beyond the level of the individual to address commonly held and taken for granted assumptions that undergird gendered inequalities in any particular cultural context. Changing notions of what a woman or a man should be or do, and challenging understandings of gender identities and relations can take a variety of forms" (pp. 345-6).

This perspective argues that structural constraints are both at the individual and societal level. While there are social norms and discourses that oppress women, there are also internalised belief systems that cause women to behave in ways that prejudice their own development. As mentioned above, this report conceptualises development through the combination of the capabilities approach and critical psychosocial perspective, which will allow the research analysis to reflect on both the constraining social norms and discourses, as well as the internalised structures the rural women interviewed experience.



Figure 3 : May Doe Kabar Members Using iWomen App

By approaching development from this perspective, the analysis will explore how gender inequality is being, if at all, challenged and/or changed, both at the societal and the individual level.

ICT for Development

While studies have shown that Information and Communication Technologies (ICT) can be instrumental in accessing information and services, therefore improving an individual's wellbeing, studies have also showed that individuals also report improvements on their self-esteem, self-efficacy, and confidence, among others (Breslau and Engel 2015; Cifre et al. 2004; Danielsson and Öberg 2010; Kleine 2013; Poveda 2016a; Thomée et al. 2007). These impacts indicate that ICTs can be instrumental in improving an individual's psychological wellbeing.

The use of ICTs in development initiatives is growing rapidly, encouraged by increasing ICT penetration and a reduction of costs of hardware, software and related services, such as mobile and Internet services. This tendency has been accompanied by research, with some studies that show how using these technologies bring positive impacts, while other studies present a more nuanced picture, stating ICT can bring both negative and positive impacts. Failure of technology and development projects have been caused by: not acknowledging characteristics such as age, gender, race and education level from the design of the project (Basu and Chakraborty 2011; Gunkel 2003; Kleine 2011b; Van Deursen et al. 2011; van Dijk and Hacker 2003); restricting power over design, creation and production of technologies and/or software of those who are intended to become users (Amadeu 2010; Gurumurthy 2004; Hafkin

and Huyer 2008; Hilbert 2011; Spence 2010); inadequate levels of ICT skills of users (Gripenberg 2011; van Deursen and van Dijk 2011a; Walton et al. 2009); not addressing differences in individuals' preferences towards technologies (Barrantes 2007; Thomas and Wyatt 2000); unequal cognitive skills of users upon implementation of the project (Fonseca 2010; Garcia et al. 2006; Genatios and Lafuente 2006; Lafuente and Genatios 2006; Pischetola 2011); lack of adequate Information Technology (IT) infrastructure, hardware, software and/or connectivity is achieved (Sciadas 2003; Thomas and Wyatt 2000); among others.

Participatory design has been proposed as an alternative to overcome some of the issues mentioned above. According to Giacomini (2014), human-centered design is "based on the use of techniques which communicate, interact, empathise and stimulate the people involved, obtaining an understanding of their needs, desires and experiences which often transcends that which the people themselves actually realised. Practised in its most basic form, human-centered design leads to products, systems and services which are physically, perceptually, cognitively and emotionally intuitive" (p.609). To support the adoption of human-centered design, various methods have been developed, such as the ISO 13407 to introduce standards in the industry (Maguire 2001). For development practitioners, for instance, IDEO.org produced a step-by-step guide to implement human-centered design. This guide provides a variety of methods for the three phases encountered in IT projects: inspiration, ideation and implementation (IDEO 2015). UNDP Team used this guide as inspiration for the iWomen Inspiring Women Project. Additionally, the UNDP Team also looked at the Principles for Digital Development, which "are 'living' guidelines that can help development practitioners integrate established best practices into technology-enabled programs" (Digital Development Principles Working Group n.y.). How these principles and guidelines were used will be detailed in Part 2 of this report.

Finally, research related to psychological health and ICTs have focused on the impact of these new technologies on their users' work, leisure and relationship activities (Danielsson and Öberg 2010; Thomée et al. 2007), and on the provision of e-health services such as apps providing mental health information (Breslau and Engel 2015; Cifre et al. 2004). Within the humanitarian sector, where authors argue that addressing and transforming trauma is imperative for peacebuilding (Clancy and Hamber 2008; Kalayjian and Paloutzian 2009; Zehr 2008), very few studies have been conducted to explore how ICTs can address psychosocial wellbeing (Best et al. 2011). Consequently, the aim of the iWomen App to impact the psychosocial wellbeing of the May Doe Kabar women is innovative, and the research presented below aims to contribute to the growing literature in this field.

PART 2 IWOMEN PROJECT: APP DESIGN, DEVELOPMENT AND GROWTH – A PRACTICAL GUIDE

2.1 PRACTICAL GUIDE

This section provides a description of the Human Centre Design Process used to create the iWomen Inspiring Women App. It provides details on the 14 steps involved and can be used as a practical guide to create technology for development. The section is written in manual style and addresses the reader directly.

The iWomen Project cycle has been underpinned since its inception by a combination of principles from the Human Centered Design Methodology (IDEO 2015) and by the Principles for Digital Development (Digital Development Principles Working Group n.y.). The iWomen Project aims to solve the problem whereby rural women in developing countries are given access to positive behavioural change content, which is currently unavailable for them, to foster their social standing and economic empowerment.

The iWomen Project uses as its main tool the iWomen Inspiring Women App: a free mobile phone application which seeks to inspire, foster self-belief, and channel peer support for rural Myanmar women to become leaders in their communities. The iWomen App aims to become the heart of a peer support structure connecting 20,000 women from 2,000 saving groups across Myanmar.

iWomen app original concept of sharing inspiring stories in the form of personal letters written by high profile women to women and young women in developing countries to inspire them to become leaders in their communities came from British Charity Great Women Speak Out!. The iWomen App original concept was also shaped by the Geena Davis Institute on Gender in the Media Campaign “If She can see it, She can be it”. Both initiatives are centred around the concept of using human interest stories and personal narratives to increase self-confidence and self-belief and open-up women’s minds to new options for their lives.

The following 14 design principles were used as a co-design collaboration process (see Box 1), which took place over a series of workshops, attended by rural Myanmar women, young Myanmar “techies” and UNDP development innovators. The human-centered design (HCD) methodology allows development actors to work directly with their users so that ‘users fully grasp your ideas and you fully grasp their needs’. The IDEO Human-Centered Design Toolkit and The Principles for Digital Development were used as guiding principles to co-design and co-develop the iWomen App with the rural Myanmar women.

Box 1: Design Principles

- 1 Design something your users want
- 2 Fail fast - Seed funding for rapid prototyping
- 3 Make your tech innovation fun
- 4 Work with Individuals Committed to Your Cause!
- 5 Design for Scale
- 6 Think Out Loud
- 7 Have a Network of Users who become your champions
- 8 Engage local Youth
- 9 Tackle low level of ICT Literacy creatively
- 10 Use open source and open data as much as possible
- 11 Systems and Sustainability plan as you grow
- 12 Keeping a constant stream of content and growing it organically
- 13 Growing a passionate and committed user-base
- 14 Finding creative solutions to the technical challenges

iWomen app brochure: http://www.mm.undp.org/content/myanmar/en/home/library/poverty/iWomen_App.html

May Doe Kabar brochure: <http://www.mm.undp.org/content/myanmar/en/home/library/poverty/MayDoeKabar.html>

Profiles of May Doe Kabar TLGs: http://www.mm.undp.org/content/myanmar/en/home/library/poverty/May_Doe_Kabar_Profiles_Township_Leading_Groups.html

May Doe Kabar Creative Writing: http://www.mm.undp.org/content/myanmar/en/home/library/poverty/Creative_Writing_May_Doe_Kabar.html

Design Principle 1: Design Something Your Users Want

Whatever technology the iWomen Project Team was to use, to achieve their goal of uniting 2,000 saving groups into one National Rural Women's Network it had to be something the rural women of Myanmar wanted and were capable of using. A human-centered Design Workshop was convened in June 2015 with 14 rural women leaders, 10 young Myanmar "techies" and UNDP development innovators to find innovative ways of establishing the best peer support and communication system for the nascent May Doe Kabar National Network of Rural Women. This workshop was key for validating project assumptions and designing the project theory of change (see Box 1). To ensure the goal of building technology that the user actually wants, the human-centered design process always begins with a challenge statement. The following challenge statement was developed by May Doe Kabar rural women leaders:

How to establish the best support and communication system for rural women members of May Doe Kabar National Network of Rural Women to enable them to overcome their physical and emotional isolation and to build enough self-confidence, vision and courage to become capable and well-respected leaders within the community?

A brainstorm session that allowed women to express all their ideas was held. May Doe Kabar rural women were fully allowed to express themselves, sharing every idea possible they had to meet the challenge statement.

The freedom to suggest any idea at all during this open thinking process is designed to liberate the participant to be free and open in their thinking and their creativity. It took a small amount of time for the rural women to grasp for real that their ideas would be incorporated into the final design of what was to come out of this process. Once it was fully understood by the rural women participants that their ideas would definitely be in the final design, a joyful enthusiasm arose creating a sense of unity amongst all participants in the co-design process. It became evident that the participatory design process of human-centered design was achieving its goal of giving rural women the opportunity to express what it is they wanted for their new proposed rural women's network.

Through a sequenced series of steps, all ideas which arose from the brainstorm were gradually prioritised and distilled into four workable solutions: a Community Radio, a May Doe Kabar Magazine, a mobile application and an annual fair. At the end of the workshop, out of the many ideas put forward, a vote was then taken amongst May Doe Kabar rural women, resulting in an agreement that the best tool to unite the rural women into the nascent network of future leaders, and to support them to become well-respected leaders in their communities, would be for May Doe Kabar to have their own mobile phone application. Box 2 provided an overview of the Theory of Change of the iWomen App Project including the project's assumptions (Grimaldi and Gatti, 2017)

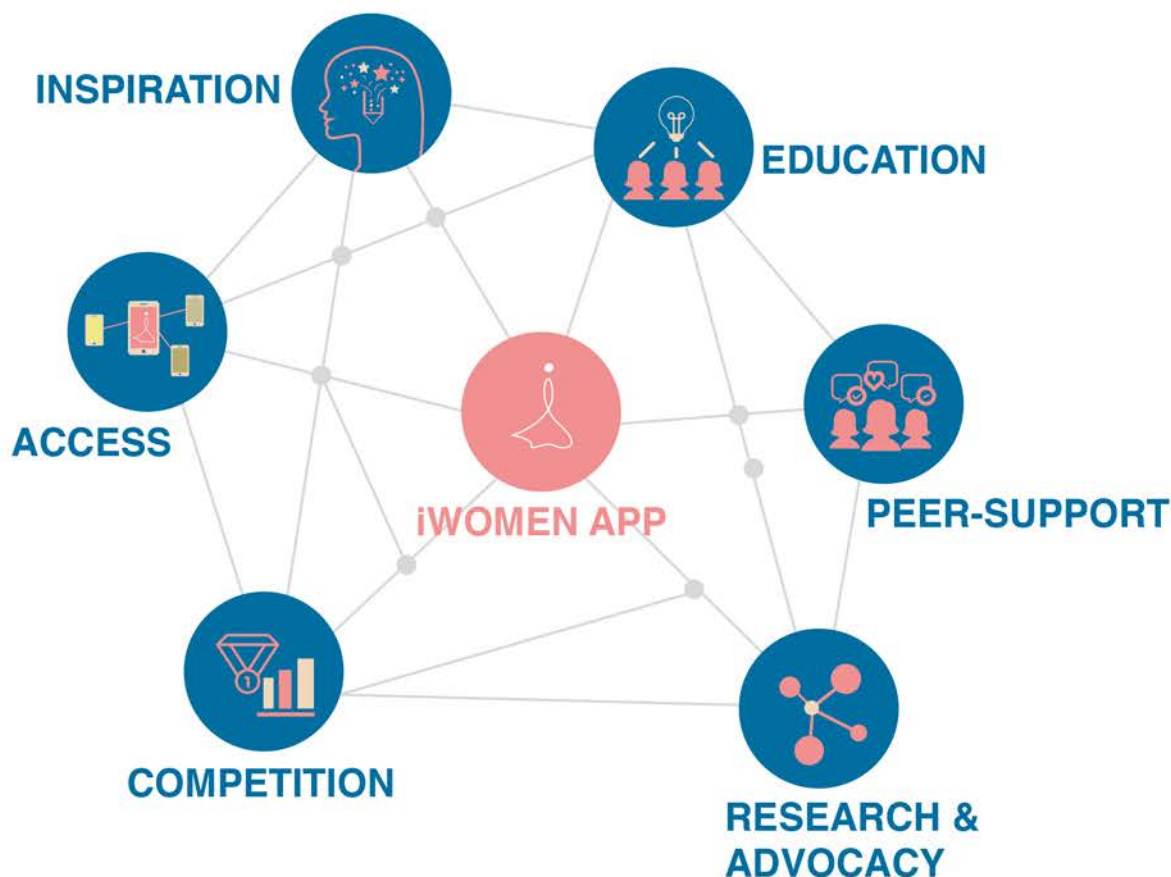


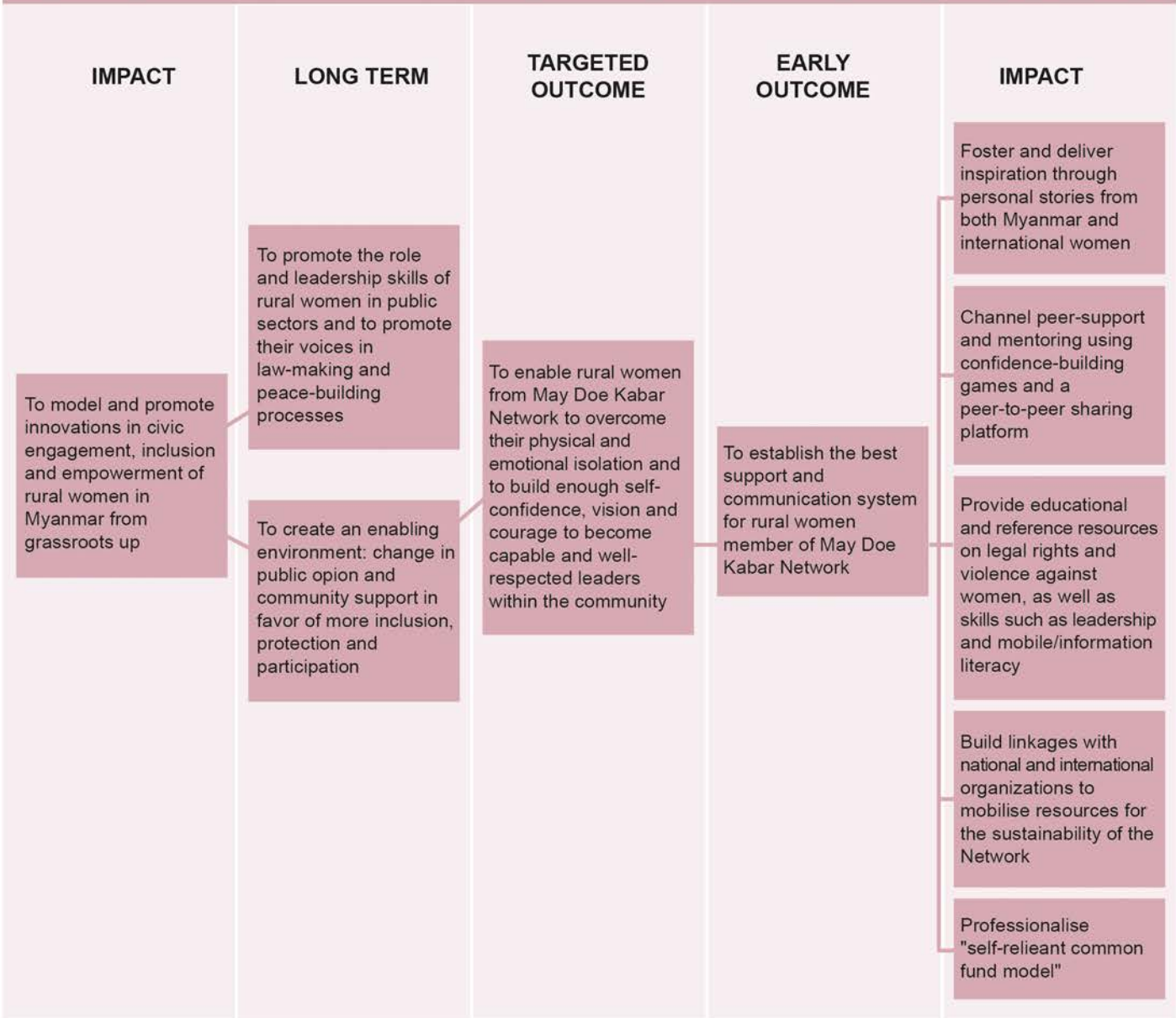
Figure 4 : iWomen App sequenced methodological approach

Box 2: iWomen App Project Theory of Change

Sustainable Development Goal #5 “Gender Equality”, through its nine targets, recognizes that women’s inequality is grounded in structural forces and institutions, both public and private, characterized by deeply embedded power inequalities and discriminatory social norms which cut across economic, social, and political arenas. iWomen project can be positioned under target 5.b “Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women”.

The iWomen project address the root causes of gender inequality in the specific context of intervention using a Gender transformative approach (GTA): it creates opportunities for individuals to actively challenge gender norms, promote positions of social and political influence for women in communities, and address power inequities between persons of different genders. iWomen project creates an enabling environment for gender transformation by going beyond just including women as participants, using innovative solutions.

Empower women through the use of enabling technology



Three key assumptions underpin the iWomen Project Theory of Change:

- (1) Rapidly growing mobile phone penetration in Myanmar, including in rural areas (see section 1.2)
- (2) Inspiration matters: proven scientific evidence that exposure to inspiration positively affects emotional well-being, work mastery and creativity (see section 1.3)
- (3) ICT for Development: evidence that ICT can contribute to improve individuals self-esteem, self-efficacy, and confidence (see section 1.3)

Design Principle 2: Fail Fast - Seed Funding for Rapid Prototyping

The app development community and the innovation community, which stem out of Silicon Valley, has brilliant tried and tested, tech development techniques, one of which is 'Fail Fast – Rapid Prototype Development!' This means test your concepts as quickly as possible using prototyping so as to find out, with as little funding as necessary, whether the ideas you have will work in reality. This is the principle we have followed with the iWomen App development to see whether an app would work for May Doe Kabar rural women.

UNDP Myanmar sought support from the UNDP Asia-Pacific Innovation Fund (UNDP 2016) to support the May Doe Kabar National Network of Rural Women. The initial innovation grant of US\$25,000 was to fund the development of a technological prototype during a ten-week period. It is important to note that in 2015, very few rural women in Myanmar had access to a mobile phone and that very few of the women we spoke with had used a mobile app before.



- Co-designing of the first app wireframe: a series of simple drawings that anticipated what the key functions of the app would be. [Week 1]



- Development of the offline prototype: digitalization of the paper wireframe into a very simple digital mock-up of how the app would look like. [Weeks 2 and 3]



- Development of the User Interface Design and App Brand: co-development of a colour scheme, motto, name and logo for the app. [Weeks 2 and 3]

In each round of testing, May Doe Kabar rural women members were asked to rate the functions on the app they like the best, the functions they felt were of most use to the network and the functions they felt were providing no additional value. Women members of the testing group reported a high level of satisfaction, saying they very much enjoyed being given the responsibility of naming functions in the app, developing the app motto, putting forward suggestions for content as well as the fun and camaraderie of drawing stickers and avatars. Women unanimously reported that the HCD approach made them feel respected. After each round of testing, the app developers modified the different functions of the app based on the women's feedback.

Despite this deficit of mobile technology experience, rural women showed enthusiasm to engage with the unknown technology and a keen ability to follow the human-centered design process. Functions for this new app were ideated, co-developed and tested with a group of ten May Doe Kabar rural women in the delta area of Myanmar (Kyaiklatt). Each round of testing was carried out as a game whereby users were requested to first sketch their ideal functions, then figure out how to make them easy to navigate for fellow rural women, who had never used an app before.

During the following 10 weeks, a team of rural women leaders, tech developers and UNDP development innovators went through the rapid prototyping cycle, described below, which saw continuous visits of the tech and innovators team to a remote rural women group in the Delta region in Myanmar:



- Development of the online prototype: the agreed basic functions and user interface of the mock-up of the app were then coded into an online working beta version of the app. [Weeks 4, 5, 6]



- Continuous refinement of the app prototype based on users' testing and feedback [Weeks 7, 8, 9, 10]

At the end of the testing process it became apparent that the rural women easily had capacity to work with mobile applications. The testing process proved to be a great success. Both the rural women leaders who took part in the testing process and the project team were excited to take the project to full development. Design Principle 2 'Fail Fast' had provided empirical proof that the technology being designed was a technology that the users wanted.

With the seed-funding for the prototype having received positive feedback from the rural women users and from the UNDP Innovation Fund, UNDP agreed to fund a subsequent twenty-week development of the iWomen App and embed it in the Civil Society and Media Programme as the iWomen App Project: the first UNDP tech innovation project in Myanmar.

Design Principle 3: Make Your Tech Innovation Fun

Amongst the tech community of Silicon Valley and other world tech hubs, fun is not seen as a frivolous addition to technology but as a shrewd and essential component of user engagement. May Doe Kabar rural women were enthusiastic with Design Principle 3 'Make your tech innovation fun', saying that introducing an element of fun would make the app accessible for rural women with a low level of ICT literacy and would increase future levels of users' retention and engagement. Although the mission of the iWomen App to unite 2,000 rural women saving groups into the first National Network of Rural Women and to develop their capacities to become confident and respected leaders is deeply serious, the component of fun as an essential design feature proved to be one of the most important success factors that took the iWomen App from prototype to funded development stage.

An emergent community of young Myanmar cartoonists, award winning Myanmar Facebook sticker designers 'Joosk', was selected to work with May Doe Kabar rural women to co-design app stickers and characters, for use as part of the design communication strategy for the iWomen App. Young urban cartoonists and rural women leaders sketched together characters and taglines for all the stickers and avatars. Two cartoon series came out of this collaboration, in which each cartoon makes fun of a Myanmar stereotype or mindset whilst delivering an empowering message through the taglines. The second cartoon series specifically focuses on challenging cultural norms around gender-based violence. The cartoon series were deemed useful communication tools by May Doe Kabar rural women to promote the app among other rural women.



Figure 5: iWomen App Stickers Development by Joosk



Figure 6: iWomen App sticker showing women can confidently speak in public



Figure 7: iWomen App stickers saying "Anything can be achieved"



Figure 8: iWomen App sticker saying "Respect [to the women]"



Figure 9: iWomen App sticker saying "Unity is strength"

Design Principle 4: Work With Individuals Committed to Your Cause!

The iWomen App is developed to inspire, connect and mentor Myanmar women. It is common for international organizations to outsource the development of tech platforms such as mobile apps. In the iWomen App case, a very clear decision was taken to only be working with passionate and committed Myanmar tech women and local talents. The entire development of the app shows in practice that local young talent given the right resources can contribute greatly to development goals in their own country. Keeping the iWomen App 'in house' as a development project has given the team great flexibility to shape the app through an ongoing dialogue with the rural users. The philosophy, at all stages of the development of the iWomen App, is for women to inspire each other.

Rural Myanmar women working hand in hand with young Myanmar tech women is a direct example of women being an inspiration to each other. The close working relationship between young tech women and rural women led to an increased sense of project ownership and technology buy-in from the end users.

We wanted to achieve two things: 1) I wanted young women 'techies' to be able to showcase their coding talent on a high-profile project and 2) we wanted the rural women of Myanmar to see that young Myanmar women were capable and talented enough to design and code a mobile app from scratch. (UNDP Team)



Figure 10: Nyo Nyo San (Secretary of May Doe Kabar Network)

Rural Women Let's Keep Working Together Without Feeling Small

To be able to lead a peaceful life all the human beings need to be treated without discrimination, they should be treated equally. We should be able to share our ideas and exchange our views. We should not have jealousy and should treat others with empathy. If we can achieve this, there will be no abuses, violence, killing and insults. But we are now facing wars, conflicts, violence and abuses.

On the other side of the story, we also have opportunities to overcome the challenges we face as women and those of our children. I benefit from UNDP trainings and now I can lead and support the women in my township, and I can inspire my family. Thanks to UNDP, my life has completely changed.

Another thing which has changed my way of thinking and developed my capacity is the mobile app for rural women, iWomen Inspiring Women App. Whenever I feel depressed and want to give up, I always read "Be inspired" section. After reading it, I feel inspired and can overcome the problems and difficulties.

As long as I live, I will always get up again and again whenever I will fall down. I will never give up. I can proudly say that I have become this kind of person. We are human beings, so we don't need to feel small and downhearted.

Moreover, we have this iWomen App to let the world know us. We have technology in our hands now. We can share information and have opportunities to support the survivors of violence. We come to know how to establish linkages and networks which can support us. As rural women are also humans among other humans living in this world, let's help each other to overcome challenges and work together for a brighter future without feeling small.

Nyo Nyo San

Design Principle 5: Design for Scale

One of the main barriers of building apps and civic tech innovation in Myanmar is to build for scale. Building for scale in Myanmar means ensuring accessibility for ethnic population whose mother tongue is not Myanmar. At the time of writing this report, the authors are not aware of any mobile app with content made available in ethnic languages. While Myanmar is the official language and the most spoken, according to the Myanmar Information Management Unit (2016), there are 34 main spoken languages in Myanmar, from 6 different language families. Additionally, there are two different fonts for the Myanmar language and countless more for the other languages some of which include the Myanmar alphabet and some of which include roman characters. Designing an app for scale in Myanmar means to start with a design which will allow several languages and several fonts to be included. The iWomen App was built to allow a multi-language wireframe and multi-language content. A selection of top-rated content by the users is currently being translated into two ethnic languages. Building for scale is also synonymous of building to scale technology impact.

34 main spoken languages in Myanmar

6 different language families

2 types of font for Myanmar script

The iWomen App has been built to achieve and scale impact in the following areas:

- (1) Connecting rural women to modern technology and innovation by closing the gender gap in phone ownership and increasing mobile phone literacy in Myanmar;
- (2) Enhancing social recognition of rural women by building access to inspirational and educational content;
- (3) Rural women influencing evidence based policy making through quantitative and qualitative data crowd-sourced via the app. The following paragraphs highlight how iWomen App impact has been scaled up through the use of volunteers, content partnerships and innovative trainings.

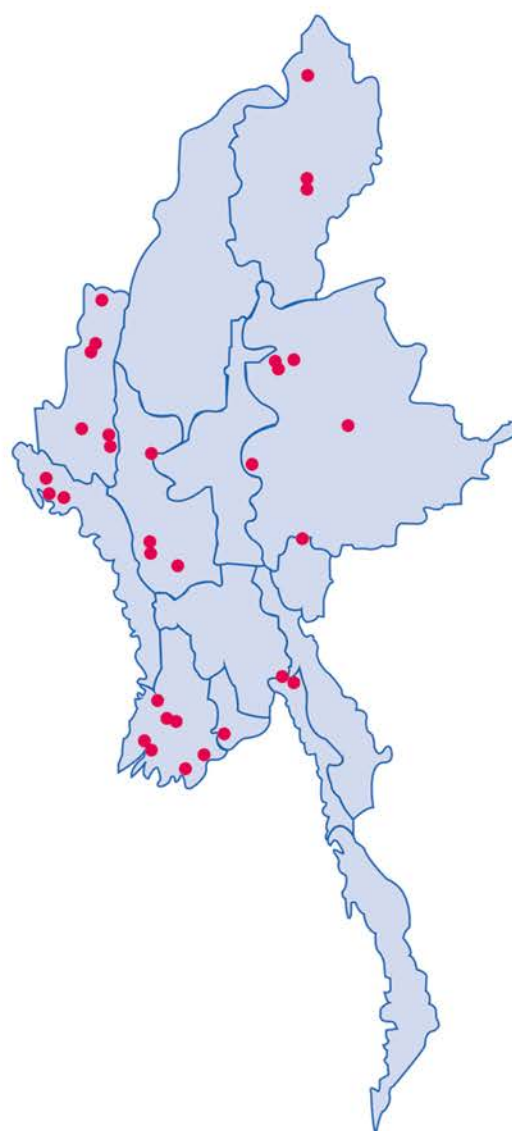


Figure 11: Map of Myanmar showing geographical distribution of May Doe Kabar groups (TLGs)

Design Principle 6: Think Out Loud

The principle of 'Thinking Out Loud' is to share and test your ideas across a variety of communities. A series of inspiring and innovative events were designed to promote the app and to source the very best of contributors. Instead of calling them workshops the team decided to call them 'think shops' following the Design Principle 6 'Think out loud'. The iWomen Think Shops discussed the following questions: i) how can we make the best of inspiration and peer to peer mentoring as tools for empowering people?; and ii) how can we use the best of innovative tech solutions to empower rural women? Thanks to these events, the project team made connections with INGOs, NGOs, media and independent groups using inspiration and micro-narratives in their projects. The iWomen Think Shops were a great success in two main ways: 1) the events gathered support from potential partners with good will; and 2) the events helped the project team to think out loud in public by creating awareness about the iWomen App amongst the tech and NGO community in Myanmar. Additionally, during the development of the app, UNDP Myanmar received guidance from UNDP China, one of

the 2014 UNDP Asia-Pacific Innovation Fund Winners (UNDP 2017), which had also developed a mobile application.

Key suggestions given by UNDP China were for the iWomen Project Team to: a) be fully involved in the development of the app by closely monitoring and recording every step; b) film crucial steps during the development of the app; and c) develop an audio function to allow less literate women to engage with the app. The iWomen Project Team incorporated all three of UNDP China's suggestions. To document the development of the iWomen Project, a blog series has been published regularly on the UNDP website⁴, an iWomen App journey diary was kept by the Project Lead and a Channel News Asia documentary⁵ on the iWomen App and May Doe Kabar National Network of Rural Women was produced. Further thinking out loud strategies included several media articles in regional and national newspapers. To enable less literate women greater accessibility to the content, an audio function was built into the app. The iWomen Project Team was thinking out loud!



Figure 12: Husbands of May Doe Kabar members write messages of support to Myanmar women leaders'

⁴Blog Series:

<http://www.mm.undp.org/content/myanmar/en/home/ourperspective/ourperspectivearticles/2015/08/17/i-women-inspiring-women-app-at-the-foot-of-zwegabin-mountain.html>;

<http://www.mm.undp.org/content/myanmar/en/home/ourperspective/ourperspectivearticles/2015/10/14/i-women-inspiring-women-application-journey-yangon-tech-girls-meets-rural-kyaiklat-women-.html>;

<http://www.mm.undp.org/content/myanmar/en/home/ourperspective/ourperspectivearticles/2016/10/40-young-volunteers-travel-to-celebrate-twenty-two-thousand-rura.html#>;

<http://www.asia-pacific.undp.org/content/rbap/en/home/blog/2017/3/1/be-tech--be-innovative--be-bold-.html>;

⁵Channel News Asia Documentary: <http://www.channelnewsasia.com/tv/tvshows/aseannextgeneration/daw-cho-aye-myanmar/3451518.html#>

Design Principle 7: Have a Network of Users Who Become Your Champions

Most tech innovations start with a very small team and with limited funding. This was the case for the iWomen Project which started with a US\$25,000 innovation grant and with a team of three people. During the development of the app the team focused on building the strongest possible network of users' champions. The iWomen App co-development process with rural women members of May Doe Kabar National Network of Rural Women meant that a strong sense of ownership and buy-in from the technology end users had been built in since the start. The timeline below summarizes the frequency of interactions between the iWomen App team and rural women users who eventually became the app's strongest champions and supporters.



5,500
Rural Women
Trained on ICT



Figure 13 : May Doe Kabar Members

Design Principle 8: Engage Local Youth

iWomen Project Team engagement with youth became a far greater success than any project team member could have predicted. What happened was that youth engagement with the iWomen Project grew exponentially, becoming an unexpected key success factor for the project. After only three months of project implementation, it became clear that a team of four people could not keep up with the fast pace of rapid app prototyping. The iWomen Team needed extra help in the form of tech volunteers. The iWomen Team reached out to Yangon university students from the Computer Science and the Engineering Faculties. Thirty university students were invited to the three-day May Doe Kabar National Network of Rural Women's Convention, to share the iWomen application with 300 rural women delegates, to carry out phone debugging and to run games on the app. In less than two months following the initial convention, the iWomen App gathered interest amongst university students who saw an opportunity to deploy their tech skills and to travel for the first time in their life to remote areas of the country, whilst gaining precious work experience for an international organization.

In December 2015, only a few hundred rural women in Myanmar knew about the iWomen App and only a handful of young students had volunteered their time to teach mobile skills and the iWomen App to May Doe Kabar rural women. By December 2016, the iWomen volunteers network had expanded to more than 200 youths who were travelling across the country to train rural women on ICT literacy, on how to install, use and share the iWomen App and become iWomen App Champions. 2016 and 2017 saw the flourishing of a significant base of iWomen Champions⁶ both in rural and urban areas. The iWomen volunteers network has trained 5,500 rural women on mobile technology and has accumulated in excess of 25,000 volunteers' hours. By December 2017, the iWomen App has reached 10,507 rural women and 989 volunteers.

Testimonial of iWomen App Volunteer

"At first I was interested to volunteer to the iWomen project because it was a UNDP project. Whilst volunteering time to this project traveling to remote areas delivering ICT trainings to rural women my self-confidence improved, my presentations skills got better as well as my translation skills and my project management skills.

Thanks to the experience gained through this project, whenever I have to speak in public I am no longer nervous.

Thanks to the numerous interactions with other young volunteers and rural women my social skills are getting better and better."

⁶ <http://www.mm.undp.org/content/myanmar/en/home/ourperspective/ourperspectivearticles/2016/10/40-young-volunteers-travel-to-celebrate-twenty-two-thousand-rura.html>

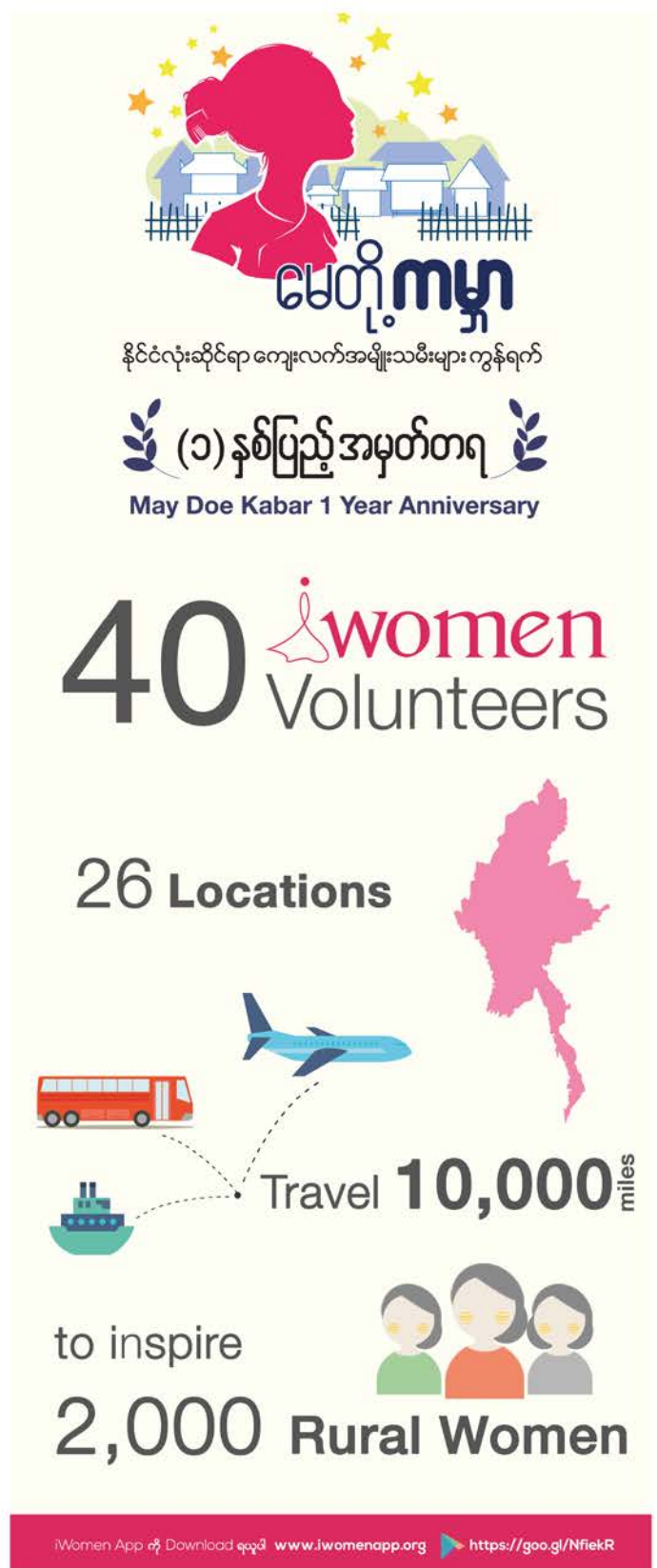


Figure 14 : Facebook post celebrating iWomen volunteers delivering ICT trainings to MDK members



Figure 15 : May Doe Kabar Women and iWomen Volunteers at May Doe Kabar Launching Event

Design Principle 9: Tackle Low Level of ICT Literacy Creatively

It is important to communicate with technology users in a way that they have the capacity to understand. The iWomen Project Team, iWomen volunteers and leaders from May Doe Kabar, co-authored a series of engaging and transformative mindset role plays to make technology more accessible by rural women who were using a smart phone for the first time. These role plays were designed to introduce new concepts of law, self-respect, entrepreneurship, economic empowerment and women leadership. Each role play typically takes a common problem for rural Myanmar women and through the dialogues offers a new way of solving it by using technology, by using information, inspiration and contacts from the iWomen App.

The role plays were first piloted in June 2016 and since then over 500 role plays have been written and performed by rural women and the iWomen Team/volunteers. After a role play, a typical training day includes an experience sharing by a rural woman tech champion, a technical session by an iWomen volunteer and then a live quiz to stimulate the usage of the app with small prize incentives. The use of role plays and interactive quizzes has stimulated over time May Doe Kabar members' leadership skills, as they have taken increasing responsibility in writing their own role plays, identifying pressing social problems and highlighting through the dialogues how May Doe Kabar members can leverage the network's strengths and use new technologies, such as iWomen App, for finding common solutions. The reason why the role play format was chosen and proved to be successful in tackling a low level of ICT literacy is because role plays drama 'pienzagar' (ပြဇာတ်) is already a very traditional popular format in Myanmar culture.

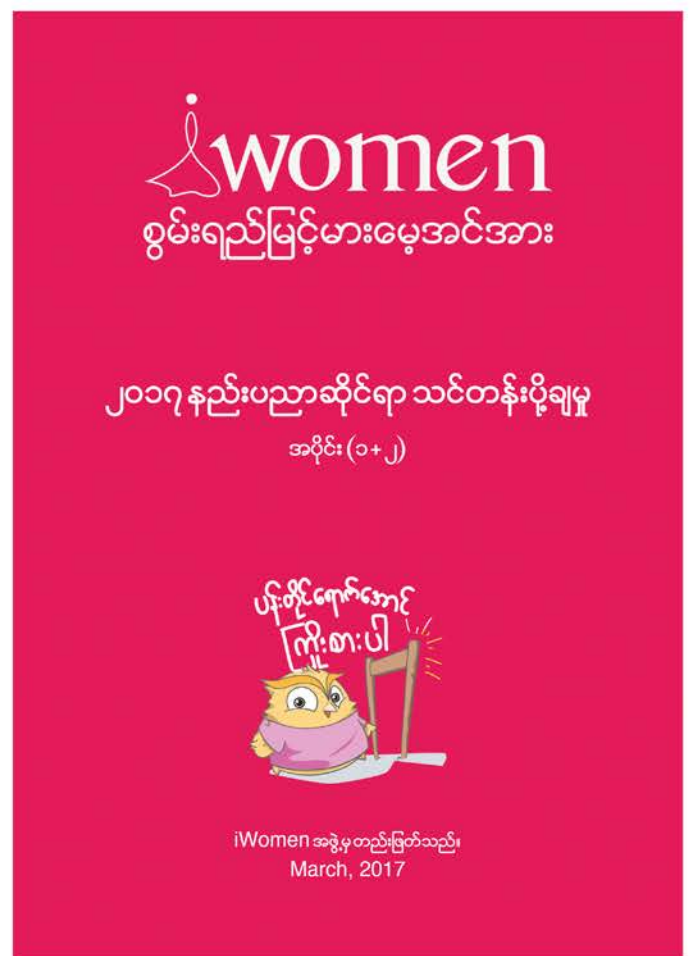
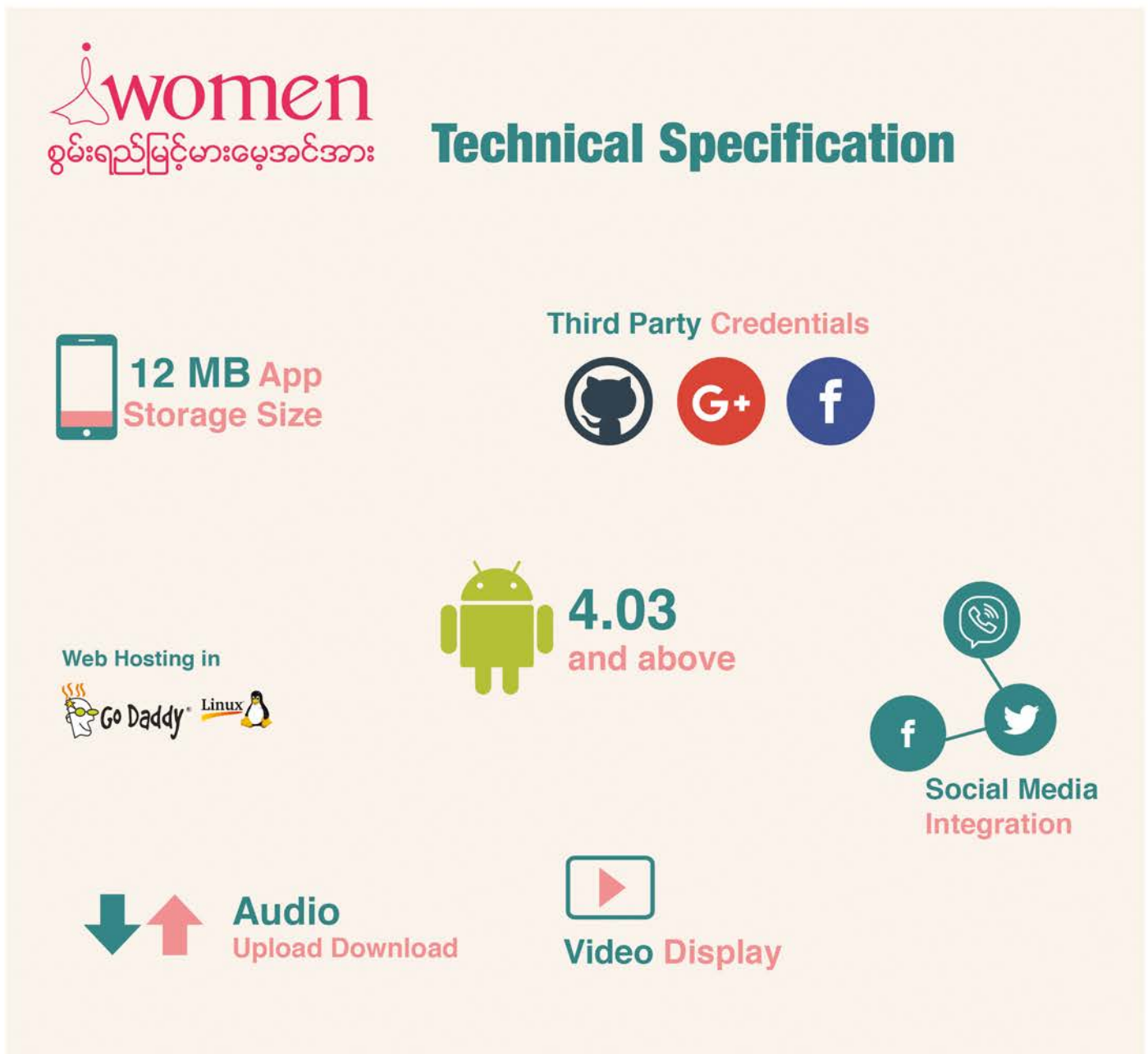


Figure 16 : Cover page of ICT Training booklet " 2017 ICT Trainings Part (1+2)"

Design Principle 10: Use Open Source and Open Data As Much Possible

During the technical development of the iWomen App, Myanmar app developers contributed to the coding of the app via the GitHub Platform. GitHub Platform is an open repository of open-source software projects. As of April 2017, GitHub reported having almost 20 million users and 57 million repositories, making it the largest host of source code in the world⁷. Once the iWomen App code had been uploaded on GitHub, the all-female developer iWomen App Project Team had the possibility to seek help on how to improve functionality of the app and how to fix app bugs from fellow national and international coders. The May Doe Kabar Network welcomes further contributions from international coders to strengthen the iWomen App code so that the app can be used by development actors in other parts of the world.



⁷ GitHub platform can be accessed at: <https://github.com>

Design Principle 11: Systems and Sustainability Plan as You Grow

The iWomen Team has devoted time and resources to build streamlined internal systems to manage the iWomen Inspiring Women App. An online content management system and a technical development tracking tool has been developed and hosted online via a shared file hosting service platform. Standardized templates to streamline content development and upload across all iWomen App functions have been developed and shared with all content partners. These internal systems are currently being transferred to May Doe Kabar IT focal points during a series of Back-End Management trainings aimed at increasing local ownership of the iWomen App. During the development of the app, the team has tested ways to develop a line of income generating services for the May Doe Kabar Network whereby development partners can use the app to carry out surveys and monitoring and evaluation activities, collecting both qualitative and quantitative data (see Design Principle 12).

2.2 IWOMEN APP FUNCTIONS AND CONTENT

Section 2.1 above has taken the reader through eleven of the steps of the project design cycle, presenting how the iWomen Project Team and May Doe Kabar rural women worked together to shape their challenge and ideate their technology solution. This section shows in further detail how the human-centered design process shaped the functionality and the content of the iWomen App, by walking the reader through the last three steps of the project design cycle (Design Principles 12, 13 and 14).

iWomen Inspiring Women App has at its core a sequenced approach aimed at first capturing rural women's attention by sharing human interest personal stories written by women across the world, with the aim of creating "teachable moments" in the busy minds of rural women (Be Inspired). Second, giving knowledge to help rural women with their lives on topics such as renewable energy, entrepreneurship, market, laws, rights, technology (Be Knowledgeable). Third, creating a space where rural women can talk to one another sharing their experiences,

asking each other questions (Talk Together). Fourth, running competitions with prizes to embed the knowledge in the rural women's minds and to be used as a project monitoring and evaluation tool to gauge users' comprehension so that users keep logging (Ready to Play) (UNDP 2017).

The initial challenge set out during the first human-centered design workshop in July 2015 was:

How to establish the best support and communication system for rural women members of May Doe Kabar National Rural Women Network to enable them to overcome their physical and emotional isolation and to build enough self-confidence, vision and courage to become capable and well-respected leaders within the community?

The following represents a summary of iWomen Team conversations with the rural women of May Doe Kabar during the co-design process. The following are not direct quotes.



BE INSPIRED

iWomen Team asked: What would be the most useful and exciting content to put on the app so you can improve your own lives and become great village leaders?

May Doe Kabar rural women said: There has never been a woman village leader in our area. None of us have ever met a woman village track administrator before. Tell us stories of how other women have achieved success in their lives.

Together we created the **Be Inspired** function, a collection of real personal stories of women's success in life.



BE KNOWLEDGEABLE:

iWomen Team asked: What is the best way to share with you information which can help you with your business, your health and your family?'

May Doe Kabar rural women said: Give us information we can read at home when we have no phone connection and that we can keep like a library. We would like to receive lessons on how to tackle gender-based violence, land legislation, nutrition, how to use the latest technologies, commodity prices, food preservation and business ideas.

Together we created the **Be Knowledgeable** function, an online library that consists of a list of relevant topics, each topic comprising of a series of short accessible lessons that can be downloaded and read offline.



BE TOGETHER AND TALK TOGETHER

iWomen Team asked: How can we create an atmosphere of women working together across the country as one network supporting each other?

May Doe Kabar rural women said: We would like to see where all the other network groups are based. We would like to share our ideas for business and leadership with other groups within the network.

Together we created two functions: **Be together**, a function that shows a map with all the May Doe Kabar offices. When an iWomen user clicks on a group in the map, a new page with contact details and names of members appears. We created **Talk Together**, a function where iWomen users have a discussion platform of their own to share their experience, ideas and where they now trade with each other.



READY TO PLAY

iWomen Team asked: What do you need to make iWomen App popular in your village?

May Doe Kabar rural women said: We need to give rural women an incentive to keep reading the content of the app. People here in rural areas have difficult lives and many pressures. We want to learn and have fun at the same time.

Together we created **Ready to Play**, a function of competitions to test rural women's understanding of iWomen content and give the users a chance to win a prize.



SISTER APPS

iWomen Team asked: Is there any other function that you think would be useful?

May Doe Kabar rural women said: Yes, we would like many other things in the app: weather information, national news, regional news, English lessons, Myanmar-English dictionary, agricultural input prices, make-up lessons, hairdressing tips, recipes and much more.

Together we created **Sister Apps**, a function that consists of a list of already existing useful apps within Myanmar that rural women can download and use for their lives.

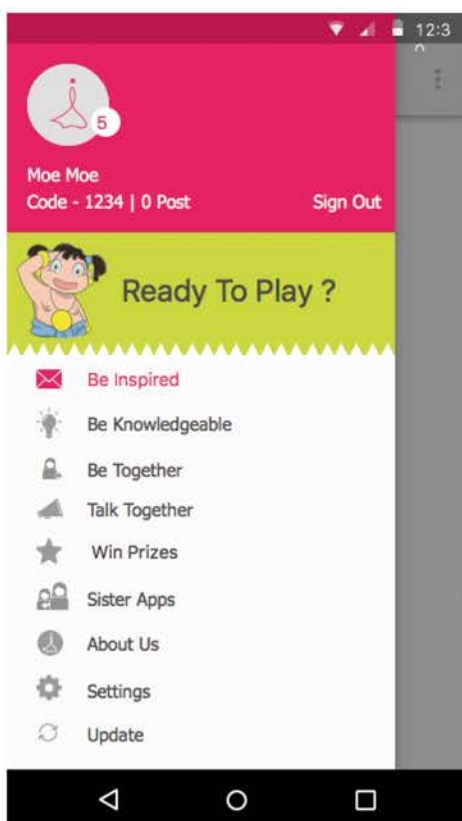


Figure 17: Menu of iWomen App

iWomen App had reached the end of its initial design phase, from conception through the 11 steps of the design principles process and having formulated app functionality and content. The app was publicly launched on March 8th 2016 in Naypyitaw, Myanmar's capital, during an event hosted by the Department of Social Welfare and the United Nations to celebrate the International Women's Day. The iWomen App was showcased to over 200 government staff, international and national development partners. On the same day, the app was launched for android on the Google Play Store, where it can be downloaded and used in dual language (English and Myanmar) anywhere in the world.

Now that the app had been launched, the project team focused on designing the rhythm and pace of publishing content (Design Principle 12), on building partnerships to grow the user base (Design Principle 13) and to finding creative solutions to technical and implementation challenges (Design Principle 14).



Design Principle 12: Keeping a Constant Stream of Content and Growing It Organically

Implementing Design Principle 12 'Maintaining a constant stream of content and growing it organically' has been without a doubt one of the most difficult parts of the iWomen Project. Most educational mobile phone applications developed by development organizations usually provide static content which rarely gets updated and provide very little functionality for users' interaction. The iWomen Team decided to take example from commercial mobile phone applications which update their content extremely frequently and allow for high user engagement throughout their functions. The team, through its constant and far reaching content sourcing strategy and its creative call for content from the users, had established a mobile app with a multi-thematic sequenced content methodology and a direct two-way communication with its rural women users.

Setting a topic of the month rhythm

Using the human-centered design principle of co-design, the iWomen Team and May Doe Kabar rural women drew up a list of topics to be published on the iWomen App, prioritising the publication of topics according to May Doe Kabar rural women's assessment on what would be most useful for their members. It was agreed that one topic per month would be published with an inspiring life story uploaded to the Be Inspired function, and a series of short lessons related topic of the month uploaded to the Be Knowledgeable function. Discussion on the monthly topic would be then encouraged across the Talk Together function of the iWomen App. A recognisable and familiar rhythm of 'topic of the month' had been established.

Having one topic per month also gave the iWomen Team and May Doe Kabar time to test whether the iWomen App users were absorbing both the inspiration from the monthly topic and understanding the lessons uploaded to the Be Knowledgeable function. The iWomen Team tested the use of the Be Inspired and Be Knowledgeable function by running a monthly game on the Ready to Play function where women users could win prizes by answering questions on the topic of the month. The commercial technique of using prized competition turned out to be a cost-effective addition for assessing rural women's use of the app. The Ready to Play function became a means through which to engage with the rural women app users in the three following ways:

- (a) allowing users to send their content to be published on the Be Inspired function;
- (b) testing users' comprehension and engagement with the topic of the month;
- (c) it being a qualitative and quantitative research tool to gather data from the users.

Sticking closely to publishing one topic per month gave the iWomen App a character similar to that of a women's monthly magazine, a medium familiar to May Doe Kabar rural women.

A two-way communication system

iWomen App monthly topics include: "No More Violence Against Women", "Technology is empowering women across the world", "How to manage your money wisely", and "Gender equality is on us". The monthly game, featured as part of the Ready to Play function, evolved quickly into a two-way interactive space where the iWomen Project Team could ask iWomen users to contribute either in a light-hearted way or in much more deep and meaningful ways. For example, during the month of "No More Violence Against Women", a call for essays and poems on gender equality asked the rural women users to submit a written contribution on what gender equality meant to them and what were the three practical steps rural women would take to improve gender equality in their villages. A principle of May Doe Kabar rural women contributing content to the app had been established. Further examples of content contribution from May Doe Kabar rural women included women's written responses in the form of poems, essays and life stories to the following questions "how would you like to be remembered by your fellow villagers in 50 years' time?", and "what is the biggest achievements of your May Doe Kabar office?".

At the time of publishing this report, over 600 poems and essays had been received by the project team. It became apparent to the iWomen Team, through feedback from the May Doe Kabar rural women that they not only wanted to read inspiring stories from famous women and other leaders, but they wanted their own stories published alongside the other stories in the Be Inspired function. Women were gaining self-confidence through seeing their own work being published on the iWomen App, next to the life story of a Nobel Peace Prize winner or that of a world-famous scientist.

Ready to Play established in the minds of May Doe Kabar rural women as their interactive tool for expressing their opinion. It became routine for Ready to Play to be used as the means to survey May Doe Kabar rural women's views. For example, it was used to pilot 'digital advocacy' initiatives on Gender Based Violence and Safe Migration. During the International UN Campaign 16 Days of Activism to End Gender Based Violence, the iWomen App was used to carry out a Gender Based Violence survey designed by the UN Gender Theme Group in cooperation with leaders of the May Doe Kabar National Network of Rural Women and UNDP. The survey aimed at collecting data on the frequency, types and characteristics of the most common gender-based violence faced by rural women in Myanmar. Results have been presented to the Myanmar Department of Social Welfare, the focal point for the drafting of the Protection and Prevention of Violence against Women Bill.

Setting up content collaborations

To secure a constant stream of content for the app, over 20 content collaborations with several national and international organizations were fostered and developed during 2016 and 2017. In country content, collaborators such as Akhaya Women NGO⁸, UNFPA Myanmar⁹ and Gender Equality Network¹⁰, have been contributing inspiring stories, short lessons and quiz questions on gender-based violence, women's rights and gender equality. Other international collaborators such as PACT INGO, have been contributing weekly commodity prices and successful stories of women's saving and lending groups, to inspire May Doe Kabar rural women members. The iWomen Team also secured content collaborations with national media such as NOW! Magazine, which has been sharing their monthly feature on inspiring Myanmar women on the iWomen App. Keeping the stream of content constant, interesting and relevant for the users has been, at times, challenging due to the lack of high-quality educational material available in the local language. The iWomen Team discovered that the famous TED Ideas Worth Spreading platform through its global network of volunteer translators has started to translate TED talks into the Myanmar language. The transcripts of relevant TED talks for rural Myanmar women have been uploaded on the iWomen App, providing a solid national vs international content balance.

 **228**
Role Plays

 **300+** IT
Volunteers

 **300 NGO's Staff**
Technical Training
provided

 **women** August, 2016



Figure 18: iWomen Topic of the month on Gender Based Violence

Design Principle 13: Growing a Passionate and Committed User-Base

The target beneficiaries group for the iWomen App was initially 20,000 rural women with a mission to unite them into the first national network of rural women. With the technology platform now established and the publishing rhythm and content being established, it was clear to the project team that to ensure sustainability, a plan to scale up the user base to women outside of the network would be the most efficient way to both make the app financially viable in the long term, and expand the psychosocial benefit of using the app to a far larger community of women in Myanmar. The iWomen Project Team contacted existing, established, rural women networks and NGOs, forging several partnerships with like-minded organizations working with rural women in Myanmar. Such partnerships allowed both sides to share skills, resources and expertise to a far greater number of rural women. The iWomen Team and iWomen volunteers have provided technical training to over 300 NGOs' staff on how to implement fun and entertaining tech training and on how to engage rural women in mobile technology.

⁸ <http://www.akhaya.org>

⁹ <http://myanmar.unfpa.org>

¹⁰ <http://www.genmyanmar.org>

Design Principle 14: Finding Creative Solutions to the Technical Challenges

It is important to embrace the principle that unexpected challenges will arise during the project and that creativity can transform challenges into opportunities. This section sheds light on key technical and implementation challenges which emerged during the iWomen Project and how the iWomen Team tackled them in the most creative way possible.

1. Limited Internet connectivity in remote areas, especially in the states of Chin, Kachin, Shan and Rakhine

The iWomen App has been developed to have a build-in functionality which allows for Be Inspired and Be Knowledgeable content to be read offline once it has been downloaded. The team is also developing a sharing system where users can share amongst each other downloaded content so that it is enough for only one user to connect to the Internet and download the content. This will also enable users to save Internet data. It is important to note that the iWomen Team noticed that rural women groups, living in the most remote areas, are very often the most willing to get access to a connecting technology, such as the iWomen App. The team heard reports of Chin women climbing up hills in order to get a strong enough Internet signal to download iWomen App content.

2. iWomen rural women users are not all well-versed in Myanmar language

The iWomen App has been developed to have a build-in functionality which allows for the user interface and the content of the app to be uploaded in more than one language. Users can easily switch between languages in the settings of the iWomen App. A portion of Be Inspired and Be Knowledgeable content is currently being translated in two ethnic languages as requested by users in Chin and Kachin State. This content will be available on the iWomen App towards the end of 2017.

3. Low-level of literacy

Thanks to the help of iWomen volunteers, audio versions for Be Knowledgeable and Be Inspired content is being made available in the app to increase content accessibility. In addition, a “record your voice” function has been developed which enables the user to submit their audio comment/stories.

4. Dual Myanmar font systems

In Myanmar, there is a dual digital font system (Zawgyi and Unicode systems). The iWomen App has been developed to have a build-in functionality which allows for all the app content to be visualised in both fonts, to maximise users’ reach.

5. High incidence of low quality cloned smartphones in rural Myanmar areas

The iWomen Team quickly realised that one of the key barriers to users’ expansion was the high incidence of low quality cloned smartphones bought by rural Myanmar women in the local markets. Cloned smartphones are usually cheaper than branded smartphones. Cloned smartphones have a very basic level of functionality like most keypad phones and are not compatible with most mobile apps, including the iWomen App. To tackle this challenge, the iWomen Team facilitated a commercial deal between May Doe Kabar National Network of Rural Women and Samsung, to provide rural women members of May Doe Kabar with a six-month phone instalment plan which enables them to buy a high quality branded smartphone in an affordable way. The phone instalment plan tackled at the same time the high prevalence of cloned phones as well as lack of female phone ownership.

6. Lack of familiarity with Google Play Store

The digital tech revolution in Myanmar is still too young for people in rural areas to know that there is an online store called Google Play store, where new android mobile apps can be bought or downloaded. Cloned smartphones from China, abundant in rural areas, do not allow for Google Play store to be installed due to Google being banned in non-routed phone handsets. The iWomen App, like all the other apps in Myanmar, has been mostly shared phone-to-phone using a popular Myanmar sharing App called Zapyia. Phone-to-phone sharing is incredibly effective to create quality users vs quantity of users, however it has slowed the expansion of the users base significantly. Last but not least, The iWomen Team and iWomen volunteers have been managing an iWomen hotline, where iWomen users can phone in and get remote help in solving technical challenges.

7. Lack of Internet data and lack of electricity

Most of the households in rural Myanmar are still poor and not connected to the grid. Mobile phones are not topped up frequently and are not recharged daily. The iWomen Team ran several online and offline prized quizzes and competitions using the Ready to Play function. The iWomen Team and May Doe Kabar rural women drew up a list of prizes which would incentivize users to keep using the app. Mobile phone power banks and top-up cards became the most sought after prizes.



Strength

Though we are miles apart
All start a journey with the same heart
Thet Thet Win

Figure 19 : Poem submitted in the iWomen poetry competition by Thet Thet Win

This report challenges the reader to reflect on how to enable behavioural change - does development need a structured approach to inspiration?

The fourteen steps of the human-centered design described above demonstrate that for development actors to meaningfully contribute to behavioural change at individual or community level, project beneficiaries themselves need to be an equal partner in designing the structure that will enable their behavioural change (See Box 4 and 5). Structure, means, how the technology platform is designed, how the technology platform is organized in a way appropriate to the users, how the content is sourced, how the content is sequenced and how at all stages an underlining strategic approach to use the very best of available methods to capture the users' imagination are used. The iWomen App platform, and in particular its sequenced content and capacity building methodology (inspiration, education, peer-to-peer sharing, prized competitions to foster users' engagement and learning), demonstrates that designing a structured way through which inspiration becomes an essential component of the development intervention itself is possible and it has meaningful impacts on the beneficiaries. Development actors, with the iWomen platform, have a structural technology tool to use as a way to share inspiration and information to induce positive behavioural change. The May Doe Kabar Network welcomes further contributions from international coders to strengthen the iWomen App code so that the app can be used by development actors in other parts of the world.

Box 4: Measuring May Doe Kabar Rural Women's Behavioural Change

iWomen App project sits within a broader UNDP Myanmar project aimed at promoting women leadership in local governance. Example of indicators used to measure rural women's behavioural change resulting in increased social recognition and reduced physical and emotional isolation of rural women as community leaders are highlighted below:

- Changes in the frequency of public speaking during meeting organized by local/national CSOs;
- Changes in the frequency of speaking during village meetings;
- Changes in the frequency of invitations received from local institutions to attend village Committee meetings;
- Changes in the frequency of support received from male members of the family which enable MDK member to take time off family duty to attend MDK meetings and activities;
- Changes in the frequency of invitations received to attend a training organised by a local CSO;
- Changes in the frequency of communication exchanges with members of other Township Leading Groups;
- Changes in the frequency a MDK member get asked to give advice to Village Head or Village Track Administrator;
- Changes in the frequency a MDK member get asked to give advice to members of village development committee;
- Percentage increase in adoption and usage of mobile phone technology to communicate with UNDP and other CSOs groups.

Box 5: UNDP 2013-2017 Baseline-Endline Survey Highlights*

Confidence Levels

Collected data shows that the number of women who were not confident in expressing their ideas and feelings in public decreased from 21% in 2013 to 3% in 2017. Women gained confidence in expressing themselves and participating in discussions in several local fora as demonstrated by both respondents self-assessment. Levels of confidence tripled over the four years and reached 43% in 2017 against 15 % in 2013.

Social recognition and participation in decision-making

Collected data shows that in 2013, 43% of the surveyed women answered “Not at all” when asked if they were comfortable in dealing with government officials, regarding issues in their communities. This number decreased by 35% in 2017 demonstrating reflecting increased women’s confidence in participation in decision-making and gained social recognition within the community: 60.5% of May Doe Kabar leaders (TLG Chair and Vice Chair) declared that they get invited to give advice to men village leaders on a regular basis. 70.4% of May Doe Kabar leaders (TLG Chair and Vice Chair) declared that they often get invited to participate to village meetings. 44.2% of May Doe Kabar leaders (TLG Chair and Vice Chair) declared that they often get invited to local government meetings at the township level.

Frequency of communication between regional May Doe Kabar groups (SRGs and TLGs)

The frequency of communication between regional May Doe Kabar groups (both between different states –TLG to TLG- and within individual states –SRG to SRG-) has significantly improved during the period 2013-2017. The survey shows that the frequency of ‘between states’ communication has increased by 26.5% from 2013. The participation to May Doe Kabar national level events by regional MDK groups has increased from 7% to 35%. The number of May Doe Kabar regional groups who had never exchanged information with other local civil society groups has dropped from 36.2% to 10.5%.

Access to information

In 2013, 37% of surveyed women expressed not having access to information suitable to improve their leadership skills and livelihood. In 2017, this number has dropped to 11%. The number of women who responded “Often”, regarding sharing information doubled in 2017, reaching 34%. The number of SRGs and TLGs groups which declared to receive advice from other local civil society organizations on a regular basis increased from 9.9% to 40%. The number of surveyed women who declared to have access to information about upcoming trainings often increased from 7% to 46% and the number of surveyed women who declared to have access to funding opportunities often increased from 9% to 63%. Overall the survey results demonstrate that May Doe Kabar.

*Data here presented is the result of a survey conducted and analysed by UNDP staff. The data was collected through a paper based questionnaire which was circulated amongst the 31 TLG leaders and was answered by 380 May Doe Kabar rural women members in 2013 and in 2017.



PART 3 iWOMEN PROJECT EVALUATION

3.1 RESEARCH: METHODOLOGY AND METHODS

In June 2016, UNDP Myanmar and the United Nations University, Institute on Computing and Society (UNU-CS) agreed to include the iWomen Project as one of the case studies of the Research Project “Psychosocial Wellbeing of Individuals in a Society in Transition: Exploring the Role of New Technologies in Myanmar¹¹”. This Research Project aims to explore whether ICTs can be used specifically to improve individuals’ psychosocial wellbeing (PSWB). The term psychosocial is here understood from a critical psychosocial perspective. Namely, it focuses both on the social and emotional wellbeing (Taylor 2011). The current report presents the findings of the evaluation run by UNU-CS. The research questions that guided this research are:

- What role does ICT have in supporting psychosocial wellbeing as defined for this research?
- What methods of implementation need to be considered to effectively incorporate ICT into initiatives aimed at the improvement of psychosocial wellbeing?
- What are the benefits and detriments that ICT can cause on initiatives focusing on psychosocial wellbeing?

The following sections clarify 1) how the research was designed, 2) how the data was analysed, and 3) the ethical considerations and limitations of this research.

Research Design and Data Analysis

Using Action research, UNDP Myanmar and UNU-CS agreed on the research objectives, project design, data collection and analysis. A UNU-CS researcher travelled with three iWomen volunteers, who acted also as research assistants.

In total, five different locations in three states/regions were visited, 46 pre and 46 post surveys were collected, 5 pre and 5 post focus groups were conducted, 68 interviews were conducted (between 5 and 40 minutes long¹²), 28 iWomen documents were reviewed, 26 poems from iWomen users were analysed, and extensive field notes from the participatory observation and photographs were taken. The May Doe Kabar rural women who participated were both users and non-users of the iWomen App. Of the 68 interviewed, more than half (39) were learning about the iWomen App for the first time. This allowed the researcher to have a variety of opinions. To complement these data, interviews with the UNDP Team (1), iWomen Team (3) and iWomen volunteers (3) were also conducted.

To operationalise psychosocial wellbeing, an analysis was conducted to establish what social and psychological impacts were going to be explored in this study. Using Kleine’s (2013) Portfolio of resources, psychosocial wellbeing was defined as follows: i) psychological resources (i.e.: Psychological Well-Being attributes: autonomy, personal growth, positive relations with others, purpose in life and self-acceptance (Ryff 1989)); ii) social resources (i.e.: social capital); iii) material resources (i.e.: access and usage of ICTs); iv) cultural resources (i.e.: social norms); and v) educational resources (i.e.: access to training content). Qualitative and quantitative methods and discourse analysis of data collected by UNDP were used to explore changes in skills and behaviours of the participant women (May Doe Kabar rural women using the iWomen App).



Figure 20: Researcher and volunteers conducting a focus group

¹¹ More information about this research can be found at: <http://cs.unu.edu/research/psychosocial-wellbeing/>

¹² For most women, it was their first interview. They indicated how fascinated and happy they were about being interviewed, but also this meant some interviews were very short and they were not used to sharing in this way.

In terms of qualitative methods, two focus groups (for pre and post data collection) and a questionnaire of open-ended questions to be used for in-depth interviews were designed, inspired by Ryff's Psychological Well-Being attributes (Ryff 1989). The first focus group aimed to explore social norms in Myanmar and more specifically social norms affecting May Doe Kabar rural women communities. The second focus group aimed to explore May Doe Kabar rural women's impressions about the iWomen App and the iWomen training sessions. The in-depth interview aimed to learn more about each participant and asked questions about their routines, what they considered valuable in their life, their dreams and their use of technology, in particular the iWomen App.

In terms of quantitative methods, a survey was designed to explore impacts in Mobile ICT Skills, using the Internet Skills Scale (van Deursen and van Dijk 2010), which is supported by extensive research by their authors (Van Deursen et al. 2011; Van Deursen et al. 2016; van Deursen and van Dijk 2011b; van Deursen et al. 2012). Additionally, questions about demographics and basic ICT usage and ownership were also included to enrich the data.

The research occurred in three phases. The first phase, the research design phase, comprised of a participatory process in which UNDP Myanmar and UNU-CS worked together to design the research objectives and data collection tools, and defined which field sites were going to be visited. The second phase, the data collection, occurred during October 2016. Trying to benefit both the May Doe Kabar rural women and the research, it was agreed that data collection would occur in parallel to iWomen training sessions, each session benefitting 10-12 women.

As each training session takes around three hours, it was agreed for the women to come together at their May Doe Kabar regional office for two days. During the first introduction day, women were given the opportunity to clarify doubts on the purpose of the research and leave if uncomfortable. This was followed by the first focus group. Having concluded this conversation, women were asked to respond to the survey digitally, using tablets, smartphones, laptops and/or desktops. While women took turns to respond, the research assistants interviewed other women. The second day started with the iWomen training session. During this session, the researcher conducted participant observation. In the afternoon, women responded to the second survey, also digitally, and when all had finished, the day concluded with the second focus group.

The third phase, analysis, was conducted using triangulation. This technique compares collected data from different sources (both qualitative and quantitative) to achieve a more in-depth and representative analysis. The qualitative data collected was coded using nVivo software. The quantitative data, which was collected digitally using KoboToolBox (an online open source survey tool, developed to aid development work), was downloaded to Excel and analysed. Initial findings were shared and discussed with the iWomen Team. This discussion had a twofold purpose. On the one hand, it served to verify that the researchers' interpretation of the data was not conflicting with the reality of Myanmar in terms of culture or how different events took place during the iWomen Project implementation. On the other hand, it served to share with the iWomen Team some shortcomings found on the iWomen Project. Both positive impacts and shortcomings will be discussed in sections 3.2 and 3.3.



Figure 21: Researcher and volunteers conducting a focus group

Ethical Considerations

To guarantee informed consent, UNDP Myanmar contacted the May Doe Kabar rural women leaders and explained the purpose of the evaluation that was going to be performed by UNU-CS, and requested their participation. The questionnaires and guidelines were shared in advance with the leaders so they could be informed of the kind of questions that were going to be asked. During the visits, the UNU-CS researcher explained again the purpose of the evaluation and allowed the participants to ask questions. They were reminded they could leave at any time and that they could choose not to take part of the study or parts of it.

To ensure trust amongst the rural women and the research team, a reflective exercise was conducted after each day, where the women could openly ask questions and for explanations of any issues raised during the focus groups, interviews or surveys. During these reflections, the researchers and iWomen volunteers shared their perspectives. The responses gathered from the women after the second focus group, confirmed they appreciated the opportunity to openly discuss with the research team. These interactions were seen by the May Doe Kabar rural women as valuable to their learning, in particular when gender roles were discussed.

Limitations of the Research

The findings that will be shown in the following sections need to be understood within the scope of the data collected for this research. First, the May Doe Kabar National Network of Rural Women has 20,000 members and due to time constraints, only a small sample was chosen to represent the larger community. This was an in-depth exploration of what May Doe Kabar rural women were experiencing. Second, the researcher does not speak Myanmar, for which she had to work with interpreters to communicate with the participants and for the translation of the interviews. This also meant the researcher was not able to conduct the interviews and ask follow-up questions to enrich the conversation. Lack of time did not permit follow-up interviews. Finally, although psychosocial wellbeing is being analysed, it is known that behavioural change requires time, which was not available during the research. The research was conducted over two days of interaction with each group, which was complemented with data collected by the iWomen Team, such as poems, news articles and anecdotal evidence.

3.2 POSITIVE IMPACT AND REASONS FOR SUCCESS

Evidence presented in the iWomen Inspiring Women App Annual Report 2016, shows the app has increasingly good performance indicators (Gatti, 2017). For instance, there is an average growth in users of 43% and a retention rate of 84% of users. The research presented below, aims to complement this data with in-depth analysis. The process and the various activities that complement the app have been as important as the application itself. They have impacted the lives of not only the women of the May Doe Kabar National Network of Rural Women, but also of other Myanmar women from both rural and urban areas, the iWomen volunteers and many other people who have been interested and involved with this project. This section will present how the inspiration function of the iWomen App provided rural women with female role models to look up to and get inspired from, encouraging their growth. It will also detail the success of the human-centered design used in empowering the May Doe Kabar rural women. This process also enabled the creation of a unique app, which targets emotional, informational and communicational needs of the May Doe Kabar rural women, a combination rarely seen in any application. This innovative characteristic has been part of the iWomen Project from its inception and it has been carried out through the implementation of the project, which will also be detailed below. Finally, the role of the iWomen volunteers will be explained together with their success in enabling the May Doe Kabar women to use the iWomen App and beyond.

Inspiration and Wellbeing: A New Approach to Development Practice

The iWomen App was initially thought of as a tool to inspire women. As mentioned above, in the initial project presented to the RBAP Innovation Fund, only the 'Be inspired' function was predefined. The human-centered design process confirmed this function and added others as is detailed in Part 2 of this report. Together, these functions aim to satisfy information, communication and emotional needs of the women of the May Doe Kabar National Network of Rural Women as will be discussed below. The inspiration function, in particular, aimed to show May Doe Kabar rural women different examples of women that could become female role models. Stories show how women, from a wide variety of backgrounds and nationalities, have successfully overcome challenges in their own lives. From the 29 interviewed May Doe Kabar rural women who were active iWomen app users, 14 mentioned the 'Be inspired' function was their favourite. A woman shared this story:



Figure 22: Women being interviewed

“After my husband passed away, I tried to rebuild myself by reading articles from the ‘Be Inspired’ section. That section is like hero for my life. It gives me strength to rebuild myself again”. (Zeyar¹³, female, 37 years old)

Another even mentioned how she recommends that function to others:

“I always recommend this app by saying “when you feel depressed, you should read ‘Be Inspired’ section to get inspiration and to get so much knowledge”. (Nyunt, female, 34 years old)

Women are indeed finding inspiration in the iWomen App, at times through stories of other people, and at other times by learning new things, as Nyunt mentions: ‘getting knowledge’. Inspirational stories shared in the iWomen App vary, and some tell how women had overcome specific challenges in their lives. This is the kind of stories that inspired Zeyar, having a positive impact on her personal growth. Her psychological wellbeing benefited, giving her courage to go on and, in her words: ‘rebuild herself again’. Furthermore, having the support of May Doe Kabar National Network of Rural Women and UNDP Myanmar, inspired Zeyar to take concrete action to solve difficult problems. Zeyar recounted how reading a story in the iWomen App made her reflect that what had happened in her household was not correct. After this realisation, she contacted UNDP Myanmar and the leader of her May Doe Kabar office for advice and guidance. By asking advice, Zeyar was actively using her social capital, an element linked to her social wellbeing. Zeyar experienced transcendence as she gained awareness of new or better possibilities, a characteristic of being inspired (Thrash and Elliot 2003, 2004). With the encouragement and support from these organisations, she moved from being inspired to taking legal action:

“After reading the article of citizen journalist “Meeravijayann” in the ‘Be Inspired’ section, I became stronger than before. At first, I was not in a condition to hire a lawyer with my own money so I thought to give up my daughter’s case. But then I asked for help from the chairwoman of May Doe Kabar and a UNDP official. Finally with the connections of iWomen, the rule of law center arranged a lawyer for me. Now, I am in the middle of a legal action. I want to share my experience through the iWomen app. These kinds of cases shouldn’t be kept. That is why I urge to take action on such cases.” (Zeyar, female, 37 years old)

According to Freire (1974), when people are “incapable of changing reality, [s]he adjusts [herself] instead.[...] Gradually, without even realising the loss, [s]he relinquishes [her] capacity for choice; [s]he is expelled from the orbit of decisions” (p.5). Changing this constraining behaviour was achieved by Zeyar thanks to the combination of knowledge, and inspiration (facilitated by the iWomen App) and support (provided by the May Doe Kabar National Network of Rural Women, and enabled by the iWomen App communication platform), which provided the right conditions for her to take action in a situation which otherwise would have been ignored, considered ‘part of life’ or simply out of reach. Zeyar’s autonomy and self-acceptance grew thanks to this experience, improving her psychological wellbeing. It can also be argued that her purpose in life was expanded, as she expressed:

“My big dream is I want the world to know that our rural women are smart and can do everything.” (Zeyar, female, 37 years old)

Zeyar sees the iWomen App not only as a source of information for rural women, but as a way to share with others, beyond the network, what she calls ‘the world’, what rural women in Myanmar know and do, as evidence of how valuable they are. Considering what Zeyar mentions in the previous quote, it is evident that the May Doe Kabar National Network of Rural Women organisation together with what the iWomen App has to offer in terms of content and interactivity, caused an increase in Zeyar’s self-esteem and self-confidence (self-acceptance). This positive view of themselves was also heard during 70% of the interviews. This also shows an important impact on Myanmar’s constraining gender roles. The focus groups conducted showed that tradition and culture in Myanmar are very important, and those dictate that women should stay in the private sphere, be modest and self-contained. Wanting to show the world women’s value could be considered as exactly the opposite to what is expected from women. Zeyar’s change of self-perception is evidence of a change in some constraining behaviours

¹³ All names are pseudonyms to protect participants’ confidentiality. Also, details have been left out to maintain the participants privacy.

she might have had, that stop her and other women from speaking up and demanding what is already declared by Myanmar law and/or international law as their right. Internalised constraints disempower women as much as external pressures, such as tradition or culture (Cornwall and Rivas 2015). By challenging gender roles, Zeyar expanded her cultural resources and her agency. Zeyar's behavioural change is what the iWomen App aimed to achieve from the start. While it is only one example, the evidence collected for this research shows many other examples where women show small but meaningful changes in their behaviour. It is possible to say that the interaction women have within the May Doe Kabar national rural women's organisation and the use of the iWomen App, does inspire women and increases both their social and psychological wellbeing. Changes are incremental, and the more women engage in other activities and with new knowledge, greater are the chances for social change.

This research also found that women were finding inspiration in other iWomen App functionalities. Information and communication functions in the iWomen App aim to support the social wellbeing of women, by helping their decision making with information and the ability to discuss and reflect with other women about their doubts. Yet, information and communication may also help individuals to gain awareness of new ideas, producing inspiration (Thrash and Elliot 2003, 2004). Then, iWomen App functions had an emotional impact. For instance, having the activities of other groups displayed, has inspired other women to try different activities. In this case, inspiration impacted their motivation to act and to try new things, promoting personal growth, as expressed by Tun:

"This app can inspire our women. We can know the activities of other May Doe Kabar offices. We can know how we should change to improve. This app is very effective for us." (Tun, female, 45 years old)

There are other functions in the iWomen App which target the emotional needs of the women more directly. For instance, the 'Poems' sub-section is a space in which women can express their sensitive, artistic and creative sides in response to the 'topic of the month', which is inspiring them:

"I upload my poems and give comments to the articles and posts. I like posting my poems because I can show my ability to others." (Aung Yadanar, female, 32 years old)

Women like Aung Yadanar create their own poems and share them with the May Doe Kabar national rural women's organisation using the iWomen App. This function was created after realizing women enjoyed writing and reading poems. Rural women have submitted hundreds of poems as mentioned in Part 2 of this report. This shows that this function has caused approach motivation, as they felt compelled to bring their ideas into poems. By posting poems, they are creating new ideas by their own incentive (Thrash and Elliot 2003, 2004). Also, in November 2016, a creative writing competition about stories and poems was hosted in the 'Ready to Play' section of the iWomen App. The poems and stories shared show how women feel about their lives, their relation with their communities and what they think about the iWomen App:

"We are afraid of this tricky world
Don't dare to go far
With great fear in our hearts
Like miserable caged birds

Now comes iWomen
We can share knowledge and wisdom
Go together hand in hand
Bright future as leaders rise"

Author: Daw Thet Thet Win

This rural woman poem, as many others' stories and poems sent to the iWomen App, shows a journey from oppression to freedom. This change of perception is attributed to the iWomen App. It is a change of perception of the role of women and of how they were interacting with the world. This illustrates an increase in self-esteem and a positive perception about their future. Their poems are concrete evidence of their increased psychological wellbeing.

Empowerment Through Human-Centered Design

The iWomen App is the result of a close working collaboration between UNDP Myanmar and May Doe Kabar National Network of Rural Women, whereby rural women members of May Doe Kabar were treated as equal partners and not solely as project beneficiaries. This resulted from the use of the principles of human-centered design during the app design, development and growth, as explained in Part 2. Authors warn that there is a fine line between participation and pressure (Cleaver 2001; Kothari and Cooke 2001; Mosse 2001); as such, using participatory approaches is not in itself a guarantee of technology users being empowered throughout the process. Therefore, this section presents evidence why, in this case, participation indeed caused positive impacts to the rural women of the May Doe Kabar.

The positive impacts are twofold: a sense of ownership and appropriation of the iWomen App, and an increased self-esteem and self-confidence (self-acceptance) of the women of the organisation. Relating to the first, when asked about who created the iWomen App, seven women out of 68 women interviewed mentioned being involved in the participatory process. For instance, one recounted their role in the process:

"We worked with the iWomen team in various meetings. We are, the women in Kyaitlatt, the ones who came up with the slogan of the App [in English the slogan is "The more inspired, the more empowered"]. Also, some poems and quotes [in the "Be inspired" section] are written by us." (May Moe, female, 40 years old)

May Doe Kabar rural women who were directly involved in the design process, like May Moe, will immediately state their role, not only as participants, but also as creators of the final mobile phone app. May Moe is not just mentioning she helped, she is proudly indicating that the slogan and a selection of content was developed thanks to her creativity and that of her group of women. The human-centered design process achieved not only the identification of the women's needs, but also empowered the May Doe Kabar rural women (interviewed) to actively design the layout of the app, the way functions were going to be named and the overall purpose of the app.

Human-centered design allowed for the iWomen Team and the May Doe Kabar rural women to be equal partners, and as such, make collective decisions. This gave interviewed May Doe Kabar rural women a sense of ownership of the app, which is very important, as the intention of UNDP Myanmar is for the organisation to eventually take full responsibility of the app. Research has proven that ownership is very important for the sustainability of ICT interventions (Ballantyne 2003; Pade et al. 2009). This sense of ownership was not only found to be present in perceptions of May Doe Kabar rural women in one location (Kyaitlatt), interviewees in other research locations also expressed themselves in a similar manner:

“I helped to add new content while attending some of the meetings. I also gave my suggestions for improvement. I also ask the villagers to use iWomen App and I also share the app between other groups and villagers.” (Nanda, female, 39 years old)



Figure 23: Women learning from each other to use the iWomen App

Nanda is from another town, and she was part of the launch event during the May Doe Kabar Convention in October 2015. During this event, the iWomen Team shared the first version of the app with 300 representatives of the whole May Doe Kabar national rural women’s organisation. While this meeting was to share the app and help the women to learn how to use it, it was precisely part of the human-centered design process. Women were asked to give feedback about the app and asked for their support in terms of identifying and producing content. Women then were asked to share this app to other members of the network, as expressed by Nanda in her quote above. Further feedback was asked of the women via two mechanisms. First, women were encouraged to call for support or feedback related to the app to a hotline. Second, a random selection of users were contacted and interviewed about their experience using the app. All this information was taken into consideration for further updates of the app, always informing the women how valuable their contribution was to make the app most effective as a tool to bring the women of May Doe Kabar together.

Today, a year and a half later, when asked about what the iWomen App is, May Doe Kabar women interviewees give various and very positive descriptions, like the one below:

“This app is especially built for rural women like us. This app unites and expresses what we, rural women want to know all together. We can find all the things in one place. This app is the one and only app that stands for rural women. I am grateful to the iWomen team. We can express what we feel and I believe that the iWomen app can change our lives. We can know ways how to survive. So I want other women to use it.” (Zeyar, female, 37 years old)

Fieldwork conducted for this report visited five different training sessions in five different locations across Myanmar. Comparing the information that is shared with the women during the training sessions to Zeyar’s quote, it is possible to say her description is her own understanding of the functions of the iWomen App and the value it has for her and others. In this quote, she is not just mentioning that the content is specially tailored to their needs as rural women, she also indicates her belief that this content can help her and others change and improve their lives, so much that she would like other women to use it too. Part of Zeyar’s positive perception of the app is the result of having her information, communication and emotional needs taken into consideration through a variety of functionalities in the app, as will be described below.

Targeting the Information, Communication and Emotional Needs of Women

The human-centered design process allowed the iWomen Team to identify, together with the May Doe Kabar women, information, communication and emotional needs. Different functionalities were then designed to fulfil these needs. For five out of 29 women, the information functions were the most important. This is supported by performance data collected on Google Analytics, which shows that content from these functions are the most visited by users (Gatti, 2017).

“Be knowledgeable is my favourite one because I can know about laws and agriculture.” (Nyunt, female, 34 years old)

In terms of information, the function ‘Be knowledgeable’ provides easy to comprehend short lessons about different topics. These topics are thematically updated on a monthly basis by the iWomen Team, based on May Doe Kabar rural women’s topic priorities. Most members of the May Doe Kabar national rural women’s organisation are farmers. During the interviews, 22 interviewees described how farming was their family’s main source of income, being landowners or farm labourers. Five other May Doe Kabar rural women mentioned working as farmers in their free time, to supplement their family’s income. Nyunt is one of these women. Both her and her husband work as farmers. Having information about land rights, and updated prices of agricultural products is very helpful. Nyunt mentioned in her interview she only used to access information via TV occasionally. Having the facility of accessing information on her mobile phone that helps her work as a farmer, is definitely filling the lack of reliable sources of information and contributes to women having a better chance to increase their profits whilst selling their produce to the middle-men. Commodity prices are only one of the over 10 topics offered in this section of the app, as the UNDP Team explains:

“Sometimes it is very difficult to anticipate what women want to read and what is beneficial for them to read. For example, in the case of menstrual hygiene management, we made the decision to upload educational material that explains this topic. We then monitor the discussions and the comments on the app to see how women reacted to it. It would have been very difficult for rural women to ask us to run a topic on menstrual hygiene management as there is no literature readily accessible to them on this topic, therefore they do not know that this literature exists until we publish on the app[...] So now, we upload different content and see how people react to it. Also, we follow their conversations in the question and answer section to see what they might be interested in or what problems they are facing, so that we can upload relevant information. We give them a variety of stories, and we encourage them to read. They can find information they need, but they can also find new interests. (UNDP Team) is no literature readily accessible to them on this topic, therefore they do not know that this literature exists until we publish on the app[...] So now, we upload different content and see how people react to it. Also, we follow their conversations in the question and answer section to see what they might be interested in or what problems they are facing, so that we can upload relevant information. We give them a variety of stories, and we encourage them to read. They can find information they need, but they can also find new interests.” (UNDP Team)

Information about laws and prices, as mentioned by Nyunt, is information they need, what they have themselves indicated to the iWomen Team, and is valuable for them. Amongst the rural women of Myanmar there is an identifiable knowledge gap, which is hampering the development of women economically, socially and emotionally. The Be Knowledgeable function contributes to fill this gap. With more than 34 main spoken languages in Myanmar, from 6 different language families (LSDO and MIMU 2016), and still remaining restrictions to freedom of speech, the amount of varied, context appropriate and high quality psychosocially beneficial content is scarce in the country. Rather than complaining about the situation, the interviewees were excited about the content in the app, which shows how important this function is for the women. Yet, as the UNDP Team explains, it is hard to produce and to know what information you need beyond what you know from your life experience:

“People used to live in a very controlled environment and have very controlled behaviors. For example, they used to have to ask for permission for everything, and they did not have access to written materials, except from very few sources. This created a mindset that is still prevalent. We are trying to break this pattern by giving freedom to access a variety of content. It is not easy. We sometimes have issues with some groups, which are worried about some content. For instance, content about rape, even if this is not censored any more, it was and it is still considered sinful or controversial. Few women talk about it openly and many indicate even being afraid of reading about it.” (UNDP Team)

To overcome this challenge, the iWomen Team follows the discussions women have in the different forums available in the iWomen App. This information has served to track issues that are becoming of interest to the women, showing an alternative way to define topics that interest them. While some of these topics may not have been directly asked by the women, they certainly are in their interest. During the interviews, it was clear rural May Doe Kabar women were enjoying their new freedom to access content previously not available to them, as Nanda mentions:

“Before I used this app, I only watched TV and I knew nothing. But now I read so many articles in this app and I can advise my friends. [For example] if they have flooded areas, where there is no clean water, [I can tell them] how to purify water, as I learned from the article I read in the app.” (Nanda, female, 39 years old)

Nanda's comment illustrates how little value she puts on information gained from watching TV in Myanmar. She transitioned from her claim of “knowing nothing” to advising her friends. This shows both an increase of knowledge and an increase in her self-confidence. May Doe Kabar rural women had an aspiration to communicate and see where the other groups lived, to learn from each other and to encourage each other as phone communication and internal travel within the country was greatly restricted up until 2011. Two functions were designed: ‘Be together’ and ‘Talk together’. ‘Be together’ provides information about May Doe Kabar national rural women's organisation in the way of an interactive map using geographical information systems (GIS). As mentioned in Part 1, while UNDP Myanmar had been working with 2,000 individual women saving groups for over 10 years, the May Doe Kabar national rural women's organisation came to be only in October 2015. This organisation is still in the process of growing and strengthening. A community, as defined by Cohen (1985), is an aggregation of individuals with something in common, which distinguishes them from others, and who are aware of their belonging to that group and not others. These groups do not need to be in the same location, they may have symbolic boundaries, for instance, for the May Doe Kabar national rural women's organisation, these boundaries are based on their lifestyle and identities. For individual members to feel a sense of community, according to Blanchard and Markus (2002) four elements need to occur: i) feeling of membership; ii) feelings of influence; iii) integration and fulfilment of needs; and iv) shared emotional connection. The ‘Be Together’ function is helping women to improve their sense of community by increasing their feelings of membership. This functionality helps members to geographically identify where all the 31 TLG offices are located and to read each women group's profile. This serves not only to allow women to know about other groups, but to be able to communicate with other leaders. The UNDP Team said:

“The value of the app, for May Doe Kabar rural women's organisation is both for individual rural women and for the network as a whole. The inspiration and the information benefits each individual, [but thanks to the GIS map] individual women's group can network with each other as they can now see each other's profiles, as today everything is still managed on paper, not on a computer.” (UNDP Team)

Thanks to the 'Be Together' map function, May Doe Kabar membership has an accessible method whereby the network is visible to all: viewers can know the distribution of the network in Myanmar, how many women savings groups and individual members belong to each May Doe Kabar office, and what activities they do and are interested to engage in in the future. This information is very valuable when approaching possible donors, as it is concrete evidence of what the network is. Another function, 'Talk together', was designed to allow women to communicate with each other in an interactive manner. There are various functions within this section of the app, designed to satisfy different needs of the women and the organisation. For instance, the 'Calendar' sub-function aims to share activities that women are taking part in as a network. This function also provides further evidence of the liveliness within the organisation to potential donors. The remaining sub-functions of 'Talk together' aim to organize conversations into what the participatory process identified as priorities:

- (a) 'Activities': Share what each self-reliant group is doing.
- (b) 'Q&A': Post questions and respond other people's queries.
- (c) 'Market': Share products made by users or share market information.
- (d) 'Poem': Post poems written by users or other people.
- (e) 'Safe migration': Information about migration and do's and don'ts.

By having a variety of methods of interaction designed into the app, women's needs are being attended, improving their feelings of being supported by the organisation, which in turn increases their sense of community. Being able to share and contribute increases their feelings of influence, increasing their sense of community. While these four sub-functions have the same design, the conversations occurring within are different. These conversations are also flexible, if a new topic is identified, a new sub-function can be created. This is the case, for example, of the 'Safe migration' sub-section, which did not exist during the time fieldwork for this report was conducted. The iWomen Team works so far as moderators, making sure the conversations stay on track, a role that eventually has to be assumed by the organisation. Besides allowing women to share their ideas, these sub-functions have also served to provide further source of inspiration for the women:

"What I read the most is the 'Talk together' section, to know about other groups' activities. I also upload the activities of our group." (Ei Thanda, female, 33 years old)

As explained above, each May Doe Kabar office has autonomy, and some groups are more active than others. Having all groups post about their activities, gives other groups inspiration of what they can do. Browsing through the posts gives the viewer an idea of the kind of activities groups are engaging in, which could serve as inspiration, as mentioned above by Ei Thanda. People share, for instance, photos about different training they have been part of, such as: Evidence Based Advocacy Training, Counselling Training and Office Management Training. The 'Talk Together' function also has the facility for donors to post topics out to the network to measure women's

interest. For instance, an interesting group of posts found while browsing the activities was photos of different members, supporting the #BeBoldForChange campaign. This was the 2017 International Women's Day theme. While some of the activities are directed to each group, this shows women may also join campaigns or activities that do not target them specifically as an organisation, but as women. The different sub-sections within 'Talk together' aim to satisfy the women's communication needs, considering also their privacy and security concerns. During interviews and focus groups, women expressed this concern:

"We can use iWomen as Facebook by uploading posts and we think iWomen is more secure than Facebook and it is so amazing." (Nawngkio focus group)

"We feel secure using the iWomen app because only TLG and SRG women and rural women use this app." (Su Zeya, female, 29 years old)

Together with the opening of the market to new telecom companies, hardware and software providers have also been increasingly entering Myanmar. In order to attract more customers, companies offer packages with free access to selected social media. Marketing posters could be seen in every town visited during fieldwork conducted for this report. Even without owning a mobile phone, or knowing how to use the Internet, women know what Facebook is, but there is also fear of how using this platform could affect them. According to different studies, various social media have become instruments for religious hate speech or for disseminating fake news in Myanmar (Best 2016; Dolan and Gray 2014). The iWomen Project considers this challenge in two ways. First, it allows women to communicate through an app that was specifically designed for them. This has allowed women to express themselves without the fear of being exposed, as they are aware the audience of their posts is restricted to the members of their group. Second, it provides women with training, both to know how to use a mobile and the Internet, and to know how to use the iWomen App. May Doe Kabar women share their ideas, poems, activities and more, and by doing so, they are also building relationships, creating a shared history of the organisation, improving a spirit of community, which is crucial for the May Doe Kabar National Network of Rural Women to continue to grow.

It is also important to mention some technical features which have increased the iWomen App's usability. First, the iWomen App was designed to allow recording and sharing audio files, to allow illiterate users or those with low levels of literacy to produce and consume content from the app. According to the Myanmar Census, in 2014, 86.9% of females were literate (2015). However, the UNDP Team explained that the different feedback received during the participatory design process, revealed that many women are indeed illiterate or with very low literacy levels, because they had completed only a few years of education, making the audio function very valuable to them.

Second, the app's settings function allows users to change languages. While Myanmar is the official language and the most spoken, according to the Myanmar Information Management Unit (2016), there are 34 main spoken languages in Myanmar, from 6 different language families. Initially, users of the iWomen App could choose between the English and Myanmar languages. Further interaction with women from the May Doe Kabar helped the team prioritize what languages were the most demanded, and expanded the users' options to two other languages: Shan and Chin languages. The UNDP Team indicated that expanding to other languages would be crucial but additional funding is required. Also, a technical issue regarding fonts was identified. People were using either Zawgyi or Unicode fonts in their ICT devices. Zawgyi and Unicode are encoding standards that enable users to read text in their devices. In most countries, Unicode is the current standard allowing information to flow with no need of font conversion. In Myanmar, Zawgyi is the most popular standard, while Unicode and other various codes are also used. According to Liao (2017), this may be slowing down the digital development of Myanmar. Instead of developing software with just one encoding standard, developers need to either choose which population to exclude, those using Zawgyi or Unicode, or double the work in including more than one standard. Currently, the iWomen App includes both standards, allowing users to choose one of the two standards from the 'Settings' function.

Thinking Ahead of Time

When thinking of technology, it is not unusual to consider innovation, entrepreneurship or big business. Certainly, rural areas or rural women are not the usual field or target group of users that comes first to mind. It was not different for this project. As recounted by the UNDP Team:

"There were development practitioners who questioned our project, arguing that the penetration of mobile phones was too low in rural areas, so it was not worth it, when we could have done a radio programme or a printed issue." (UNDP Team)

Despite early scepticisms, the iWomen App was and continues to be in itself an entrepreneurial and innovative project because of its focusing on such a target group of users. This project followed a trend that was quite visible in the country. Since 2014, when the first two licenses were given to the international telecom operators Ooredoo and Telenor, the telecommunications market has grown faster than any other market has ever done before in the world. The mobile-cellular telephone subscriptions per 100 inhabitants grew from 0.03% in 2000 to 75.68% in 2015. Although nobody could predict how big the market was to become, its growth was undeniable, and UNDP Myanmar saw this as an opportunity:

"The penetration rate of mobiles was growing undeniably fast, Myanmar growth is the fastest of the region, and we had realized that because this was a new thing, people were very eager to buy a phone and that they really wanted to learn how to use it [...] We were following the natural progress of what was and is happening in Myanmar. [...] I think it was a good thing we started when we did

did because iWomen App opened the way for other agencies and NGOs in Myanmar to adopt technology as a way to increase and scale impact [...]." (UNDP Team)

As mobile penetration rates grew, also did the supply of a variety of mobile phones, including cloned smartphones. Myanmar has leap-frogged various models of mobile phones and even without the intention of using the Internet, buying a cheap smartphone might be the best option for many. Namely, the spread of mobiles and the Internet would have come to the rural areas, one way or another, especially in a country where 70% of their population is located in rural areas. Hence, the iWomen App was visionary in developing an application for a group of users whose mobile ownership was only beginning to increase. The steady increase of users of the App, 43% monthly average, and a high retention rate (83%), confirms that May Doe Kabar rural women are definitely interested in the iWomen App (Gatti, 2017). This project was also sensitive to lessons learned from other civic tech initiatives aimed at low-income populations with a low-level ICT literacy rate. Accordingly, this project assumed that an increasing number of rural Myanmar women would have had a high demand for localized content particular to rural women's economic and social empowerment needs. The project team set out to fill this gap with localised content as much as possible by developing a series of inspiring stories and lessons, on topics chosen directly by the rural women ranging from commodity prices, lessons on technology, to stories on women leaders, as mentioned above. Part 2 of this report describes the effort taken also to adapt already developed content, into a more contemporary user friendly style, to become part of the iWomen App.

There is little research about mobile applications in Myanmar; therefore, desk research was conducted as part of this research project, to identify how many Apps were available. Using Myanmar, Burma and Burmese as keywords, both in English and Myanmar, 3 apps were identified in the Apple Store and over 300 in Google Play, which does not mean these are developed for or by Myanmar people. This contrasts with the overall number of available apps in the world: close to 2.2 million apps in the Apple Store, and over 2.8 million in Google Play (Statista 2017). From these, only 3 were found to target vulnerable or disadvantaged groups, aiming to improve their wellbeing and development. While the iWomen App is not the first app developed in Myanmar, it is the first app developed by an international organization. Moreover, the iWomen App is the only app in Myanmar (and one among very few in the world), which targets both social and psychological needs of rural women. Nevertheless, the iWomen Project has made an effort to locate and contact other groups who have developed similar or interesting apps, with two purposes in mind. First, find other apps that could bring other benefits to the May Doe Kabar women, and second, present their app to other groups, so they could also benefit from the iWomen App. Such an effort has also been forward thinking, as this has helped to promote the iWomen App beyond the May Doe Kabar national rural women's organisation, and has opened up other information venues for the women who use the app. This was achieved by creating a function in the app, which is called

“Sister Apps”. Here, users can find a list of other apps that have been developed in Myanmar and elsewhere, for instance, the Green Way App, which offers agricultural information specifically related to the Myanmar agricultural sector or the New Niti App, which has a civic education focus. The iWomen App is not just offering targeted content to their users, the users themselves are involved in deciding what content the app has. This is because it was developed using human-centered design, and continues to include the women’s voices in the app updates.

Building Capacity for Meaningful Use and Strengthening the Community

As mentioned above, training is provided to members of the May Doe Kabar National Network of Rural Women, focusing on how to use a mobile phone and the Internet, and how to use the iWomen App. Training started as a way to introduce and share the app with members of the May Doe Kabar National Network of Rural Women who were not actively involved in its design (see Part 2 for a full description). Positive outcomes are seen both from the women attending the training as well as from the volunteers providing it. The main impacts identified are: women’s increased digital literacy levels and greater sense of community; and, volunteers’ increased awareness of culture and development issues in Myanmar and amplified life skills.

In terms of digital literacy, the women responded to questionnaires before and after the three-hour training session using the Internet Skills Scale (van Deursen et al. 2015; van Deursen and van Dijk 2010; van Deursen et al. 2012). This scale allows the evaluation of Internet skills through self-reporting. Results show an improvement in the participants’ digital literacy skills of 1.4 points on average, which corresponds to a 23.54% increase. Namely, participant self-reporting shows how more capable of using ICTs they felt. The iWomen App has also content on digital skills, aiming to keep women learning and practising their new acquired skills. The training, complemented with the information available in the iWomen App, will continue to have positive impact on women’s digital skills and their ability to use the Internet.

Training sessions also allowed women to come together and spend time as a group. During interviews, women indicated how some of them lived as far as two-hours apart from each other. They also indicated they had multiple jobs and responsibilities which kept them busy every day. Thus, training sessions provided them with time for themselves and with their friends. During this time, they did not have to worry about their other responsibilities, only about attending the respective training. Lack of time is a common burden on women (Laurie et al. 1997; Platt 2011). According to Kleine (2011a), one of the main challenges for women to use ICTs is finding time and the motivation to make time. Every time the May Doe Kabar rural women meet at their offices, is a new opportunity for them to share their experiences about the iWomen App with each other, which may inspire and motivate non-users to find or make time to engage with the iWomen App. In all five locations visited, there was a spirit of friendship and community, and during interviews, women expressed how their May Doe Kabar offices were very



Figure 24: Women learning from each other to use the iWomen App

important in their lives, for some as much as their own families:

“The most important things are my mom and my group. I want my mom to live healthy and I want my group to be successful and sustainable for a long time. I want to hand over all my work to the next generation because it is important to do community development.” (Ei Thanda, female, 33 years old)

For communities to form and survive, it is very important for their members to feel they belong and have an overall good feeling about being part of the group (McMillan and Chavis 1986; McMillan 1996; Peterson et al. 2008). Then, getting together for the iWoman training, allowed women to increase their sense of community by engaging and getting to know each other better and by doing activities together. This opportunity also allowed them to share and reflect on the information shared on the iWomen App. Regardless of the iWomen ICT training continuing in the future, each May Doe Kabar group will continue to meet regularly as part of their saving and lending procedures, and during these meetings, women will be able to continue to grow as a group, expanding their social capital and sharing their experiences with and about the iWomen App.

It is within the iWomen volunteers, which have so far provided the digital skills training, that another great impact can be seen from the iWomen Project. The UNDP Team explains the volunteer program came to be in a very

informal manner. Learning from the experience of working with the Kyaitlatt women, the team knew that introducing the app during the first May Doe Kabar Convention in October 2015 was going to be a challenge. Besides introducing the app, basic mobile training was going to be necessary, for which the iWomen Team formed a group of volunteers, relying on their personal networks. The success of this method encouraged the team to continue to ask volunteers' help, eventually becoming a volunteer program. Using Facebook to contact people, the iWomen Team has now a database of volunteers who travel the country training May Doe Kabar women. Volunteers receive ICT skills and life skills training every Saturday, and collect points with each assignment to track their progress within the program. Outcomes of this program go beyond training over 5,000 women across Myanmar. The UNDP Team explains:

"When we started, volunteers were really shy, they were not confident in themselves. Over time they really improved. In our one-year meeting, each volunteer shared their experiences, what has changed in this past year volunteering for the app. All of them said they gained more confidence, ability to make speeches to big crowds, either rural women or lawyers, or other high level people because volunteers have gone not just to rural areas but also to places like the American Centre, because we have done so many trainings, not just with the rural women. So they feel they have enhanced their skills for their lives. They have also expressed they would like to keep volunteering with women and men in rural areas, because there is such a big gap between rural and urban areas." (UNDP Team)

Young women and men that joined this program have augmented life skills that will serve them beyond their volunteer work, such as public speaking as well as they have experienced different culture and development realities of Myanmar. Till 2011, travel within Myanmar was limited, and for many, travelling as a volunteer was their first travel experience. Volunteers travel to locations in Myanmar that are considered some of the most vulnerable of the country, which is a reason why the SRGs were started in the first place over 10 years ago. The exposure to various realities has given volunteers a different perspective in life:

"Before working as a volunteer, I only knew Yangon. Now I have travelled to many places, seen how people live so differently from the city. I want to keep helping our people, helping our country." (iWomen volunteer)

In the changing environment of Myanmar, it is valuable that young people are getting volunteer experience that gives them a social perspective. The hundreds of volunteers recruited and trained by the iWomen Project are a valuable contribution of this project, a new generation of Myanmar citizens who value gender equality and justice.

3.3 CHALLENGES TO SUSTAINABILITY

The development of the iWomen App has been led so far by UNDP, in partnership with the May Doe Kabar National Network of Rural Women. As a new initiative, currently ownership is equally shared between UNDP and the May

Doe Kabar National Network of Rural Women. For the iWomen Project to continue and become sustainable in the future, May Doe Kabar needs funding and skills to take full ownership. Some difficulties have been identified which could challenge the sustainability of the iWomen App Project, these will be discussed in the following sections.

Network Lacks Organisational Maturity

As explained in Part 1, UNDP had been working with 2,000 independent women saving groups in Myanmar for over a decade. The establishment of May Doe Kabar allowed the women to continue to enjoy support from a diversity of donors, which was channelled through UNDP. Establishing the May Doe Kabar National Network of Rural Women has also followed a human-centered design, as indicated in Part 1. While individual groups have been working autonomously for several years, these never interacted with each other formally. Namely, these individual groups have been working together for just over two years, since the mobile phone technology enabled them to link together as one national network, registering with the Myanmar government in 2015. As detailed in section 3.2, one of the positive impacts of the iWomen App is that the app is supporting the strengthening of the May Doe Kabar Network by improving its members' sense of community belonging. Then, the app is a fundamental element to this network, because its functionalities are helping its members to communicate and interact with each other, resulting in the strengthening of the unity of the network. Additionally, as mentioned above, this app may be used to provide evidence to possible donors about the dimension, dynamism and activities conducted by the network. Yet, the UNDP Team explains:

"Before they [rural women members of May Doe Kabar] could not see the value of the app for the network, or its benefits for fundraising. First they only saw the value for them as individuals, for the inspiration and the information. But now, they are starting to see how this [the iWomen App] could help the network too. For instance, to use it to show others their membership, as today everything is still managed on paper, not on a computer... It has taken some time, but we can see how some of them are starting to grasp it." (UNDP Team)

Current leaders of the May Doe Kabar have faced the challenges with courage, openness and great ability to adapt. Yet the changes are great and too rapid, and the new network still needs to fully comprehend and exploit all its resources, including the iWomen App. The benefit that rural women in Myanmar have already experienced from UNDP Myanmar assistance is very important. It is fair to expect that the ultimate goal of development aid is to empower individuals to become themselves agents of change. In the case of the May Doe Kabar rural women, a path has been traced and changes are occurring in the desired direction. Yet, in order for the network to succeed and the iWomen App to be sustained, further assistance from strategic development actors is essential, especially considering the growth of this network is occurring within greater political, economic and social changes in the country.

Beyond Access: The Need for Greater Critical Thinking Skills

As indicated above, mobile penetration and Internet users are increasing rapidly in Myanmar. While this scenario looks promising, digital inclusion is far from becoming a reality for every Myanmar citizen. According to the Myanmar ICT for Development Organization (MIDO), statistics do not capture the actual usage of technology. There are great challenges with geographical coverage, a large gap between rural and urban areas, insufficient local content in Myanmar (the official language) and even worse in other ethnic languages, a gender gap in access and usage, and insufficient digital and media literacy skills (Einzenberger 2016). To this respect, the iWomen Project has planned to address some of the challenges mentioned in Part 2, such as designing the app to work offline, translating it to various ethnic languages, including two font coding systems and introducing audio content. Yet, some issues are harder to address, for instance, low levels of critical thinking skills. According to McAuliffe and Rothschild (2017), in Myanmar “user awareness and the necessary critical thinking skills to ethically exchange information and determine the credibility of sources did not develop commensurate to the spread of mobile technology” (p.10).

Low levels of critical thinking skills influences individuals’ choices and behaviours, ultimately affecting their own development (Freire 1970; Amsler 2011; Freire 1998). People’s critical thinking skills are linked to the ability to critically assess, and where necessary reject, existing constraining norms and values, guiding their actions accordingly towards changing the root causes of their disadvantage (Roberts 2016b). In relation to the May Doe Kabar women, this low level of critical thinking skills may hinder the value obtained from the iWomen App. While the app offers a variety of sources for inspiration, information and opportunities for the rural women to learn and interact, the low critical thinking skills may affect how women choose to use or not the app. In this regard, the basic digital literacy training that the iWomen Project has been offering are a great first step to guide women in how to use the app in ways that may lead to changing the root causes of their disadvantage. Yet, the development of people’s critical thinking skills is a process that requires continuous attention, requiring further assistance from strategic development actors.

In parallel, May Doe Kabar rural women will continue to be challenged by the lack or shortages of electricity, lack or poor quality Internet service, and limited financial resources needed to pay for such services. Some of these challenges may be tackled in the future by the May Doe Kabar National Network of Rural Women applying the skills learned while making the agreement with Samsung, as explained in Part 2. As this deal helped their women members to acquire high-quality smartphones in affordable monthly instalments, future deals may be designed for connectivity or other services. The support of INGOs, NGOs and private companies, is fundamental for women to continue to increase their access to ICTs, including the iWomen App.

3.4 RESEARCH CONCLUSIONS

Sections 3.2 and 3.3 discussed the different positive impacts and challenges faced by the iWomen Project identified by this research. The iWomen Project brought together three elements: the human-centered design of a mobile app, its implementation and maintenance, and basic digital skills training, as mechanisms to support the social and psychological wellbeing of the members of the May Doe Kabar.

First, the human-centered design enabled the women to claim ownership of the mobile app by being co-creators of the application and by making sure all the functions and content were relevant and adequate to their context. Being part of this process also increased their self-acceptance and promoted their personal growth. Being treated as partners rather than beneficiaries brought a new sense of entitlement and voice to the women participants, promoting gender equality. The success of the use of human-centered design to empower the May Doe Kabar rural women involved in the process provides evidence to donors, funders and/or governments, of its value and of the necessity of funding these kind of methodological approaches.

Second, the innovative nature of the project gave the iWomen Team a level of flexibility that allowed for organic growth and allowed the project to adjust to the needs of the women. Even though digital skills training was not included in the original scope of the project, it was recognised that without it, women would not be benefiting from the app as much. Accordingly, the iWomen Project designed a context adequate training, which has been successful in increasing women’s digital skills. The ICT iWomen training session has opened up opportunities to the women beyond using more efficiently the iWomen App. Additionally, the iWomen App provides extra content for women to continue to learn about technology. This is of particular importance if we consider that the digital revolution occurring in Myanmar is without precedents, for which the lack of digital skills has been pointed out as one of the greater challenges (Einzenberger 2016); and that research has shown that people require support to learn how to use technology in critical ways to aid their own development (Poveda and Roberts 2017; Poveda 2016b; Einzenberger 2016). Yet, rural women’s critical thinking skills are still low and this constrains the ability of women to address the root causes of their disadvantage. As research has shown, critical thinking skills can be taught in combination with digital skills (Pangrazio 2014; Warnick 2001; Poveda Villalba 2016). Also, this is a lesson for future projects, in particular for initiatives working with individuals with limited knowledge about technology, where essential digital skills should be primordial and be considered within the project’s scope from its beginning. Additionally, the ICT iWomen training session also resulted in the creation of the iWomen volunteer program, which has expanded the impacts of this project beyond the members of the May Doe Kabar National Network of Rural Women.

Third, the mobile app provided information and communication opportunities for May Doe Kabar rural women, targeting both their psychological and social wellbeing. On the one hand, the app provided inspirational stories to help women expand their aspirations and increase their motivation to act towards changing their own realities. On the other hand, the app provided practical information that helped women solve day-to-day issues, such as agricultural market prices and land property law. This online activity, in relation to offline reflection and peer support, allowed women to increase their autonomy, self-acceptance and rethink their purpose in life, increasing their psychological wellbeing. Also, the app provided information to encourage women to consider issues pertinent to their development, such as gender-based violence information, together with the opportunity to ask questions and discuss on the forum functions in the app. The human-centered design and the technology, together with the extent of the embedding of the iWomen App within the May Doe Kabar National Network of Rural Women, and the associated support from UNDP Myanmar, is what has made the iWomen Project successful. Without the iWomen App, individual groups and members of the May Doe Kabar National Network of Rural Women, would not have been able to interact with each other in a way in which promoted the formation and strengthening of their network. The rapport and trust that UNDP Myanmar had built with the 2,000 individual women savings groups across the country helped the process to be possible. The interaction of these elements enabled many interviewed women to go beyond inspiration and take concrete actions as indicated above. The combination of all elements facilitated the described outcomes.

Taking these reflections into consideration, the three research questions proposed for this research will be now responded to:

What role do ICTs have in supporting psychosocial wellbeing as defined for this research?

This research shows, from a psychological perspective, that the iWomen App has allowed rural women to have, maybe for the first time, access to female role models to inspire them to learn new ideas and to experience new activities. It has also shown how the use of the iWomen App by the participants of this research increased the level of interaction between the women, despite the constraints they face daily (i.e.: distance between each other, lack of time), which decreased feelings of social isolation and increased their social capital, their sense of belonging, and self-esteem. The inspirational stories combined with the aforementioned interaction (i.e.: sharing content, participating on the forum, reading about each other's activities), has served to improve women's self-acceptance, positive relations with others, and overall psychological wellbeing.

From a social perspective, the iWomen App provides a platform for the women of the May Doe Kabar National Network of Rural Women to read inspirational and useful information, reflect and discuss in the different forums, and to know more about their own network. The participatory process guaranteed that the information on the app was relevant to their needs. This process of reading and reflecting promotes women's personal growth. Their new

knowledge can then be reapplied in their daily lives. For instance: inspirational stories may challenge their gender roles, improving their cultural resources, as seen in Zeyar's case above; and agricultural information can help improve their livelihoods as indicated by Nanda's story.

What methods of implementation need to be considered to effectively incorporate ICT into initiatives aimed at the improvement of psychosocial wellbeing?

In the case of the iWomen Project, UNDP had been working for over 10 years with 2,000 individual savings groups before deciding to use ICTs to support the new May Doe Kabar National Network of Rural Women, which united the aforementioned groups. This allowed the UNDP Team to know exactly the target population. The use of human-centered design facilitated the identification of their emotional and informational needs, which were then incorporated into the different functionalities of the app. Being impossible to allow participation of the 20,000 members of the network, a methodology was designed to allow different levels of participation at different stages of development of the app: i) initiated with a smaller group representing the network for the most intensive work; ii) a national meeting of the network, with representatives of the whole network used to gather feedback from a greater audience (200+ participants) about the initial versions of the app; iii) this was followed by phone interviews with random users (among the participants of the previous meeting) which asked specific questions about the design of the app; iv) as more and more women became users thanks to the ICT iWomen training sessions, a hotline was created to assist rural women using the app and to get their feedback; v) today, forums are continuously read to identify hot topics that could be the basis of new information packages; vi) finally, the app's game is sporadically used to gather women's opinions. Therefore, the evidence from this project suggests that the target group of users' needs to be identified and involved in the planning, implementation and maintenance of the ICT. Regardless the size of a group, projects need to acknowledge that individuals are unique and they deserve to have their voices heard and needs reflected in their final project/product. Where participation of the totality of the group is impossible, a methodology needs to be designed to gather a variety of perceptions, which is usually seen as a challenge in participatory processes. Accordingly, the iWomen Project successfully incorporated a greater number of voices, contrasting with more traditional processes of ICT design. Additionally, the online and offline interaction in the iWomen Project was what enabled the positive impacts shown in this report. Without its embeddedness in the May Doe Kabar National Network of Rural Women and the support from UNDP Myanmar, this app would have not had the success detailed here.

What are the benefits and detriments that ICT can cause on initiatives focusing on psychosocial wellbeing?

Research has shown that ICTs can only magnify the intent and capacities of those using the technology (Busch 2011; Toyama 2010, 2015; van Deursen and van Dijk 2011a). The analysis presented above show the iWomen App does not exist in isolation. Thanks to the use of

human-centered design, the app was not only designed in a participatory manner; it also used participatory methods in its implementation. Therefore, the iWomen App is embedded in the May Doe Kabar National Network of Rural Women, and also benefits from the support of UNDP Myanmar. For instance, Zeyar's case shown above provides evidence how the guidance received from the network and UNDP Myanmar allowed her to take legal action. Conversely, without having read the inspirational stories in the iWomen App, Zeyar would have never sought for such advice in the first place. Was it the interaction between the inspiration and the social support that enabled Zeyar to take action? Then, the benefit of the iWomen App is because it serves the important role of information provider and inspiration catalyst. As the literature on inspiration indicates, there are two kinds of inspiration: inspiration by and inspiration to (Thrash and Elliot 2004). While inspiration by awakens people to new ideas, inspiration to creates motivation towards action. The iWomen App, via the 'Be inspired' functionality, as well as other functionalities as explained above, is creating inspiration by. The support provided by the May Doe Kabar National Network of Rural Women is the complement to transform that initial inspiration into action (inspiration to). It is important to indicate that how people are inspired varies and while some may leap to action as did Zeyar, others may take longer. However, having the iWomen App increases the chances for the May Doe Kabar rural women to find inspiration.

On the negative side, detriments are twofold. On the one hand, introducing technology for the provision of information requires the users to be capable to use that technology. As previously discussed, most of the women lacked digital skills and training had to be introduced to guarantee the iWomen App's adoption and use. While this training helped May Doe Kabar rural women, their critical thinking skills are still low and require further training. On the other hand, there is danger in attaching the success of a project to the introduction of ICTs, diverting the attention of all the other characteristics that made the project successful.

For instance, the human-centered design used in this process is largely part of the success, as it promoted ownership and raised women's self-perception. It is important to highlight that the technology on its own cannot achieve the same success, nor can technology magnify intent or capacities its users did not have before the introduction of such a technology.

In conclusion, the iWomen Project has a unique approach to wellbeing. Instead of just considering how to support rural women's social needs, this project also targets their emotional needs, envisioning wellbeing from a psychosocial perspective, one that aims for behavioural change. Changes in the women's perception of their role as women, increased self-esteem and self-confidence, increased sense of community and increased digital inclusion, are some of the impacts of the iWomen Project. These impacts will ultimately unlock the human development potential of the women in rural Myanmar. In this respect, the iWomen App is innovative, and one of the few apps with such characteristics in the ICT4D field. Projects with a psychosocial perspective tend to be from the humanitarian and emergency rather than from the international development sector. These sectors have acknowledged the importance of addressing the psychological wellbeing of those afflicted, for example, by war or natural disasters, as individuals have certainly been affected by trauma (Emmanuel et al. 2014; Maukera and Blignault 2015; Paratharayil 2010). However, the importance of psychological wellbeing is not exclusive to these populations. There is an increasing body of work that shows how poverty affects the psychological wellbeing of individuals (Lund et al. 2010, 2011; WHO 2010), and an international movement bringing awareness about issues related to mental health (Mackenzie et al. 2016; Mnookin 2016; WHO 2010). Then, initiatives such as the iWomen Project are extremely important as they show, first, alternatives of how to address wellbeing from a holistic understanding of the human being, as one that is both social and psychological. Second, they provide evidence of the benefits of approaching wellbeing from a psychosocial perspective.

PART 4 RECOMMENDATIONS

Recommendations presented in this section, specifically designed for development practitioners, are the result of a two and half-year journey of development and growth of the iWomen Inspiring Women App and the project assessment carried out by UNU-CS. Considering how imperative it is to achieve the 17 Sustainable Development Goals, the recommendations below are the authors' response to the following question:

How to inspire and inform people in developing countries to achieve the 17 Sustainable Development Goals with the aid of technology and innovation?

Co-Design and Co-Develop Technologies Directly With the Users

The evidence presented in this report shows that thanks to the use of participatory approaches (such as the human-centered design and the principles of digital design), the development journey of a tech tool can become in itself an empowering journey. In the case of the iWomen Inspiring Women App, the co-design method and co-development process has demonstrated that rural women, who before the participatory process felt they were not worthy of using a mobile phone, managed to build up enough self-confidence and self-esteem to shape the development of the app: from naming the app functions to deciding which content to upload and how to design the app stickers. The empowerment journey and the mind-set change undergone by the leaders of May Doe Kabar who have been active in co-designing and co-developing the app, is an example of transformational change which is crucially needed to achieve the SDGs on the ground. Development actors wishing to develop technologies to empower people should actively choose co-design and co-development over other tech development methods, and actively involve users in the process. The iWomen App is designed for any development actor to use, in any language, with any target audience and can disseminate any development content. The May Doe Kabar Network welcomes further contributions from international coders to strengthen the iWomen App code so that the app can be used by development actors in other parts of the world.

Develop Technologies with Sequenced Content Methodologies

Mobile apps like any other tech communication platform are mediums through which content can be shared in many ways from the action-reaction style of messaging platforms, to the algorithmically selected stream of content characteristic of the Facebook news feed, to the daily articles rhythm of a news app. In the case of development projects targeting rural women groups who live in contexts of scarcity (being financial scarcity, time scarcity, health and wellbeing scarcity), ICT tools can meaningfully contribute to users' positive mindset changes if content is shared in a sequenced way. In the case of the iWomen Inspiring Women App, the human-centered design journey, undertaken by May Doe Kabar rural women and the iWomen Team, shaped the development of a

sequenced content methodology modelled on human behavioural patterns. First, capture readers' attention by publishing inspiring human interest stories to arouse curiosity, so the reader is stimulated to learn more on the subject. Second, upload relevant, easy to access, information and knowledge content on the same topic. Third, enable the readers to have access to online and offline discussion groups where they can explore their curiosity and reinforce their knowledge gained through peer-learning. Last, incentivize their learning experience with prized competitions to both test their knowledge and creativity. The iWomen Inspiring Women App monthly rhythm of sequenced thematic inspiration, education, peer-to-peer sharing, and prized competitions can be used to address the needs of other women groups such as migrant women, rural women networks, and women's unions in the garment factories. By embracing the principles of human-centered design (creative confidence, empathy, embracing ambiguity, iteration), development practitioners will be able to co-develop, with their users, context appropriate sequenced content methodologies.

Use Technology Platforms to Deliver Multi-Thematic Development Interventions

Meeting the aspirations of the 17 SDGs will require an unprecedented effort by development actors working in distinct thematic areas (i.e.: health care, disaster risk reduction, gender-based violence), to increasingly synchronize their interventions if they are targeting the same population group, such as rural women. This report recommends development actors to take advantage of technology platforms (such as mobile applications and Facebook Bots) to synchronise their knowledge and capacity building activities to achieve better value for money. In the case of the iWomen Inspiring Women App, the original challenge statement was to develop a tech solution to foster rural women into becoming capable leaders. Throughout the process of co-development of the app, it became evident that developing an app strictly focused on leadership skills would neither have served the purpose, nor satisfied the requests of the rural women. The iWomen App resulted in being far more multi-thematic than it set out to be, featuring a wide range of topics requested by the rural women (from tech, to commodity prices, to gender-based violence, to disaster risk reduction, to financial literacy). The Sister Apps function, in particular, connects rural women with other development actors' technologies. The process of sourcing relevant content from the several international and national development organizations working on different topics featured on the app, has paved the way for May Doe Kabar National Network of Rural Women to receive more synchronised donor support.

Plan In Advance How to Guarantee Digital Inclusion

During implementation, the iWomen Project identified the lack of digital literacy skills as a challenge to the adoption of the iWomen App. Accordingly, the iWomen Project designed a context adequate training, which has been very successful in increasing women's digital skills. The ICT iWomen training session has opened up opportunities to the women beyond using more efficiently the iWomen App. Additionally, other issues, which limit technology adoption are low critical thinking skills, lack of financial resources, lack of time, fluctuating electricity service, and bad quality Internet connection, among others. Projects should identify these problems and plan solutions from the start. Some questions, inspired by research presented in the literature review, may help identify these issues: i) are we acknowledging characteristics such as age, gender, race and education level on the design of our project?; ii) are we allowing our future users to be part of the design, creation and production of our project?; iii) how will different levels of digital literacy of our future users be tackled?; iv) are we addressing different technology preferences in our project?; v) how will different levels of cognitive skills in our future users, for instance critical thinking skills, be tackled?; vi) how will any deficiencies in telecommunications infrastructure, hardware, software and/or connectivity where we plan to implement our project be tackled?

ICTs Are Not Silver Bullets, Match Technology with Offline Initiatives

ICT is not a silver bullet. ICTs are tools that support the intent and the capacity of those using them. Just introducing technology will not solve any issues. The iWomen Project showed that the online-offline interconnectedness of the May Doe Kabar National Network of Rural Women and UNDP Myanmar, and the use of participatory methods to promote ownership and raise women's self-perception, were as important as ICT in this project. The May Doe Kabar National Network of Rural Women will continue to organise activities and meetings where women will meet and further grow, promoting their development. The iWomen App, in parallel, will support these activities, provide women with information and continue to inspire women. To meet the aspirations of the 17 SDGs, matching great initiatives on the ground with technological innovation may provide the necessary online-offline interaction that has benefited the iWomen Inspiring Women Project.

Adapt Existing Scientific Scales That Measure Impact of Inspiration on Human Behaviour

Considering that sharing knowledge and experience through stories is one of our oldest and most effective forms of communication, the development community needs to adapt existing scientific scales to measure impact of inspiration on human behaviour, to demonstrate the power and the effectiveness that inspirational stories have on empowering people. As discussed in the literature review, there is an emerging growing body of scientific scales which measure different aspects of inspiration and its impact on decision-making, human behaviour and psychosocial wellbeing. In the case of the iWomen Project, prior to the UNU-CS evaluation, the team had been monitoring project impacts using qualitative analysis

of the over 1,200 poems and stories written by the rural women in response to the hundreds of human interest stories shared by the project team via the app. Additional tools and methods that facilitate monitoring and evaluation of psychosocial interventions are still needed. This report recommends for development actors to adapt existing scientific scales. By using such scales, development actors will be able to i) measure the effectiveness that inspiration and inspirational stories have on empowering people, and ii) demonstrate a causal relationship between exposure to different degrees of inspirational content and resulting positive behavioural change of the project beneficiaries.

To conclude, this report challenged the reader to reflect on how to enable behavioural change - Does Development Need A Structured Approach To Inspiration? The fourteen steps of the human-centered design described above demonstrate that for development actors to meaningfully contribute to positive behavioural change at individual or community level, project beneficiaries themselves need to be equal partners in designing the structure that will enable their behavioural change.

The iWomen App platform, and in particular its sequenced content and capacity building methodology (inspiration, education, peer-to-peer sharing, prized competitions to foster users' engagement and learning) demonstrates that co-designing a technology through which inspiration becomes an essential component of the development intervention itself is possible. Inspiration in the way which is set out and sequenced in the iWomen App mirrors commercial techniques. In business, the mission is to engage with the customer in order to create demand for the product. The most successful businesses in the world succeed because the customers deeply desire their business products. The customer is inspired to purchase. The iWomen App sets out to achieve something which is incredibly difficult to do: that is to deliver inspiration and knowledge in a way that creates a consistent on-going demand by the users to improve their lives by educating themselves and by taking advantage of being a member of a rural women's network where people help each other. What the iWomen App and the human-centered design process has uncovered is that there is a deep desire amongst the rural women of Myanmar to have the tools they need to capacity build their lives, to build the capacities of their communities, and to take responsibility as leaders in society. Considering that rural women, from a country such as Myanmar where inspiration, knowledge, mentoring, encouragement and trust have all been in limited supply, the sequenced methodology as used in the iWomen app and the human-centered design method that created this capacity building technology have shown impact and effectiveness that other development actors can successfully replicate.

REFERENCES

- AMADEU, S., 2010. Ambivalences, freedom and control of the cyberliving. *Citizenship and Digital Networks*. São Paulo: Comitê Gestor da Internet no Brasil, pp. 63-86.
- AMSLER, S., 2011. Revalorizing the Critical Attitude for Critical Education. *Journal for Critical Education Policy Studies*, 9(2), pp. 60-76.
- BALLANTYNE, P., 2003. Ownership and partnership: Keys to sustaining ICT-enabled development activities. *IICD Research Brief*, 8, pp. 1-8.
- BARRANTES, R., 2007. Analysis of ICT Demand: What is Digital Poverty and How to Measure it? In: H. GALPERIN and J. MARISCAL, eds, *Digital Poverty: Latin American and Caribbean Perspectives*. Rugby: Practical Action Publishing / International Development Research Centre, pp. 29-54.
- BASU, P. and CHAKRABORTY, J., 2011. New technologies, old divides: linking internet access to social and locational characteristics of US farms. *GeoJournal*, 76(5), pp. 469-481.
- BEST, M.L., 2016. Mobile computing and political transformation. *Communications of the ACM*, 59(10), pp. 21-23.
- BEST, M.L., LONG, W.J., ETHERTON, J. and SMYTH, T., 2011. Rich digital media as a tool in post-conflict truth and reconciliation. *Media, War & Conflict*, 4(3), pp. 231-249.
- BISHOP, D. and BOWMAN, K., 2014. Still learning: a critical reflection on three years of measuring women's empowerment in Oxfam. *Gender & Development*, 22(2), pp. 253-269.
- BLANCHARD, A.L. and MARKUS, M.L., 2002. Sense of virtual community-maintaining the experience of belonging. R.H.J. SPRAGUE, ed. In: *Proceedings of the 35th Annual Hawaii International Conference on System Sciences*, 2002. HICSS., 7-10 January 2002, Hawaii International Conference on System Sciences, pp. 3566-3575.
- BRESLAU, J. and ENGEL, C.C., 2015. *Information and Communication Technologies in Behavioral Health*. California: RAND Corporation.
- BUSCH, T., 2011. Capabilities in, capabilities out: overcoming digital divides by promoting corporate citizenship and fair ICT. *Ethics and Information Technology*, 13(4), pp. 339-353.
- CHOPRA, D. and MÜLLER, C., 2016. Introduction: Connecting perspectives on women's empowerment. *IDS Bulletin*, 47(1A), pp. 1-10.
- CIFRE, E., SALANOVA, M., MARTÍNEZ-PÉREZ, M., MARTÍNEZ, I., LLORENS, S. and GRAU, R., 2004. Developing a new tool to assess specific psychosocial risks among Teleworkers: the RED-TT questionnaire, Third International Conference on Occupational Risk Prevention ORP2004 2004, ORP.
- CLANCY, M.A. and HAMBER, B., 2008. Trauma, Peacebuilding and development: An overview of key position and critical question, Ponencia presentada en la Conferencia: Trauma, Desarrollo y Construcción de Paz, September 2008, pp. 9-11.
- CLEAVER, F., 2001. Institutions, Agency and the Limitations of Participatory Approaches to Development. In: B. COOKE and U. KOTHARI, eds, *Participation: The New Tyranny?* New York: Zed Books, pp. 36-55.
- COHEN, A.P., 1985. *Symbolic construction of community*. Ellis Horwood Ltd and Tavistock Publications Ltd: Routledge.
- CORNWALL, A., 2016. Women's Empowerment: What Works? *Journal of International Development*, 28(3), pp. 342-359.
- CORNWALL, A. and RIVAS, A., 2015. From 'gender equality and 'women's empowerment'to global justice: reclaiming a transformative agenda for gender and development. *Third World Quarterly*, 36(2), pp. 396-415.
- DANIELSSON, U. and ÖBERG, K.D., 2010. Psychosocial Life Environment and Life Roles in Interaction with Daily Use of Information Communication Technology Boundaries between Work and Leisure. In: D. HAFTOR and A. MIRIJAMDOTTER, eds, *Information and Communication Technologies, Society and Human Beings: Theory and Framework*. Hershey: IGI Global, pp. 266-282.
- DEPARTMENT OF POPULATION MINISTRY OF IMMIGRATION AND POPULATION OF MYANMAR, 2015. *The Union Report: The 2014 Myanmar Population and Housing Census Department. Census Report Volume 2. Myanmar: Department of Population Ministry of Immigration and Population of Myanmar*.
- DIGITAL DEVELOPMENT PRINCIPLES WORKING GROUP, n.y.-last update, *Principles for Digital Development [Homepage of Digital Development Principles Working Group]*, [Online]. Available: <http://digitalprinciples.org/> [August/8, 2017].
- DOLAN, T. and GRAY, S., 2014. *Media and conflict in Myanmar: Opportunities for media to advance peace*. Peaceworks No 92. Washington: United States Institute of Peace.
- EINZENBERGER, R., 2016. "If It's on the Internet It Must Be Right": An Interview With Myanmar ICT for Development Organisation on the Use of the Internet and Social Media in Myanmar. *Austrian Journal of South-East Asian Studies*, 9(2), pp. 301-309.
- EMMANUEL, S., WETTASINGHE, K., SAMUELS, F., THAMBIAH, S., RAJENDRAN, I. and GALAPPATTI, A., 2014. *Adolescent psychosocial wellbeing in the post conflict context of Sri Lanka. Summary country report: stage 1*. London: ODI.

- FONSECA, C., 2010. The Digital Divide and the Cognitive Divide: Reflections on the Challenge of Human Development in the Digital Age. *Information Technologies & International Development Journal*, 6(SE, Special Edition 2010 (Harvard Forum II Essays)), pp. 25-30.
- FREIRE, P., 1970. *Pedagogy of the oppressed*. London: Penguin Books.
- FREIRE, P., 1998. *Pedagogy of freedom: ethics, democracy and civic courage*. Oxford: Rowman & Littlefield Publishers.
- GALPAYA, H., ZAINUDEEN, A., PERUMPALAM, S., HURULLE, G., AUNG, H.H. and THI, P.P., December 2016, 2016-last update, Mobile phones, Internet, information, and knowledge: Myanmar 2016 [Homepage of LIRNEasia], [Online]. Available: http://lirneasia.net/wp-content/uploads/2017/01/Galpaya_NPT_Slides4DeputyMinisterMtg_Dec2016.pdf [August/8, 2017].
- GATTI, E., 2016, iWomen Inspiring Women App, Annual Report: An Inspiring Story. Yangon: UNDP Myanmar.
- GRIMALDI, W. and GATTI, E., 2017, iWomen App Project Theory of Change. This document is not publicly available. It can be requested to UNDP Myanmar.
- GARCIA, L., NUSSBAUM, M. and ARAVENA, R., 2006. The cognitive gap: Socio-cultural and Technological Determinants. *Journal Article* edn. Chile: Enlaces - Ministerio de Educación.
- GENATIOS, C. and LAFUENTE, M., 2006. Políticas y logros en Tecnologías de Información y Comunicación en Venezuela. *gerencia*, 8(21), pp. 1-11.
- GIACOMINI, J., 2014. What is human centered design? *The Design Journal*, 17(4), pp. 606-623.
- GREGSON, N., KOTHARI, U., CREAM, J., DWYER, C., HOLLOWAY, S., MADDRELL, A. and ROSE, G., 1997. Gender in feminist geography. In: ROYAL GEOGRAPHICAL SOCIETY WOMEN AND GEOGRAPHY, STUDY GROUP, ed, *Feminist geographies: explorations in diversity and difference*. Harlow: Longman, pp. 49-85.
- GRIPENBERG, P., 2011. Computer self-efficacy in the information society: Design of learning strategies, mechanisms and skill areas. *Information Technology and People*, 24(3), pp. 303-331.
- GUNKEL, D.J., 2003. Second thoughts: toward a critique of the digital divide. *New Media & Society*, 5(4), pp. 499-522.
- GURUMURTHY, A., 2004. *Gender and ICTs: Overview report*. London: Institute of Development Studies.
- HAFKIN, N.J. and HUYER, S., 2008. Women and Gender in ICT Statistics and Indicators for Development. *Information Technologies and International Development*, 4(2), pp. 25-41.
- HART, T., 1998. Inspiration: Exploring the experience and its meaning. *Journal of Humanistic Psychology*, 38(3), pp. 7-35.
- HILBERT, M., 2011. Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics. *Women's Studies International Forum*, 34(6), pp. 479-489.
- IDEO, 2015. *The Field Guide to Human-Centered Design*. <https://www.ideo.com/post/design-kit-edn>. Canada: IDEO.org.
- ITU, 2016a-last update, Mobile-cellular subscriptions (2000-2016) [Homepage of ITU], [Online]. Available: <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> [August/8, 2017].
- ITU, 2016b-last update, Percentage of Individuals using the Internet (2000-2016) [Homepage of ITU], [Online]. Available: <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> [August/8, 2017].
- KABEER, N., 2001. Resources, agency, achievements: Reflections on the measurement of women's empowerment. In: B. SEVEFJORD and B. OLSSON, eds, *Discussing Women's Empowerment - Theory and Practice*. Sida Studies no.3 edn. Stockholm: Wiley Online Library, pp. 17-57.
- KALAYJIAN, A. and PALOUTZIAN, R.F., 2009. *Forgiveness and reconciliation: Psychological pathways to conflict transformation and peace building*. London: Springer.
- KAUFMAN, S.B., November/8, 2011-last update, Why Inspiration Matters [Homepage of Harvard Business Review], [Online]. Available: <https://hbr.org/2011/11/why-inspiration-matters> [August/8, 2017].
- KLEINE, D., 2011a. "The Men Never Say that They do not Know": Telecentres as Gendered Spaces. In: J. STEYN, J. VAN BELLE and E. VILLANUEVA MANSILLA, eds, *ICTs for Global Development and Sustainability: Practice and Applications*. Hershey: Information science reference, pp. 189-210.
- KLEINE, D., 2011b. The capability approach and the 'medium of choice': steps towards conceptualising information and communication technologies for development. *Ethics and Information Technology*, 13(2), pp. 119-130.
- KLEINE, D., 2013. *Technologies of choice?: ICTs, development, and the capabilities approach*. Cambridge: MIT Press.
- KOTHARI, U. and COOKE, B., 2001. *Participation: The New Tyranny?* New York: Zed Books.
- LAFUENTE, M. and GENATIOS, C., 2006. ¿Sociedad del Conocimiento o Sociedad de la Información? Magazine "Debate Global, Comunicación", (133), pp. 20-29.

- LAGARDE, M., 1996. La multidimensionalidad de la categoría género y del feminismo. In: M.L. GONZÁLEZ MARÍN, ed, Metodología para los estudios de género. México: Instituto de Investigaciones Económicas, Universidad Nacional Autónoma de México, pp. 48-71.
- LAURIE, N., SMITH, F., BOWLBY, S., FOORD, J., MONK, S., RADCLIFFE, S., ROWLANDS, J., TOWNSEND, J., YOUNG, L. and GREGSON, N., 1997. In and out of bounds and resisting boundaries: feminist geographies of space and place. In: ROYAL GEOGRAPHICAL SOCIETY WOMEN AND GEOGRAPHY, STUDY GROUP, ed, Feminist geographies: explorations in diversity and difference. Harlow: Longman, pp. 112-145.
- LIAO, H., 2017. Encoding for access: how Zawgyi success impedes full participation in digital Myanmar. *ACM SIGCAS Computers and Society*, 46(4), pp. 18-24.
- LSDO and MIMU, 2016. Main Spoken Languages of Myanmar. MIMU1300v02 edn. Yangon: Myanmar Information Management Unit and Ethnologue and the Language and Social Development Organization.
- LUND, C., BREEN, A., FLISHER, A.J., KAKUMA, R., CORRIGALL, J., JOSKA, J.A., SWARTZ, L. and PATEL, V., 2010. Poverty and common mental disorders in low and middle income countries: A systematic review. *Social science & medicine*, 71(3), pp. 517-528.
- LUND, C., DE SILVA, M., PLAGERSON, S., COOPER, S., CHISHOLM, D., DAS, J., KNAPP, M. and PATEL, V., 2011. Poverty and mental disorders: breaking the cycle in low-income and middle-income countries. *The Lancet*, 378(9801), pp. 1502-1514.
- MACKENZIE, J., KESNER, C., BALL, L. and CADDICK, H., 2016. 10 things to know about mental health. London: ODI.
- MAGUIRE, M., 2001. Methods to support human-centered design. *International journal of human-computer studies*, 55(4), pp. 587-634.
- MAUKERA, R. and BLIGNAULT, I., 2015. A decade of peace: Mental health issues and service developments in the Solomon Islands since 2003. *Australas Psychiatry*, 23(6), pp. 658-661.
- MCMILLAN, D.W., 1996. Sense of community. *Journal of community psychology*, 24(4), pp. 315-325.
- MCMILLAN, D.W. and CHAVIS, D.M., 1986. Sense of community: A definition and theory. *Journal of community psychology*, 14(1), pp. 6-23.
- MILYAVSKAYA, M., IANAKIEVA, I., FOXEN-CRAFT, E., COLANTUONI, A. and KOESTNER, R., 2012. Inspired to get there: The effects of trait and goal inspiration on goal progress. *Personality and Individual Differences*, 52(1), pp. 56-60.
- MNOOKIN, S., 2016. Out of the shadows: making mental health a global development priority report. Washington: World Bank Group; World Health Organization.
- MOLYNEUX, M., 1985. Mobilization without Emancipation? Women's Interests, the State, and Revolution in Nicaragua. *Feminist Studies*, 11(2), pp. 227-254.
- MOSER, C.O.N., 1993. Gender planning and development: theory, practice and training. London: Routledge.
- MOSSE, D., 2001. 'People's Knowledge', Participation and Patronage: Operations and Representations in Rural Development. In: B. COOKE and U. KOTHARI, eds, Participation: The New Tyranny? New York: Zed Books, pp. 16-35.
- MULLAINATHAN, S. and SHAFIR, E., 2013. Scarcity: Why having too little means so much. New York: Times Books.
- NUSSBAUM, M.C., 2000. Women and human development. Cambridge: Cambridge University Press.
- OLEYNICK, V.C., THRASH, T.M., LEFEW, M.C., MOLDOVAN, E.G. and KIEFFABER, P.D., 2014. The scientific study of inspiration in the creative process: challenges and opportunities. *Frontiers in human neuroscience*, 8(436), pp. 1-8.
- PADE, C., MALLINSON, B. and SEWRY, D., 2009. An exploration of the critical success factors for the sustainability of rural ICT projects—The Dwesa case study. In: W. WOJTKOWSKI, G. WOJTKOWSKI, M. LANG, K. CONBOY and C. BARRY, eds, Information Systems Development. Boston, MA: Springer, pp. 339-352.
- PANGRAZIO, L., 2014. Reconceptualising critical digital literacy. *Discourse: Studies in the Cultural Politics of Education*, online(online), pp. 1-12.
- PARATHARAYIL, M., 2010. Basic versus focused psychosocial interventions for community wellbeing: lessons following the Nargis cyclone interventions in Burma/Myanmar. *Intervention*, 8(2), pp. 148-157.
- PETERSON, N.A., SPEER, P.W. and MCMILLAN, D.W., 2008. Validation of a brief sense of community scale: Confirmation of the principal theory of sense of community. *Journal of community psychology*, 36(1), pp. 61-73.
- PISCHETOLA, M., 2011. Digital Media and Learning Evolution: A Research on Sustainable Local Empowerment. *Global Media Journal*, 11(18), pp. 1-11.
- PLATT, L., 2011. Understanding inequalities: stratification and difference. Cambridge: Polity.
- POVEDA, S., 2016a. Conscientisation and Human Development: The case of digital inclusion programmes in Brazil. PhD edn. London: University of London.
- POVEDA, S., 2016b. How can digital inclusion promote social change? Exploring two Brazilian case studies, L. SUBRAMANIAN and S. WYCHE, eds. In: Proceedings of the Eighth International Conference on Information and Communication Technologies and Development, June 3-6, 2016 2016b, ACM.

- POVEDA, S., 2016c. PAR and Digital Inclusion, An Analysis Using the Capabilities Approach and Critical Pedagogy. *International Journal of E-Politics (IJEP)*, 7(4), pp. 1-15.
- POVEDA, S. and ROBERTS, T., 2017. Critical agency and development: applying Freire and Sen to ICT4D in Zambia and Brazil. *Information Technology for Development*, pp. 1-19.
- RAI, S., 2011. Gender and development: theoretical perspectives. In: N. VISVANATHAN, L. DUGGAN, N. WIEGERSMA and L. NISONOFF, eds, *The Women, Gender & Development Reader*. 2nd edn. Canada: Fernwood Pub, pp. 28-37.
- ROBERTS, T., 2016a. *Critical-Agency in ICT4D: a case study of Zambian women's use of participatory video technology to challenge gender inequality*. PhD edn. London: Royal Holloway University of London.
- ROBERTS, T., 2016b. *Women's Use of Participatory Video Technology to Tackle Gender Inequality in Zambia's ICT Sector*, L. SUBRAMANIAN and S. WYCHE, eds. In: *Proceedings of the Eighth International Conference on Information and Communication Technologies and Development*, June 3-6, 2016 2016b, ACM.
- ROBEYNS, I., 2003. *The Capability Approach: An Interdisciplinary Introduction*. Amsterdam: Department of Political Science and Amsterdam School of Social Sciences Research Working Paper, University of Amsterdam.
- RÖELL, E., 2015. *Women & Local Leadership: Leadership Journeys of Myanmar's Female Village Tract/Ward Administrators*. Yangon: UNDP Myanmar.
- RYFF, C.D., 1989. Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of personality and social psychology*, 57(6), pp. 1069.
- SCIADAS, G., ed, 2003. *Monitoring the Digital Divide ...and beyond*. Montréal: Claude-Yves Charron.
- SEN, A., 1992. Missing women. *British medical journal*, 304(6827), pp. 587-588.
- SEN, A., 1999. *Development as freedom*. Oxford: Oxford University Press.
- SPENCE, N., 2010. Gender, ICTs, Human Development, and Prosperity. *Information Technologies & International Development*, 6(Special Edition), pp. 69-74.
- STATISTA, March 2017, 2017-last update, Number of apps available in leading app stores as of March 2017 [Homepage of Statista], [Online]. Available: <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/> [June/8, 2017].
- STENNER, P. and TAYLOR, D., 2008. Psychosocial welfare: Reflections on an emerging field. *Critical Social Policy*, 28(4), pp. 415-437.
- TAYLOR, D., 2011. Wellbeing and welfare: A psychosocial analysis of being well and doing well enough. *Journal of social policy*, 40(4), pp. 777-794.
- THOMAS, G. and WYATT, S., 2000. Access is not the only problem: Using and controlling the Internet. In: S. WYATT, F. HENWOOD, N. MILLER and P. SENKER, eds, *Technology and In/equality: Questioning the information society*. London: Routledge, pp. 21-45.
- THOMÉE, S., EKLÖF, M., GUSTAFSSON, E., NILSSON, R. and HAGBERG, M., 2007. Prevalence of perceived stress, symptoms of depression and sleep disturbances in relation to information and communication technology (ICT) use among young adults—an explorative prospective study. *Computers in Human Behavior*, 23(3), pp. 1300-1321.
- THRASH, T.M. and ELLIOT, A.J., 2003. Inspiration as a psychological construct. *Journal of personality and social psychology*, 84(4), pp. 871.
- THRASH, T.M. and ELLIOT, A.J., 2004. Inspiration: core characteristics, component processes, antecedents, and function. *Journal of personality and social psychology*, 87(6), pp. 957.
- THRASH, T.M., ELLIOT, A.J., MARUSKIN, L.A. and CASSIDY, S.E., 2010. Inspiration and the promotion of well-being: tests of causality and mediation. *Journal of personality and social psychology*, 98(3), pp. 488-506.
- THRASH, T.M., MOLDOVAN, E.G., OLEYNICK, V.C. and MARUSKIN, L.A., 2014. The psychology of inspiration. *Social and Personality Psychology Compass*, 8(9), pp. 495-510.
- TOYAMA, K., November/December, 2010-last update, *Can Technology End Poverty?* [Homepage of Boston Review], [Online]. Available: <http://bostonreview.net/BR35.6/toyama.php> [01/17, 2012].
- TOYAMA, K., 2015. *Geek Heresy: Rescuing Social Change from the Cult of Technology*. New York: PublicAffairs.
- UN WOMEN, December 6, 2012, 2012-last update, *Gender Mainstreaming* [Homepage of UN Women], [Online]. Available: <http://www.unwomen.org/en/how-we-work/un-system-coordination/gender-mainstreaming> [August/9, 2017].
- UNDP, 2016-last update, *Innovation in Action* [Homepage of UNDP], [Online]. Available: <http://www.asia-pacific.undp.org/content/bap/en/home/ourwork/development-impact/innovation.html> [September/25, 2017].
- UNDP, 2017-last update, *Myanmar: Inspiring women with mobile app i-Women* [Homepage of UNDP], [Online]. Available: <http://www.asia-pacific.undp.org/content/rbap/en/home/ourwork/development-impact/innovation/projects/myanmar-iwomen.html> [September/25, 2017].

- UNITED NATIONS, 2017-last update, Sustainable Development Knowledge Platform [Homepage of United Nations], [Online]. Available: <https://sustainabledevelopment.un.org/> [August/9, 2017].
- VAN DEURSEN, A.J.A.M., HELSPER, E.J. and EYNON, R., 2015. Development and validation of the Internet Skills Scale (ISS). *Information, Communication & Society*, 19(6), pp. 804-823.
- VAN DEURSEN, A.J.A.M., VAN DIJK, J.A.G.M. and PETERS, O., 2011. Rethinking Internet skills: The contribution of gender, age, education, Internet experience, and hours online to medium- and content-related Internet skills. *Poetics*, 39(2), pp. 125-144.
- VAN DEURSEN, A.J., HELSPER, E.J. and EYNON, R., 2016. Development and validation of the Internet Skills Scale (ISS). *Information, Communication & Society*, 19(6), pp. 804-823.
- VAN DEURSEN, A.J.A.M. and VAN DIJK, J.A.G.M., 2010. Measuring Internet Skills. *International Journal of Human - Computer Interaction*, 26(10), pp. 891-916.
- VAN DEURSEN, A.J.A.M. and VAN DIJK, J.A.G.M., 2011a. Internet skills and the digital divide. *New Media & Society*, 13(6), pp. 893-911.
- VAN DEURSEN, A.J.A.M. and VAN DIJK, J.A.G.M., 2011b. Internet skills performance tests: are people ready for eHealth? <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3221376/> edn. United States: *Journal of Medical Internet Research*.
- VAN DEURSEN, A.J.A.M., VAN DIJK, J.A.G.M. and PETERS, O., 2012. Proposing a survey instrument for measuring operational, formal, information and strategic Internet skills. *International Journal of Human-Computer Interaction*, 28(12), pp. 827-837.
- VAN DIJK, J. and HACKER, K., 2003. The Digital Divide as a Complex and Dynamic Phenomenon. *The Information Society*, 19(4), pp. 315-326.
- VERGE, T. and DE LA FUENTE, M., 2014. Playing with different cards: Party politics, gender quotas and women's empowerment. *International Political Science Review*, 35(1), pp. 67-79.
- WALTON, R., PUTNAM, C., JOHNSON, E. and KOLKO, B., 2009. Skills are not binary: Nuances in the relationship between ICT skills and employability. *Information technologies & international development*, 5(2), pp. 1-18.
- WARNICK, B., 2001. *Critical literacy in a digital era: Technology, rhetoric, and the public interest*. Routledge.
- WHO, 2010. *Mental Health and Development: Integrating Mental Health into All Development Efforts including MDGs*. UN(DESA)-WHO Policy Analysis. Geneva: World Health Organization.
- ZEHR, H., 2008. Doing justice, healing trauma: The role of restorative justice in peacebuilding. *South Asian Journal of Peacebuilding*, 1(1), pp. 2-16.
- WILSON, K., 2011. From missionaries to microcred-it?: 'race', gender and agency in neoliberal development. In: N. VISVANATHAN, L. DUGGAN, N. WIEGERSMA and L. NISONOFF, eds, *The Women, Gender & Development Reader*. 2nd edn. Canada: Ferwood Publishing, pp. 99-104.
- ZEHR, H., 2008. Doing justice, healing trauma: The role of restorative justice in peacebuilding. *South Asian Journal of Peacebuilding*, 1(1), pp. 2-16.

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