MOBILES FOR HUMAN DEVELOPMENT

2014 Trends and Gaps

United Nations Development Programme & Motorola Solutions

Cover Photo: Tuareg man calling with mobile phones in Ghadames, Libya.
Photo: Eric Lafforgue.

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Acknowledgements

Table of contents

List of tables and figures

List of acronyms

CSO	Civil society organization
GSMA	Groupe Speciale Mobile Association
HIV	Human immunodeficiency virus
ICs	Industrialized countries
ICT	Information and communications technologies
INSIHD	International Network of Social Innovators for Human Development
LDC	Least developed countries
LIC	Less industrialized country
LMIC	Low and/or middle income countries
MDGs	Millennium Development Goals
M4D	Mobiles for development
NGO	Non governmental organization
OECD	Organisation for Economic Cooperation and Development
RBA	UNDP Regional Bureau Africa
RBAP	UNDP Regional Bureau Asia and the Pacific
RBAS	UNDP Regional Bureau Arab States
RBEC	UNDP Regional Bureau for Europe and the Commonwealth of Independent States
RBLAC	UNDP Regional Bureau Latin America & the Caribbean
SDS	Special development situation
SME	Small and medium enterprises
SMS	Short message service
UMIC	Upper middle income countries
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WB	World Bank
WHO	World Health Organization

Executive Summary

The rapid diffusion of mobile technologies around the globe has triggered new opportunities to enhance human development. Indeed, mobiles can bring basic services and information to billions of people at the bottom of the pyramid, foster democratic governance by giving people a voice in key decision-making processes that affect their lives, and promote transparency and accountability in both the public and private sectors.

The re-emergence of social innovation in this century has been largely propelled by the advancement of mobiles technologies. Nowadays, social innovators in developing countries are tackling key local development needs that have not been effectively addressed until now. Social innovation has thus become a new platform that development practitioners and policy makers should support and strengthen. Innovative solutions to address socio-economic and governance gaps are now available and need to be scaled up and replicated at the national and regional levels.

Against this backdrop, UNDP and Motorola Solutions have joined forces to support the use of mobile technologies to foster human development and build resilient, sustainable societies. Throughout 2013 and 2014, the partners brought together social innovators with national and local governments, academic and civil society organizations, and small enterprises to find ways of tackling the diverse challenges that developing countries and regions face. This led to the creation of the International Network of Social Innovators for Human Development (INSIHD). The Network held gatherings in Kenya, Tunisia, Rwanda, Berlin, Senegal and Ethiopia and is continuing to expand to other countries and regions.

Current research indicates that there is a plethora of both mobile applications and reports on mobile technologies. While this is indeed welcome and does enhance our stock of knowledge on the subject, there are still a few gaps that need to be addressed. A glaring one is the relationship between the diffusion of mobile technologies and human development - which is turn is quite distinct from economic growth. Another one relates to the apparent duplication of efforts when creating mobile apps which seemingly do not diffuse beyond local and national contexts. Ushahidi is a clear exception to this, as is M-Pesa, but examples such as this are few and far between.

In this light, this report aims to contribute to the existing body of knowledge by first, focusing on development and developing countries, second, taking a closer look at local innovators, and third, linking social innovation to development priorities. In doing so, the report builds on the data we have collected from both primary and secondary sources to provide evidence-based suggestions on how we can better harness mobile technologies to confront critical development issues in concrete fashion.

The development categories used for our analysis include poverty reduction, education,

health and governance, all of which are key areas of development. In turn, each development category was further subcategorized to further refine insights about actual trends and potential gaps in these areas. The subclassifications are based on the work that UNDP, UNESCO and WHO, among others, undertake on the ground in developing countries.

The key findings of the report can be summarized as follows:

- A wide disparity of activities among the four core development categories. Poverty reduction activities are pervasive, representing half of all sampled work, while health and governance lag behind. Education falls in between and represents one out of every four interventions.

- Each region under analysis prioritizes a particular category of activity thus suggesting key regional differences per development category. While Africa drives poverty reduction activities, Latin America leads in governance, and education-related activities are a priority in industrialized countries.

- Private sector development (poverty), lifelong learning and ICTs in education (both in education), HIV and development (health), and access to information and e-governance (governance) represent the most prominent activities in each respective development category.

- Specific regions are key drivers for these subcategories: Africa for private sector development, lifelong learning (excluding industrialized countries) and HIV and development, and Latin America for ICTs in education and access to information and e-governance.

- In terms of gaps, activities on e-business (which includes m-business), m-learning and m-health seem to be lagging vis-a-vis other subcategories.

- There is an overall gap in gender equality and women's empowerment activities in all regions and subregions.

- In the era of social media, crowdsourcing and e-democracy, it is surprising that governance activities are at the bottom of our development category structure.

Based on these findings the report makes the following recommendations:

- Local and subregional contexts must be taken into account before policy and application development recommendations are made in specific countries, subregions and regions.

- Taking stock and mapping current activities supported by local developers and practitioners are essential steps before new activities are initiated, or ongoing ones supported.

- Latin America needs to do more on health-related activities, while Africa should support governance activities other than access to information and e-governance.

- Women's empowerment and gender equality activities need more support across the board. We not only need more incentives in this area of work but also to engage more women as developers, practitioners or policy makers.

- Large areas of work such as private sector development are now prone for impact assessment in order to draw out good and not-so-good practices and lessons learned. Players in this sector should consider supporting these exercises as good practices here can in turn help emerging areas.

- There is a critical gap when it comes to sustainable development and mobiles for development. Developers, practitioners and partners in the private sector should try to openly address such gaps.

1. Introduction

1.1 Background

The rapid expansion of mobile technologies around the world is offering many new opportunities to enhance human development. They are helping to improve the delivery of basic services and information to billions of people at the bottom of the pyramid, and fostering inclusive development processes that give people a voice in key decision-making processes that affect their lives.

Since the early 1990s, the United Nations Development Programme (UNDP) has been promoting the use of information and communication technologies (ICTs) for human development, approaching ICTs as innovation drivers that provide new solutions to the long-standing development challenges of poverty, education, health care delivery and governance. With 2015 fast approaching, the capacity of governments and their development partners to effectively harness ICTs to address key socio-economic gaps is critical to achieving the UN Millennium Development Goals (MDGs) as well as the new Post-2015 development targets.

In this context, UNDP and Motorola Solutions have joined forces to look for ways of harnessing mobile technologies to foster human development and build resilient, sustainable societies. Throughout 2013 and 2014, UNDP and Motorola Solutions brought together social innovators with governments, academic and civil society organizations, and small enterprises to find ways of tackling the diverse challenges that developing countries and regions face. The ensuing exchange of knowledge and expertise led to the creation of new networking opportunities where communities with similar values and goals can work together and augment ongoing activities. It also led to the creation of the International Network of Social Innovators for Human Development (INSIHD). The Network, which has held gatherings in Kenya, Tunisia, Rwanda, Berlin and Senegal, is continuing to expand to other countries and regions. Among other things, the network highlights the need to connect local social innovators with policy makers and development practitioners while facilitating the exchange of knowledge for the development of new solutions that address local development needs at the ground level.

1.2 Current situation

As access to mobile technologies has expanded in the global South, their use is being accompanied by the growth of grassroots innovation that is generating local development and prosperity. Yet a quick scan of these social applications in developing countries indicates that the interaction between social innovators on the one hand, and local and national governments and development practitioners on the other, is not really taking

place on a sustained or significant scale. Potential development solutions that are working from the ground up are not always taken into account in broader development policies or programmes implemented by governments and development partners. And the issues of sustainability and scalability that hinder innovation still need to be properly addressed for ideas to flourish and generate real human development.

As a recent study conducted by the World Bank (infoDev 2014) suggests, innovation and entrepreneurship are key drivers of development. Right now the expanding "app economy" is offering "enormous potential for app entrepreneurs and developers" and is expected to continue in the coming years (infoDev 2014: 18). At least 90 tech hubs/labs exist today across the continent of Africa, which are generating many locally developed applications (Kelly 2014). Yet for local entrepreneurs to thrive, their efforts must be sustainable in the medium and long run, and technological and socioeconomic gaps need to be addressed. Reliable and sustained access to a free and open Internet, for instance, is one of the many challenges faced by innovators. Developers in poor countries often point out that the costs associated with both access and equipment are high, while speeds remain too slow to handle anything more than the most basic of operations. This highlights the need for more innovative service delivery to ensure access gaps are filled.

Mobile broadband stands to make a difference here. According to GSMA (Groupe Speciale Mobile Association) the "mobile Internet is at the heart of a dynamic ecosystem of innovation reaching beyond operators" where innovation is being supported by a much faster, lighter and intuitive network (GSMA 2013: 4). As mobile broadband and the mobile sector continues to grow overall, it is expected that innovation driven by these systems in developing countries will begin to help address key socio-economic gaps (GSMA 2014).

Though mobile broadband cannot fix all development gaps, mobiles undoubtedly offer new opportunities for development practitioners to deliver solutions that address some critical development issues. This is not an automatic process however, and there is a need to bring the different players together - government, civil society, the private sector and social entrepreneurs - to build multi-stakeholder partnerships that will foster sustainable human development in an open and inclusive basis.

1.3 Objectives of the report

While there is certainly no shortage of reports on mobile technologies coming from different sectors and perspectives, by focusing on human development, this report aims to contribute to the existing body of knowledge by first, focusing on development and developing countries, second, taking a closer look at local innovators, and third, linking social innovation to development priorities. In doing so, the report builds on the data we have collected to provide evidence-based suggestions on how we can better harness mobile technologies to tackle critical development issues in concrete fashion.

2. Methodology

A fluid global mobile ecosystem makes a quick situational snapshot challenging to assess in terms of ongoing trends and potential gaps. Yet even as innovators come and go, many remain on the scene in dynamic tech hubs, and this makes it possible to identify important key actors. To identify social innovators and build a picture of mobile innovation globally, data for this report was collected from three main sources:

1.   Organizations that have compiled relevant data on key actors and associations, which they shared with us upon request;
2.   A dedicated survey conducted by UNDP and Motorola to get additional data directly;
3.   Other publicly available data.

A detailed description and analysis of the sample used for this study can be found in Annex I and a list of sources is in Annex II.

Data coming from outside sources have different formats, classifications and taxonomies. This demanded a comprehensive effort to come up with a clean and consistent sample. We started with nearly 10,000 records that were compiled and cleaned to obtain an initial data set of 6,108 cases. A second round of consistency checking produced a final sample of 2,478 unique cases in 2,984 records. Each case represents a government institution, a private sector or civil society organization, or an individual that is working in the area of mobiles for development.

The final data set is comprised of two different

Figure 1: Sample distribution by UNDP region and subregion

3.97%

14.07%

81.95%

- North America
- Central America
- Caribbean
- South America

Figure 2: Sample distribution by UNDP region and subregion

20.52%

56.72%

3.23%

19.53%

UN Subregions of Africa

- Northern Africa
- Western Africa
- Central Africa
- Eastern Africa
- Southern Africa
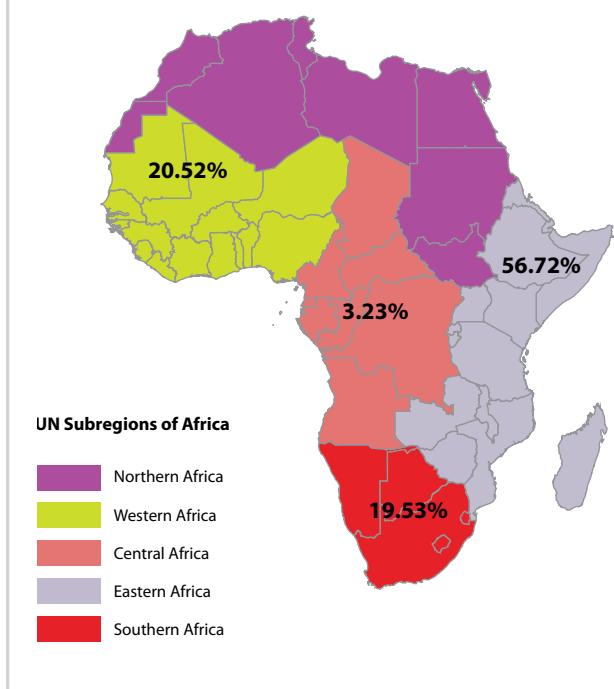
but closely related sub-samples. The first one includes mobile app developers who represent 35 percent of all cases. The second is comprised of development practitioners who use mobiles and mobile apps in their work and represent the other 65 percent. Another sub-sample of just mobile applications includes a total of 1,377 applications, which represent 46 percent of records in the overall sample, since developers often produce more than one app per entity or organization (as is the case with tech hubs for example).

The categories used for the analysis - poverty reduction, education, health and governance - are key areas of development, and each was further subcategorized in order to gain insight about actual trends and potential development gaps in these areas. The subclassifications are based on the work that UNDP, UNESCO and WHO undertake on the ground, and a detailed table of classifications with definitions of each subcategory can be found in Annex III.

To analyze the sample regionally, we have followed UNDP's official regional classification[1] and used UN subregional classifications[2] to drill deeper into the analysis. The African region constitutes over 40 percent of the total, and Latin America and the Caribbean makes up more than 30 percent of the sample.

As our research is aiming to find mobile social innovation happening on the ground in developing countries, using data collected in the survey and other key data sources, the final data set is not a fully random sample. It has yielded a bias towards poverty reduction activities, which represent almost 50 percent of all cases collected, and all results presented in this report should be considered in this light.

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1   UNDP's regions include: Regional Bureau for Africa (RBA), Regional Bureau for Asia & the Pacific (RBAP), Regional Bureau for the Arab States (RBAS), Regional Bureau for Europe and the Commonwealth of Independent States (CIS) (RBEC), Regional Bureau for Latin America & the Caribbean (RBLAC), and industrialized countries (ICs).

2   Please see the macro geographical/continental regions and geographical subregions on the UN Stats website: http://unstats.un.org/unsd/methods/m49/m49regin.htm.

3. Analysis of trends and gaps

This section will identify key trends and gaps in the use of mobiles for human development in poverty reduction, governance, education and health.

3.1 Overview

Table 1 shows the overall regional distribution of activities in the four development categories and the important regional differences across development categories. Notice, for example, the relevance of health in the Asia/Pacific region, which is unique if we exclude all global and regional programmes.

Table 1: Distribution of mobile actors by development category								
	INDUST COUNT	AFRICA	ASIA PACIFIC	ARAB STATES	EEURO/CIS	LATIN AMER	GLOBAL/REG	Total
Poverty reduction	212	441	172	17	16	304	36	1198
	37.8%	54.9%	49.0%	41.5%	33.3%	50.3%	52.2%	48.3%
Education	236	144	37	7	9	157	6	596
	42.1%	17.9%	10.5%	17.1%	18.8%	26.0%	8.7%	24.1%
Health	75	132	112	5	5	39	23	391
	13.4%	16.4%	31.9%	12.2%	10.4%	6.5%	33.3%	15.8%
Governance	38	87	30	12	18	104	4	293
	6.8%	10.8%	8.5%	29.3%	37.5%	17.2%	5.8%	11.8%
Total	561	804	351	41	48	604	69	2478

However, since the sample sizes for Asia and the Pacific, Eastern Europe and the Commonwealth of Independent States, the Arab States and global/regional activities are relatively small, it was decided that using this data to draw out solid trends or gaps in these regions could be misleading. Therefore, the analysis in this report is focused on Africa and Latin America, using industrialized countries as a counterpoint to draw out the differences between the latter and developing countries.

3.1.1 Regional and subregional distribution of activities

Figure 3 on the previous page presents the

Figure 3: Distribution of Mobile Actors by Development Category

- Education
- Health
- Governance
- Poverty Reduction
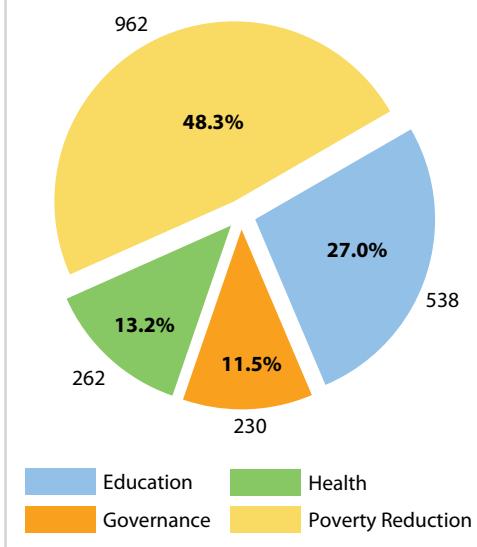
Figure 4: Regional Distribution of Mobile Actors by Development Category

Legend: Education, Governance, Health, Poverty Reduction
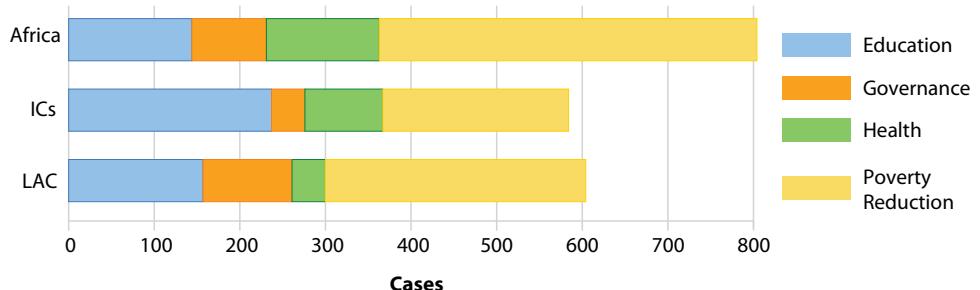
Figure 5: Subregional Distribution of Mobile Actors by Development Category

Legend: Education, Governance, Health, Poverty Reduction
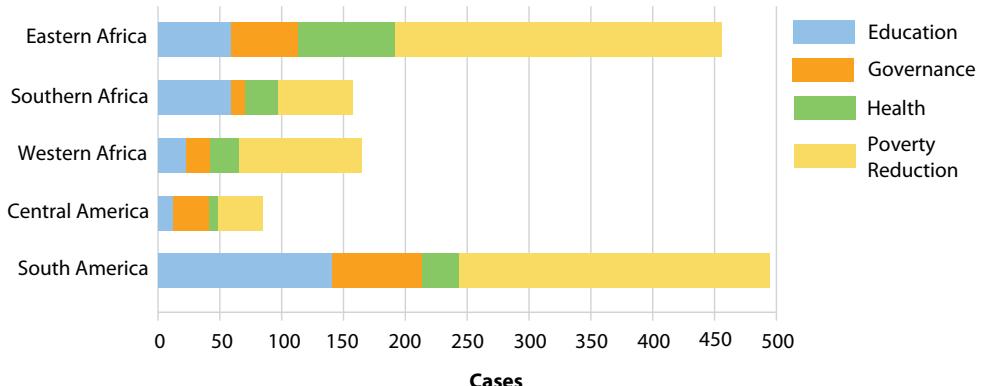
distribution of 1,992 cases by development category, and shows that, as mentioned above, poverty reduction is the largest of the development categories (48% of the total), followed by education. Figure 4 breaks this down further by the three regions included in the analysis - Africa, Latin America and industrialized countries - and shows a similar distribution across all three sets of countries. Africa seems to be the main driver of the poverty reduction sample bias, representing 55 percent of all activities within the region, and 46 percent of activities between all regions, a reflection perhaps of the fact that poverty is still a key development priority in Africa. By comparison, governance is most relevant in Latin America, representing 45 percent of all activities across the regions, and 17 percent of activities within the region. Surprisingly, governance in industrialized countries represents a small number of activities within (7%) and between regions (17%).

In spite of the poverty sample bias, education leads in industrialized countries, representing 41 percent of in-region activities and 44 percent of all intraregional cases, a fact that could be the result of lower levels of poverty in this group of countries. Education is the second most important category in both Africa and Latin America. Health in turn is

most relevant in Africa, where it represents 50 percent of activities across regions, followed by industrialized countries with 35 percent, while Latin America has little in terms of health cases with only six percent of regional activities.

The distribution of cases by development category across subregions presented in figure 5[3] shows that Eastern Africa and South America lead across all subregional poverty cases, together accounting for 72 percent of all cases. The same two subregions also lead in governance activities, with 67 percent of all cases. Eastern Africa leads in health with 47 percent of all cases across the subregions. South America by contrast leads in education with 48 percent of all cases, while Eastern and Southern Africa each contribute 20 percent to educational activities overall across subregions.

Within subregions, poverty reduction is overwhelming across all, with the notable exception of Southern Africa where it is as relevant as education and represents 38 percent of activities in each. Education is also important in South America (28%), whereas health activities are relatively small in all the subregions, with the exception of Eastern and Southern Africa (17% of in-region activities in each).

3.1.2 Summary

Trends

- With the exception of industrialized countries, poverty reduction activities lead in all regions (48% of the total), a fact that reflects the sample bias of the data collected.
- Poverty reduction-related activities are particularly relevant in Africa, representing 55 percent of activity in the region and 46 percent of all interregional activities.
- Education is the priority in industrialized countries and places second in both developing regions.
- Fifty percent of all health-related activities take place in Africa with Eastern Africa, furnishing over 60 percent of cases.
- Latin America undertakes 45 percent of all governance-related work.
- Eastern Africa and South America account for 72 percent of all poverty activities and are thus the main source for the preponderance of this development category.
- South America accounts for 48 percent of education-related activity overall and 39 percent of all governance-related activity.
- Eastern Africa drives Africa's work on health with 62 percent of all regional activities.
- Southern Africa shows unique behavior among developing subregions by giving equal importance to poverty reduction and education activities.

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3   Note that the Caribbean and Central Africa have been excluded, as sample sizes for these subregions are less than 2.5 percent of the total number of cases. All charts and tables depicting subregions in this report exclude this data. The total cases for all subregions under analysis is 1,358.

- Latin America has the fewest health-related activities, particularly in Central America.
- Industrialized countries have little activity in governance.
- Western and Southern Africa also undertake minimal governance-related activity.
- South America has a notable gap when it comes to supporting health activities.

We now turn to the analysis of each of the four development categories, which are arranged by the sample size and not by subject relevance.

3.2 Poverty reduction

In this section, we will examine the drivers that make the poverty reduction development category so predominant. We learned in the previous section that activities in Africa are one of the drivers, compounded by the fact that both Eastern Africa and South America account for most of these activities across the developing subregions, sans industrialized countries.

To refine our analysis we will examine the distribution of poverty reduction subcategories, namely e-business, private sector, small and medium enterprise development, MDGs, inclusive development, financial inclusion and women's empowerment by region and subregion.

3.2.1 Overview of activities

Figure 6 corroborates that Africa drives most of the poverty reduction activities, followed by Latin America. Figure 7 shows the subregional breakdown and confirms that Eastern Africa and South America together encompass 72 percent of all activities (710 cases) under poverty.

3.2.2 Poverty subcategories

Figure 8 depicts the overall distribution of poverty subcategories. Three subcategories - private sector development, MDGs and inclusive development - account for almost 80 percent of all activities and thus are the main

**Figure 6: Distribution of Poverty–Related Activities by Region**

- Africa
- ICs
- LAC

304
31.6%
22.6%
217
45.8%
441
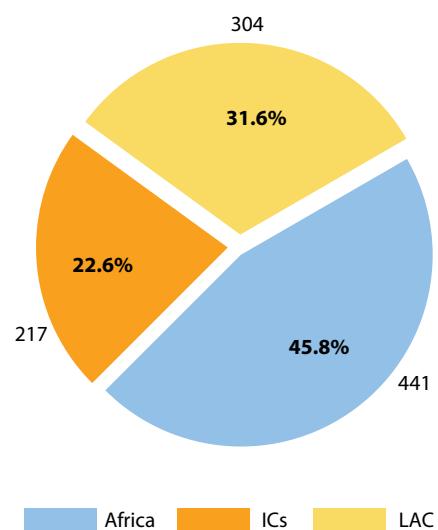
Figure 7: Distribution of Poverty–Related Activities by Subregion

- Eastern Africa
- Central America
- Western Africa
- Southern Africa
- South America

drivers of overall poverty reduction work. The remaining categories report relatively little activity, particularly those related to women's empowerment, which claims the bottom spot.

Drilling down by regions to distill the analysis a bit more, figure 9 shows that Africa is the prime mover for the three top poverty reduction subcategories mentioned above, with strong support from activities in Latin America, excluding inclusive development. In effect, the African region leads in inclusive development (57%), private sector development (49%) and MDGs (47%), while only having a sample share of 40 percent of total cases. Africa also leads in financial inclusion efforts - contributing almost 54 percent of all cases - although the overall share of this subcategory is just eight percent. On the other hand, women's empowerment remains rock bottom across all regions, with Latin America reporting zero activities related to this area of work.

Looking within regions, we note that all three regions also prioritize the top three poverty subcategories. In Africa alone, private sector development, MDGs and inclusive development account for 86 percent of all in-region activities, while they comprise 78 percent of all work in South America. Industrialized countries have activities more evenly distributed with MDGs (16%), e-business (15%) and inclusive development (17%) having important shares outside of private sector development (32%).

Looking at subcategories by subregions in figure 10, trends remain the same, with private sector development leading activities within the subregions and Eastern Africa and South America comprising 75 percent of all activities. South America in turn is the main driver for overall MDG-related work with 43 percent, while Eastern Africa drives

Figure 8: Distribution of Poverty Subcategories

- e–business
- MDGs
- Inclusive dev.
- SME dev.
- Private sect. dev.
- Women's Empwmt
- Financial Inclusion
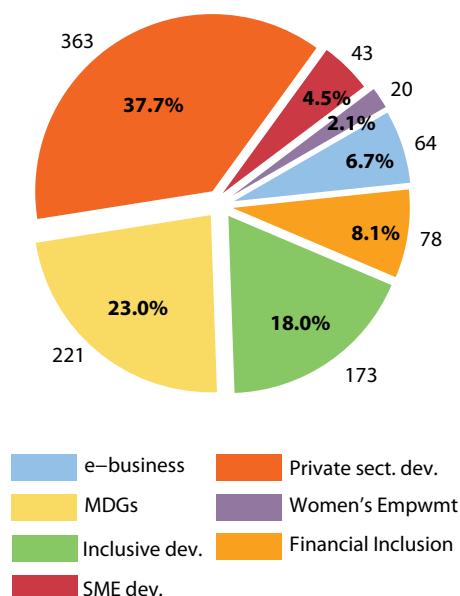
Figure 9: Distribution of Poverty Subcategories by Region
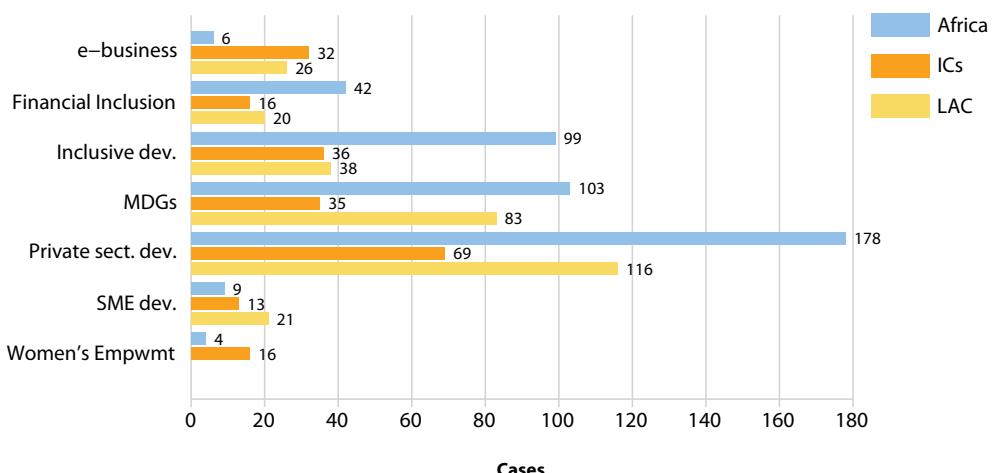
Figure 10: Distribution of Poverty Subcategories by Subregion
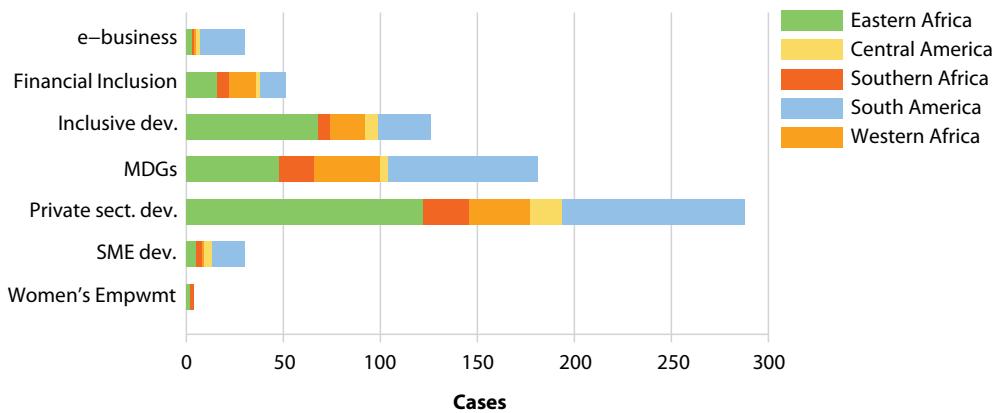
inclusive development across the board with 54 percent of the total. Once again, activities related to women's empowerment have a very poor showing, reporting a diminishingly small share (0.6%) of work. Financial inclusion activities are led by both Eastern and Western Africa, which together comprise 59 percent of the total.

Within regions, the trends are similar, with the exception of Western Africa where MDG activities are at the top with 34 percent. In similar fashion, inclusive development is second in Eastern Africa (26%) and Central America (19%), ahead of MDG-related work.

3.2.3 Summary

Trends

- Private sector development is generating the most mobiles-for-development activity in the poverty reduction subcategory across all regions, followed by MDGs and inclusive development activities.

- Africa is the main driver for the above, contributing at least 49 percent to each category.

- Africa also leads in financial inclusion, comprising 54 percent of all activities in this area.

- Eastern Africa and South America account for 75 percent of all subregional activities in private sector development.

- Western Africa is the only subregion where MDG work is top priority.

Gaps

- There is a clear gap in activities across the board in the area of women's empowerment.

- Small and medium enterprise development and e-business activities are weak in all regions and subregions, particularly in Africa which report little activity in these areas.

- Other than Eastern Africa and South America, financial inclusion activities are weak in all subregions.

3.3 Education

In this section, we will examine the factors associated with mobile activities related to education in our sample. The overview section indicated that industrialized countries lead in activities related to education, while it is second in importance in the developing country regions. To refine the analysis, we will examine the distribution of education subcategories, namely ICTs in education, lifelong learning, m-learning and open knowledge.

3.3.1 Overview

Figure 11 confirms that industrialized countries

Figure 11: Distribution of Educational Activities by Region

Legend:
- ICs
- RBEC
- RBAP
- RBA
- RBLAC
- RBAS

(Values shown: 157 — 26.6%; 7; 9 — 1.2%; 1.5%; 37 — 6.3%; 237 — 40.1%; 144 — 24.4%)
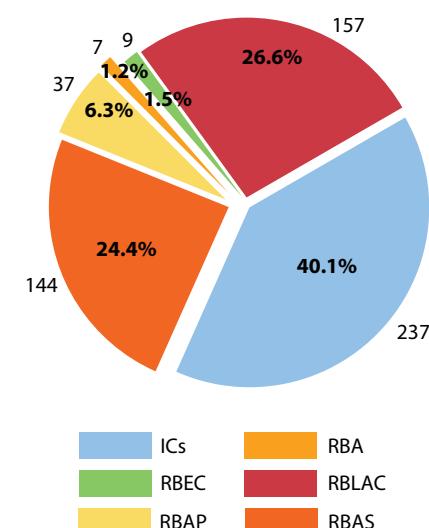
Figure 12: Distribution of Educational Activities by Subregion

Eastern Africa	South America
Central America	Western Africa
Southern Africa	
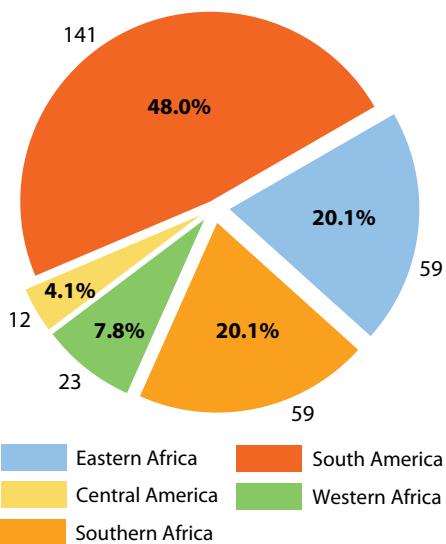
have the largest share of activities related to education in a subsample comprised of 538 cases. Figure 12 shows that South America comprises almost 50 percent of all subregional activities, followed by Eastern and Southern Africa.

3.3.2 Education subcategories

Figure 13 depicts the overall distribution of activities in the subcategories of education - m-learning, lifelong learning, open educational resources and ICTs in education. Lifelong learning has the largest slice of all education activities (43%), while m-learning appears to not have really taken off and reports the smallest share of activities (14%). The question here is if the same patterns hold across regions and subregions.

Looking first at the regional distribution, depicted in Figure 14, we can see that, unlike for poverty reduction where private sector development activities dominated across the board, there is no common interregional trend for education. Across regions, lifelong learning is most significant in industrialized countries (59%), followed by Africa (30%), while Latin America seems to concentrate on ICT in education activities (73%). Industrialized countries also lead on open knowledge (54%) and m-learning (49%). In terms of the latter subcategory, this implies that m-learning activities in developing countries are relatively insignificant vis-a-vis other educational activities.

Within regions, we note similar patterns, with lifelong learning leading in industrialized countries and Africa, with 57 percent and 49 percent respectively. Sixty percent of all activities in Latin America support ICTs in education, while only 11 percent are focused on m-learning. With Africa, ICTs in education and open knowledge fare well, placing second after lifelong learning.

Figure 13: Distribution of Education Subcategories

ICT in Education	Lifelong Learning
m–learning	Open Knowledge
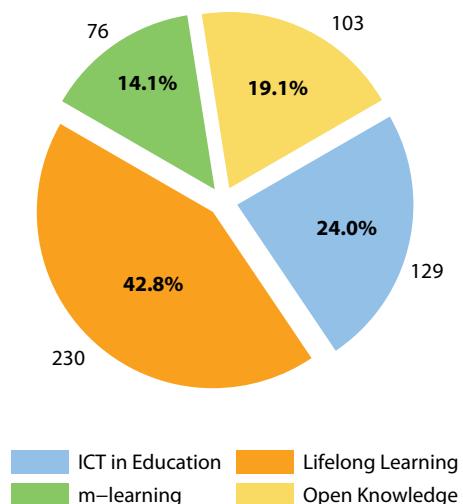
Figure 14: Distribution of Education Subcategories by Region

Legend: Africa, ICs, LAC

Subcategory	Africa	ICs	LAC
ICT in Education	26	9	94
Lifelong Learning	70	135	25
m–learning	22	37	17
Open Knowledge	26	56	21

Cases (x-axis: 0, 20, 40, 60, 80, 100, 120, 140)
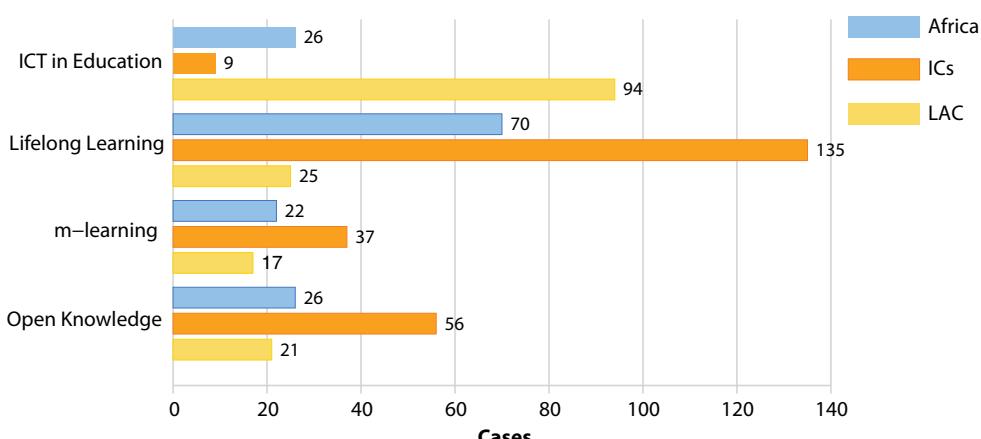
Figure 15: Distribution of education subcategories

Legend: Eastern Africa, Central America, Southern Africa, South America, Western Africa

Subcategories: ICT in Education, Lifelong Learning, m–learning, Open Knowledge

Cases (x-axis: 0, 20, 40, 60, 80, 100, 120)
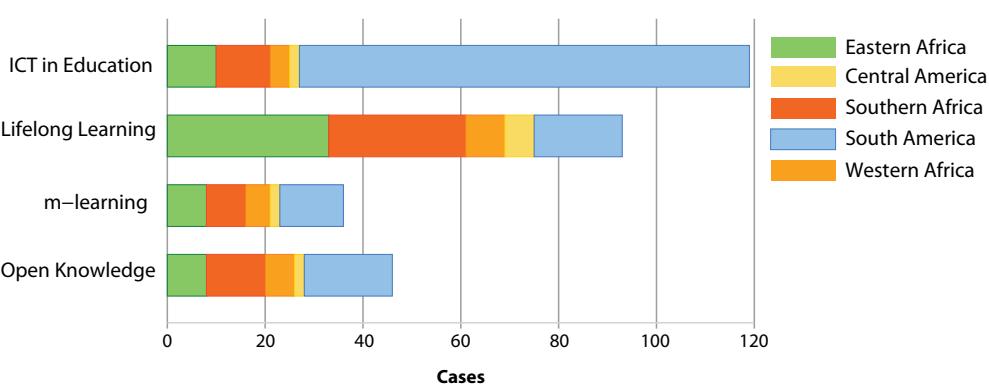
Figure 15 shows education-related activities at the subregional level. Across subregions, we note that Eastern (36%) and Southern Africa (30%) drive lifelong learning activities, while South America alone accounts for 77 percent of all ICT in education work across all subregions in the developing world. South America also leads in open knowledge (39%) and m-learning (36%) activities - though the latter only comprises 12 percent of all educational cases in all subregions.

Within subregions, lifelong learning dominates in all subregions except South America, where ICTs in education represent the largest share of activities (65%). In Africa, lifelong learning represents the most activity within Eastern Africa (56%) and Southern Africa (47%). In Latin America, lifelong learning represents 50 percent of activities in Central America.

3.3.3 Summary of education

Trends

- Industrialised countries have the largest share of activities related to education.
- Overall, lifelong learning represents 43 percent of all interregional activity.
- In Africa, lifelong learning is the most significant area of work (49%), while by comparison, ICTs in education (60%) are more important in Latin America.
- Eastern Africa, Southern Africa and South America together constitute 88 percent of educational activities.
- Eastern and Southern Africa together account for 91 percent of all Africa's lifelong learning activities.

Gaps

- Africa has the fewest education-related activities vis-a-vis the other two regions.
- m-Learning appears to have not taken off in the developing regions and is still relatively insignificant in overall mobiles-for-development activity.
- ICTs in education are relatively small in all of the African subregions and in Central America.

3.4 Health

In this section, we will examine the factors driving mobile-based health activities in our sample. The overview section above showed that Africa accounts for the largest slice of activities in this area, with Eastern Africa contributing 64 percent to the total in the region. Latin America in turn shows relatively little interest in this area. To refine the analysis we will examine the distribution of activities among the health subcategories, namely ICTs in health, HIV and development, m-health and strengthening health systems.

3.4.1 Overview

Figure 16 shows the overall distribution of the 262 health-related cases in our sample

**Figure 16: Distribution of Health Activities by Region**
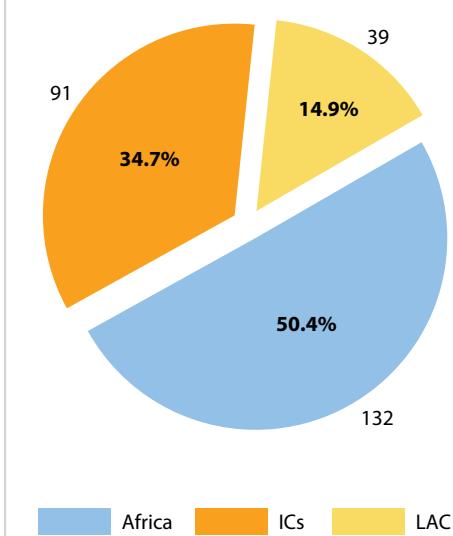
- Africa
- ICs
- LAC

Figure 17: Distribution of Health Activities by Subregion

Legend:
- Eastern Africa
- Southern Africa
- Central America
- South America
- Western Africa
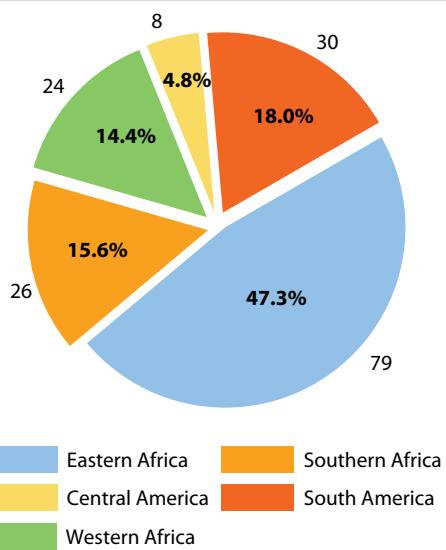
among the three regions and confirms that the African region leads in this development category, constituting over 50 percent (132) of all activities, followed by 35 percent (91) from industrialized countries, and 15 percent (39) from Latin America.

Figure 17 shows the subregional composition of activities, and though the number of health activities in South America is relatively small, it is still second after Eastern Africa. The size of the sample in the subregion might explain this, as South America has more cases than the other subregions, with the exception of Eastern Africa.

3.4.2 Health subcategories

Looking at the subcategories in health, figure 18 shows the overall distribution. HIV and development (53%) and ICT in health (29%) are the dominant areas of work, while m-health is surprisingly small. The former two subcategories are thus are the main drivers of overall health work. Let us see if the same holds when we look at regional and subregional distributions.

Figure 19 shows that there is actually great variation across regions when it comes to health-related work. Across regions, Africa leads on HIV and development, with 67 percent of activities followed by Latin America (19%), while industrialized countries have more activities related to ICTs in health (70%) and m-health (41%). Within regions, while HIV and development is key in the African region (70%) and Latin America (67%), ICTs in health are more significant in industrialized countries, representing 58 percent of all in-region activities.

Figure 18: Distribution of Health Subcategories

Legend:
- HIV & Developement
- m–health
- ICT in Health
- Health systems

Figure 19: Distribution of Health Subcategories by Region

Figure 19: Distribution of Health Subcategories by Region

Legend:
- Africa
- ICs
- LAC

HIV & Developement: 92 (Africa), 20 (ICs), 26 (LAC)
ICT in Health: 19 (Africa), 53 (ICs), 4 (LAC)
m−health: 12 (Africa), 13 (ICs), 7 (LAC)
Health systems: 9 (Africa), 5 (ICs), 2 (LAC)

Cases
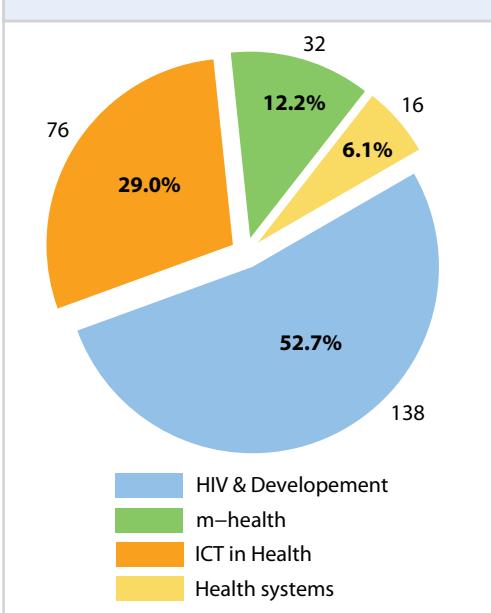
Figure 20: Distribution of Health Subcategories by Subregion

Figure 20: Distribution of Health Subcategories by Subregion

Legend:
- Eastern Africa
- Central America
- Southern Africa
- South America
- Western Africa

Categories: HIV & Development, ICT in Health, m−health, Health systems
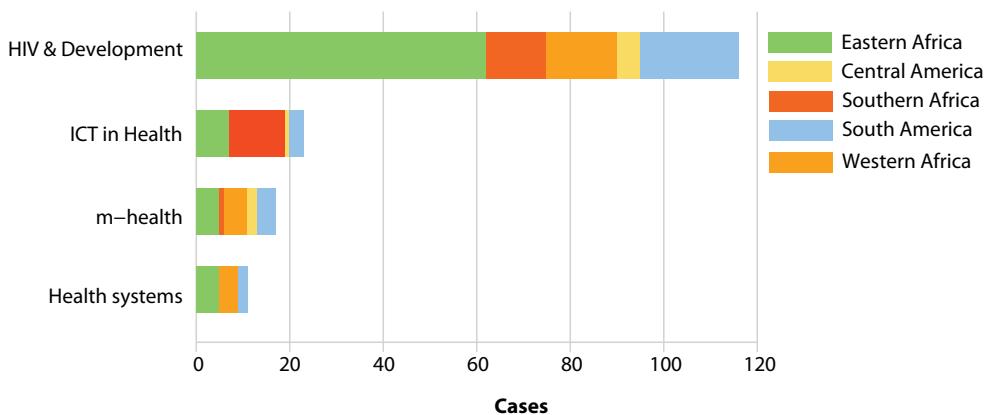
Cases

Looking at subregions, figure 20 shows that Eastern Africa is the main driver for all work in HIV and development, with 53 percent of the overall total cases. Southern Africa in turn drives work on ICTs in health (52%), though ICTs in health are a distant second in the overall subcategory rankings. While there are few activities related to m-health in all the developing country subregions, HIV and development leads within all the subregions.

3.4.3 Summary of health

Trends

- Overall, Africa captures more than half of all health activities in the sample.
- HIV and development is a key area of work in both the African and Latin American regions, and accounts for more than 60 percent of all intra-regional work.
- By comparison, industrialized countries prioritize activities related to ICTs in health.
- Eastern Africa drives most of the HIV and development work, with almost 54 percent of total activities.
- HIV and development is key in Eastern Africa (79%) and South America (70%), which together comprise 72 percent of all work in this subcategory.

Gaps

- There is a clear gap when it comes to activities related to m-health, even in industrialized countries.
- ICT in health interventions are almost non-existent in Latin America, nor is there any activity reported in Western Africa.
- Africa reports the smallest share of regional m-health activities, with Southern Africa reporting only one case in this subcategory.
- There are no activities on health systems in Central America and Southern Africa.

3.5 Governance

In this section, we present an analysis of the drivers for the governance category, which constitutes the smallest subsample of the four categories. As noted in the overview, Latin America represents 45 percent of all activities related to governance, followed by Africa with 38 percent. Surprisingly, industrialized countries represent only 17 percent of all governance cases in the subsample. To further refine the analysis, we will examine the distribution of governance subcategories with activities related to access to information and e-governance, access to justice and human rights, anti-corruption and public administration, civic engagement, elections and legislatures,

Figure 21: Distribution of Governance Activities by Region

- 104 — 45.2% (LAC)
- 87 — 37.8% (Africa)
- 39 — 17.0% (ICs)

Legend: Africa | ICs | LAC
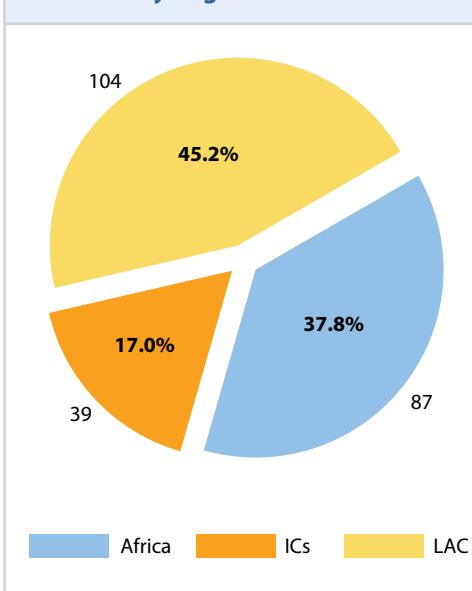
Figure 22: Distribution of Governance Activities by Subregion

73 — 39.0%
54 — 28.9%
29 — 15.5%
19 — 10.2%
12 — 6.4%

- Eastern Africa
- Central America
- Western Africa
- Southern Africa
- South America
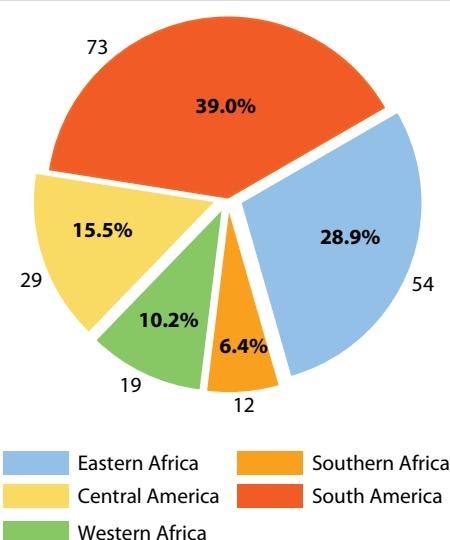
and local governance.

3.5.1 Overview

Figure 21 depicts overall governance activities (a total of 230 records) and corroborates that Latin America leads in this category. Figure 22 considers the developing country subregions and shows that South America has the largest slice of the pie, with four of every ten activities in governance undertaken by this subregion.

We will now analyze the governance subcategories that are most important and determine if there are variations on the above trends by region and subregion.

3.5.2 Governance subcategories

Figure 23 shows the distribution of activities related to the six governance subcategories. Half of all governance activities are focused on access to information and e-governance. All other subcategories receive little support throughout, with the notable exception of civic engagement, which represents 18 percent of total activities. Does the same hold for regions and subregions?

Figure 24 shows that it does, with some caveats. Across regions, Latin America leads on access to information and e-governance with almost 44 percent of all activities, followed by Africa (38%). Latin America also leads in all the other governance subcategories with the exception of anti-corruption and elections, where Africa is the major contributor - although levels of engagement here are relatively small.

Within regions, access to information and e-governance also take the top spot, led by industrialized countries (54%). Only Latin America reports less than 50 percent in this subcategory, thanks in part to the more diverse governance portfolio in that region.


Figure 23: Distribution of Governance Subcategories

8 — 3.5%
30 — 13.0%
42 — 18.3%
24 — 10.4%
11 — 4.8%
115 — 50.0%

- Info. access/e–gov
- AntiCorruption/PAdmin
- Elections/Parls.
- Justice/HRights
- Civic Engagement
- Local Governance
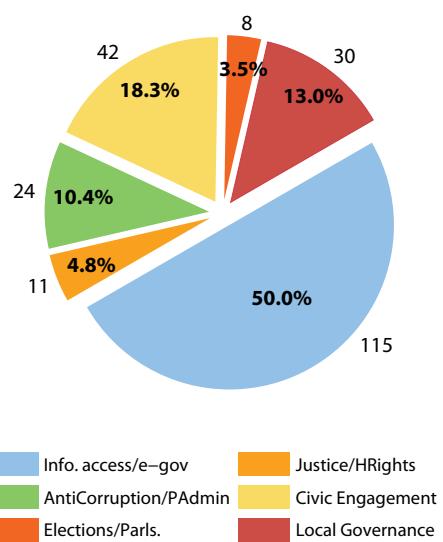
Figure 24: Distribution of Governance Subcategories by Region

Chart data (Cases by subcategory):
- Info. access/e−gov: Africa 44, ICs 21, LAC 50
- Justice/HRights: Africa 4, ICs 1, LAC 6
- AntiCorruption/PAdmin: Africa 14, ICs 2, LAC 8
- Civic Engagement: Africa 11, ICs 7, LAC 24
- Elections/Parls.: Africa 6, LAC 2
- Local Governance: Africa 8, ICs 8, LAC 14

Legend: Africa, ICs, LAC
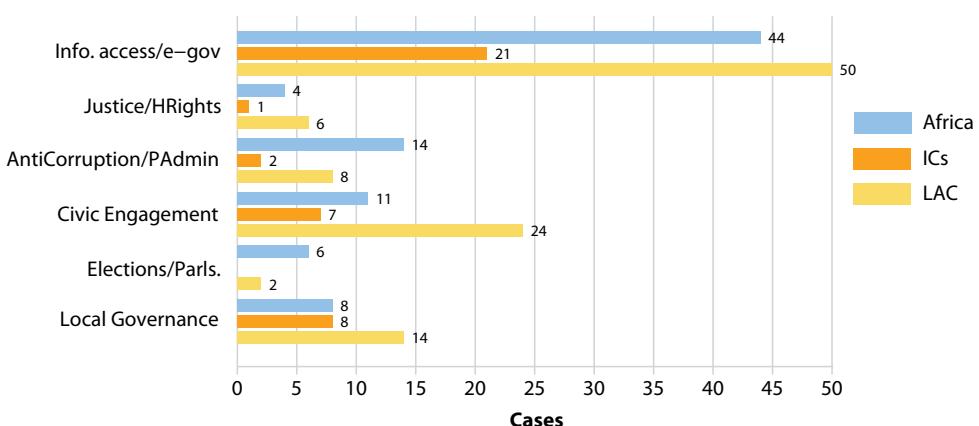
Figure 25: Distribution of Governance Subcategories by Subregion

Legend: Eastern Africa, Central America, Southern Africa, South America, Western Africa

Subcategories: Info. access/e−gov, Justice/HRights, AntiCorruption/PAdmin, Civic Engagement, Elections/Parls., Local Governance
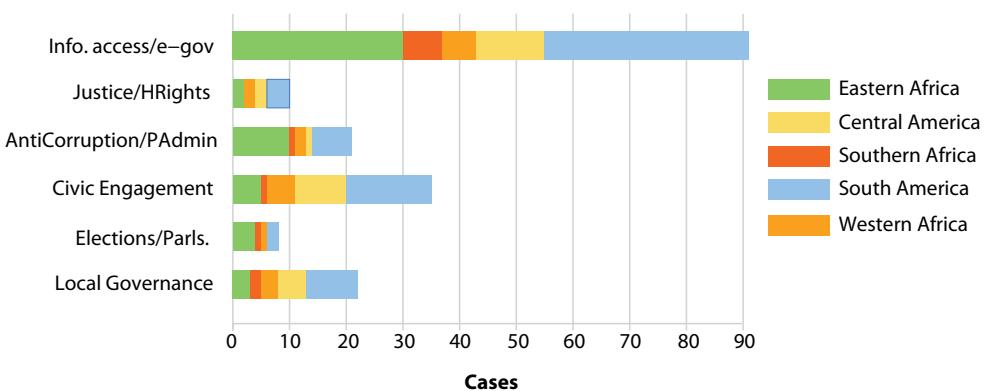
Africa leads on anti-corruption and public administration activities (16%), while local governance places second in industrialized countries (21%). There are multiple gaps in all regions in most other governance subcategories.

Figure 25 shows similar trends and gaps by developing country subregions. Across subregions, and as expected, South America leads access to information activities overall with 40 percent of the interregional total, although Eastern Africa is also a major contributor here (33%). South America leads as well in civic engagement, representing 43 percent of all governance activities, while Eastern Africa has more activity in anti-corruption and public administration, with 48 percent.

Access to information and e-governance activities are also prevalent within all subregions. This area represents 58 percent of governance activities in Southern Africa, and 49 percent of activities in South America. Civic engagement is second in most subregions, with the

exception of Southern Africa where local governance activities are more relevant, representing 17 percent. Beyond e-governance and local governance, Southern Africa has little to no activity in the other governance categories. Overall, other than access to information and civic engagement, the other governance subcategories are relatively small in the subregions.

3.5.3 Summary of governance

Trends

- Latin America leads in governance-related activities, and represents 45 percent of all interregional activities.
- Access to information and e-governance activities dominate work in all the regions and represent at least 48 percent of activities.
- Civic engagement is the second most relevant governance subcategory, but represents only 18 percent of the overall total.
- South America and Eastern Africa account for 73 percent of all access to information and e-governance subregional activity.

Gaps

- Other than access to information and e-governance and civic engagement, there are gaps in all other governance subcategories both in regions and among subregions.
- Access to justice and human rights, and elections and legislatures are the weakest of all subcategories, with little reported activity at the regional and subregional levels.
- Southern Africa reports little activity in all governance subcategories, including access to information and e-governance.

4. Conclusions and way forward

The preceding analysis of our sample has shown the complexities of mobiles for development (M4D) work in two key developing regions, Africa and Latin America and the Caribbean, and in developed countries. While the data was not obtained in a fully random fashion, the sheer volume of information, coupled with an analysis of the data in relation to the four core development areas, has provided important insights on the type of M4D work being undertaken by a variety actors around the world. It has also highlighted critical gaps that need to be addressed by development practitioners, social innovators and app developers and the private sector.

The first key outcome of the analysis is the rather wide disparity of activities among the four core development categories. Poverty reduction activities are pervasive, representing half of all work, while activities in health and governance lag far behind. There is also a fair amount of activity related to education, which represents one out of every four interventions.[4]

Second, each region appears to emphasize a particular category of activity, suggesting there is a regional flavor to each area of development: the African region drives poverty reduction activities, Latin America leads in governance, and education-related activities are the priority in industrialized countries. The African region and industrialized countries both reported having a variety of health-related M4D activities as well, which were mostly absent in the Latin American region.

Third, looking at the development subcategories, we found that private sector development (poverty), lifelong learning and ICTs in education (both in education), HIV and development (health), and access to information and e-governance (governance) represent the most prominent activities in each respective development category. And again, we found that specific regions are the engines for these subcategories: Africa for private sector development, lifelong learning (excluding industrialized countries) and HIV and development, and Latin America for ICTs in education and access to information and e-governance.

We also found that Eastern African and South America represented the largest and most dynamic of the five subregions. Both subregions are the prime movers for most of the categories and subcategories highlighted above, with some notable exceptions. Western Africa, for example, is the only subregion where MDG-related activities are the top priority in the poverty reduction subcategory, even outweighing private sector development, which is the overwhelming priority in other subregions.

The above trends can help depict the possible gaps that exist at all these levels as well. Here, we

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4   Our poverty sample bias can partially explain these differences, but still the gap is too large to be the result of just data collection.

first note the rather surprising gaps related to work on e-business (which includes m-business), m-learning and m-health, particularly in our two developing country regions. Take the case of m-learning for example. Given the large volume of activities on longlife learning, we can conclude that developers and practitioners are indeed using more traditional platforms to provide educational materials. The same may be said about m-health and e-business. The other factor to consider here is the possibility that these innovative areas are still taking off and could be thus growing much faster in the next few years.

The poor showing of gender equality and women's empowerment activities is perhaps the most important finding of this report. Our two developing regions, Africa and Latin America, together reported only four cases in this area, all of them in Africa. While certainly the sample could have introduced some of the bias here, the gap is too wide to be fully explained away in this fashion and highlights an area that could be strengthened with more forward-thinking M4D policies in gender equality and women's empowerment.

In the era of social media, crowdsourcing and e-democracy, it is surprising that governance activities are at the bottom of our development category pyramid, especially for all the governance activities pertaining to the subcategories other than access to information and e-governance and civic engagement. There were few reported applications supporting elections or access to justice and human rights in any of the regions and subregions, perhaps indicating that these areas have fallen out of favor. Or another plausible explanation is that these areas demand more sophisticated mobile applications and require working closely with public institutions. Platforms such as Ushahidi can easily address some of the basic concerns here, and it may be that governments are still reluctant to use open source platforms which, in their view, they cannot yet fully master or control.

One emerging area that we did not consider in our study is environment and development. As the UN prepares to launch a new Post-2015 development agenda, a new set of Sustainable Development Goals is expected to be approved by September of 2015, and environmental and natural resource use issues will be important drivers here. Mobile actors should engage here sooner rather than later.

Key recommendations

All of the above gives us solid ground to make a few key recommendations that can be endorsed or supported by all players in the mobiles for development ecosystem. They are:

- Local and subregional contexts must be taken into account before policy and application development recommendations are made in specific countries, subregions and regions. A one-size-fits-all approach is doomed to fail in this space.

- Taking stock and mapping current activities supported by local developers and practitioners are essential steps before new activities are initiated, or ongoing ones supported. This report is a first step in this direction but more localization is needed to find synergies and identify gaps at the local level.

- In this light, the Latin American region needs to do more to support health-related M4D activities, while in the African region, there should be more focus on supporting governance activities other than access to information and e-governance.

- Women's empowerment and gender equality activities need more support across the board. We not only need incentives in this area of work but also more women working here as either developers or practitioners, or both.

- Emerging areas such as m-business, m-health and m-learning need special attention either to accelerate their takeoff or to mainstream them in the development and developer communities.

- Large areas of work such as private sector development are now prone for impact assessment in order to draw out good and not-so-good practices and lessons learned. Players in this sector should consider supporting these exercises as this can in turn help emerging areas.

- There is a critical gap when it comes to sustainable development and mobiles for development. Developers, practitioners and partners in the private sector should try to openly address such gaps.

Annex I: Overview of the sample

Sample analysis and classification

After cleaning the initial data set of close to 10,000 records, a sample of 2,984 records was obtained. The sample includes application developers, academics, government and private sector actors, NGO and international organization representatives and other mobiles-for-development practitioners from 141 countries. Since the focus was on small scale mobile innovators and applications, the sample does not include applications made or sponsored by large multinational corporate actors, such as banking institutions, mobile operators and private health service providers. The final data sample has 2,478 unique records, subtracting organizations and practitioners that have several applications in one particular country, or applications that are used by the same organization in different countries. There are 1,379 applications identified in 102 countries, and another 22 applications are global or regional.

Figure 26: Sample Distribution by Organization Type

Academia	App Developer
Government	Int. Organization
Civil Society	Private Sector

Sample distribution by UNDP region and subregion
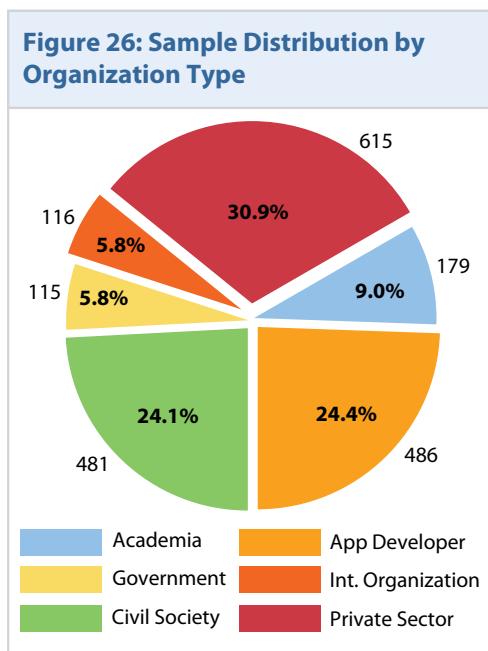
The regional analysis was conducted using UNDP developing country regions and industrialized countries. The African region constitutes more than 40 percent of the total sample, while Latin America and the Caribbean make up more than 30 percent. Looking at the subregions, Eastern Africa constitutes 57 percent of activities in the African region, while Western Africa accounts for 21 percent, and Southern Africa, 20 percent. By comparison, in Latin America, South America accounts for 82 percent of activities, while Central America constitutes 14 percent of total activities in the region, and the Caribbean equals four percent of the sample.

Sample distribution by type of organization

An analysis of the sample by sector shows that the private sector constitutes the greatest percentage of the sample (31%), followed by app developers (24%) and civil society (24%). Private sector activity is concentrated in Africa (53%). The research sample also shows a concentration of app developer activity in Latin America (44%), industrialized countries

(30%), and Africa (26%). In the civil society sector, Africa leads with 42 percent followed by industrialized countries with 37 percent. The government sector has the least number of cases, and is led by Latin America with 50 percent of cases, followed by Africa with 29 percent. Within regions, civil society organizations lead in industrialized countries (%), followed by app developers (25%) and the private sector (23%). By contrast, in Africa, the private sector leads 41 percent of activities, followed by civil society (25%) and app developers (15%). In Latin America, app developers are the leading sector with 35 percent, followed by the private sector (25%) and civil society (17%).

Figure 27: Sample Distribution by UNDP Development Category
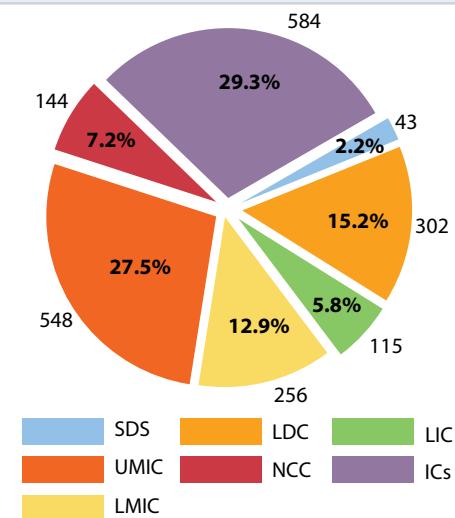
Sample distribution by UNDP income categories

The distribution of the sample by UNDP income categories shows that industrialized countries (IC) make up 29 percent of the sample, closely followed by upper middle income countries (UMIC), which account for 28 percent of the sample.

Least developed countries (LDC) make up around 15 percent, while lower middle income countries (LMIC) constitute around 13 percent. Countries classified as special development situations (SDS) account for under five percent of the sample (2%).

Figure 28: Sample Distribution by World Bank Income Categories
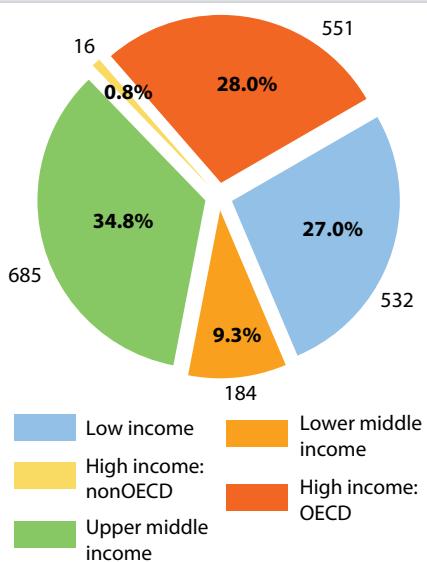
Sample distribution by World Bank income categories

Analyzing the sample by World Bank income categories shows that the greatest number of records (685) are from upper middle income countries, accounting for 35 percent, followed by high income/OECD countries (551) with 28 percent and low income countries (532) with 27 percent. Lower middle income countries (184) account for nine percent, while high income/non OECD countries (16) make up less than one percent.

Annex II: List of sources

The following organization contributed data to the master data set:

- Groupe Speciale Mobile Association (GSMA): http://www.gsma.com/
- infoDev/World Bank: http://www.infodev.org/
- International Telecommunications Union and the World Summit on the Information Society: https://www.itu.int/wsis/index.html
- Telefonica/m-Inclusion: http://www.m-inclusion.eu/
- ICT4Agriculture and the Technical Centre for Agricultural and Rural Cooperation: http://ict4ag.org/
- The Center for Health Market Innovations: http://healthmarketinnovations.org/
- Economic Commission for Latin America/La Comisión Económica para América Latina (Cepal): http://www.eclac.cl/
- International Institute for Community Development: http://www.iicd.org/
- University of Pretoria: http://web.up.ac.za/
- Knowledge Lab (kLab) Rwanda: http://klab.rw/
- ESPRIT University: http://www.esprit.ens.tn/

Additional sites where data was obtained:

- Imagenecup: http://www.imaginecup.com/
- Premios Estudiante Emprendedor: http://www.premioestudianteemprendedor.org/
- Wayra: http://wayra.org/en
- Apps World: http://www.apps-world.net/
- Tech in Asia: http://www.techinasia.com/
- iHub: http://www.ihub.co.ke/rolodex
- Guru: http://www.guru.com
- Appbrain: http://www.appbrain.com/
- Desarrollando America Latina: http://desarrollandoamerica.org/
- mLab Southern Africa: http://www.mlab.co.za/
- Social Innovation Camp: http://sicamp.org/
- Girls in ICT: http://girlsinict.org/
- Ideas Africa: http://www.ideasafrica.com/
- Afrilabs: http://afrilabs.com/
- Aleti: http://www.aleti.org/
- Aseti: http://www.aseti.org/
- NGO Tunisia: http://ngotunisia.org/
- Freelancer: www.freelancer.com

Annex III: Development categories and subcategories

Below are the development categories and subcategories used in this research. These subclassifications were made based on areas of work undertaken by UNDP, UNESCO, WHO and the Global Fund.[5]

Developing Categories

Education	Poverty reduction
▪ ICTs in education ▪ m-Learning ▪ Lifelong learning ▪ Open educational resources	▪ e-Business ▪ Financial inclusion ▪ Inclusive development ▪ MDGs ▪ Private sector development ▪ Small and medium enterprise development ▪ Women's empowerment
Governance	**Health**
▪ Access to information and e-governance ▪ Access to justice and human rights ▪ Anti-corruption and public administration ▪ Civic engagement ▪ Elections and legislatures ▪ Local governance	▪ m-Health ▪ HIV and development ▪ ICTs in health ▪ Strengthening health systems

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5   UNDP, UNESCO, WHO and the Global Fund: http://www.undp.org/content/undp/en/home/ourwork/povertyreduction/focus_areas/ , http://www.unesco.org/new/en/unesco/themes/icts/, http://www.who.int/entity/en/ http://www.theglobalfund.org/en/

Description of development subcategories

Definitions and descriptions	Poverty reduction
Enhance developing country capacity to integrate into the global economic system in a way that prioritizes human development and reduces poverty and inequality. Includes applications that promote trade among countries and regions.	e-Business
Support for developing country governments to access new sources of finance. Includes applications and organizations working in mobile money.	Financial inclusion
Support rural development. Includes applications that support agriculture. Support participation of local actors in development - community leaders, local government actors, civil society activists, farmers and entrepreneurs. Ensure natural resource wealth is used to improve people's lives.	Inclusive development
Raise awareness of MDGs and advocate for countries and sub-national regions to adopt and adapt to MDGs. Includes application that support achieving the MDGs..	MDGs
Support private sector development. Includes applications that support corporate development.	Private sector development
Support development of small and medium enterprises with new technologies. Includes applications that strengthen small and medium enterprises in developing countries.	Small and medium enterprise development
Support women in planning, budgeting and policy-making processes. Includes applications that promote economic rights and opportunities for women and girls.	Women's empowerment
	Education
Help create a skilled workforce and facilitate social mobility that supports individuals to compete in the global economy. Includes applications that support the education sector via ICTs. Support teachers and their continuing professional education and training to achieve quality education outcomes. Includes applications and tools that support teachers and educators. Support management, planning and evaluation of education systems. Support national governments to integrate ICTs into the education sector. Includes applications that support the development of new education policies.	ICTs in education

Definitions and descriptions	Poverty reduction
Enhance education systems to prepare populations for participation in a knowledge-based economy. Includes applications and tools that use interactive platforms to provide education services. Support the use of mobile technology, either alone or in combination with other ICTs, to enable learning anytime and anywhere. Includes applications with structured content to support formal education.	m-Learning
Support opportunities for people to acquire information, interact, network, address issues of common concern, generate income and participate in society. Includes applications with general content, or those that allow language development (i.e. to learn a native language)	Lifelong learning
Support the development of open educational resources (OER), including teaching, learning and/or research materials available in the public domain or used under an intellectual property license that allows re-use and/or adaptation (e.g Creative Commons).	Open educational resources
	Health
Applications and tools that leverage mobiles for health programming.	m-Health
Mainstream attention to HIV and health into gender equality activities related to poverty reduction and broader efforts to achieve and sustain MDGs. Promote attention to the role of legal environments in facilitating stronger HIV responses, and ensure inclusion/empowerment of people living with HIV and marginalized populations in national and local HIV responses. Fight spread of HIV, tuberculosis and malaria.	HIV and development
Measure performance and improve programme results. Gather necessary information to watch potential health risks and keep track of the spread of illnesses especially across international lines. Use of health regulations to ensure food safety, limit the spread of diseases through environmental mismanagement, and safeguard the use and misuse of antibiotics.	ICTs in health
Improve/strengthen health systems in particular to reach poor, underserved areas, make healthcare accessible to all, and improve health care and disease prevention.	Strengthening health systems
	Governance

Definitions and descriptions	Poverty reduction
Support efforts that foster access to information for all people, with a focus on participatory approaches. Includes applications that promote e-administration, e-service delivery and e-participation with a people-centred and pro-poor approach.	Access to information and e-governance
Empower the poor and marginalized to seek response and remedies for injustice. Improve legal protection, legal awareness, legal aid and counsel, adjudication, enforcement, and civil society and parliamentary oversight. Application to strengthen linkages between formal and informal structures. To support enhancement of systems and institutions to promote and protect human rights.	Access to justice and human rights
To support the strengthening of public administration institutions. To support citizens and institutions to join forces and scale-up efforts to fight corruption, including implementing strong institutional policies and engaging in collective action. Applications, initiatives and tools relevant to implementing the UN Global Compact's 10th principle.	Anti-corruption and public administration
To enable citizens to participate in decision-making processes.	Civic engagement
To support development of systems and mechanisms to promote credible and inclusive elections. Applications to encourage political participation of vulnerable and marginalize groups. To build the capacity of legislators and technical staff. Applications and tools to strengthen parliaments' relationships that benefits the poor and other disadvantage grops	Elections and legislatures
To create opportunities for poor people, women and minorities to participate in the development of their local communities. Applications and tools to improve local government's ability and capacity to become better administrators, raise revenue and deliver high-quality services to accelerate progress towards the MDGs.	Local governance

Sector categories

Each sector of activity was further subclassified, as per categories below.

Private sector	Academia
▪ Banking and finance	▪ Academies
▪ Chambers of commerce/industry	▪ Research institutions
▪ Corporate	▪ Universities
▪ Developers	▪ Other academia
▪ Healthcare providers	
▪ Mobile content providers/mobile providers	
▪ Small and medium enterprise development	
▪ Other private sector	

Civil society	Government
▪ Development organization	▪ Institutions and agencies
▪ Development practitioners	▪ Local government
▪ International development organizations	▪ National government
▪ NGOs	▪ Other government
▪ Practitioners	
▪ Other civil society	

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