

# Towards Aspiration as a Development Indicator: The Case of Information and Communication Technologies

**Abstract**— This paper examines how changes in aspirations among the poor should be understood in the context of ICTD interventions. We argue that aspirations associated with ICTs (or with other interventions) can be seen as interim indicators of development when, and only when, these aspirations stem from enhanced human capabilities rather than simply from stated or distant desires. This entails understanding if and how ICTs and ICT-enabled services open up pathways by which the aspirations of the poor can potentially be actualized.

**Index Terms**— aspirations, capabilities, information and communication technologies, development

## I. INTRODUCTION

It is by now widely accepted that information and communication technologies (ICT) enabled services can bring about rapid economic and social change in developing countries [1]. Expected, and reported, development outcomes from ICT for Development (ICTD) projects include but are not limited to: greater access to markets and market price information [2]; information accessibility [3]; better health care [4]; and more efficient government service provision [1, 5]. At the same time, the ICTD enterprise has been critiqued for not resulting in significantly improved development outcomes, particularly for the poor [6, 7].

The literature reveals, however, that even in the absence of concrete development outcomes for the poor, ICTD projects are frequently associated with newly expressed aspirations. Comments such as “it’s a new world and PCs are the key to success” or “computers changed my life” are regularly reported, especially after a first exposure to ICTs. In such expressions the technologies themselves are spoken of as autonomous actors [8]. These expressions are in part reflections of the enormous hope, mystique and symbolism that ICTs have generated [9]. Media messages in the urbanizing South that advertise computer classes and mobile phones appeal to mass aspirations for a better life, often with the lurking promise of instant benefits (“Change the way the world sees you, take a computer class”). Numerous recent papers and policy documents have suggested that these new aspirations are a positive development for which ICTs can take some credit. But what is the relationship, if any, of these so-called aspirations to development as it is commonly understood?

In this paper we ask: How should changes in aspirations among the poor be understood in the context of ICTD interventions? We use the term “aspiration” in the sense of Appadurai (2004) in which the “capacity to aspire” is not the expression of a want but the capacity to identify the pathways through which a potential want can be actualized. We argue that aspirations associated with ICTs (or with other interventions) can legitimately be seen as interim indicators of development when, but only when, these aspirations stem from enhanced human capabilities rather than from distant desires. Aspirations as capacity are essential components in the will and ability to improve the quality of life. The desired improvements can be symbolic or material; the key requirement is that they be associated with a roadmap by which they can feasibly be achieved. We argue that the ability to identify new capacities and new pathways is necessary for making “aspirations” operational, which in turn is necessary if it is to be a development indicator.

This paper is thus just a first step towards aspirations as a development indicator, especially for the case of ICTDs. We begin by examining how the concept of aspirations has been treated in the broader development literature. In particular, we review a number of cases in the ICTD literature to understand the treatment of aspirations in this field. We then make the case that to take the aspirational component of ICTD seriously, we must show if and how ICTs and ICT-enabled services open up identifiable pathways by which the aspirations of the poor can (at last potentially) be actualized.

## II. ASPIRATIONS AND THE DEVELOPMENT LITERATURE

### A. Development and Aspirations

Development has many definitions but it has always included progress or improvements for the poor. These improvements are inextricably linked to aspiration, but often only implicitly so. From the start, economic growth lay, as it arguably still does, at the foundation of the many understandings of “development”. The key measure of a country’s overall economic performance remains its per capita Gross National Income (GNI) or Gross National Product (GNP). The two assumptions embedded in these measures are that higher levels of per capita GNI will eventually improve the condition of the poor, and that the poor aspire to the betterment of their economic conditions. As Adam Smith put it: “An augmentation of fortune is the means by which the greater part of men propose and wish to better their condition” [10: 140]. Without this premise, GNI per capita could not be justified as a development indicator.

Other definitions of development privilege a reduction in poverty or “pro-poor growth” over increases in the (average) per capita GNI. This type of indicator is reflected in the first Millennium Development Goal which calls for “halving the rate of absolute poverty during 1990-2015” [11: 420]. It also finds expression in propositions that development should be measured as the percentage change in the GNI of the lowest quintile [12]. Macroeconomic theories of growth and development analyze how individuals and households trade off current consumption for future income by saving and investing a portion of their earnings [13]. In all these arguments we find the (often implicit) assumption that people have aspirations for their futures and make rational decisions based on these aspirations subject to a set of constraints.

Moving away from an exclusive focus on income measures, the Human Development Index uses a range of indicators such as health, education or gender equity (e.g. UN Human Development Report 2007/2008 <http://hdr.undp.org/en/>). The most inclusive expression of “development”, and one in which the aspirational content of the term receives explicit acknowledgment, is the now classic *Development as Freedom* [14]. Sen argued for the importance of bringing freedom and dignity into the sphere of conventional economic analysis, and for understanding development as a process of capability enhancement: “A person’s ‘capability’ refers to the alternative combinations of functionings that are feasible for her to achieve. Capability is thus a kind of freedom: the substantive freedom to achieve alternative functioning combinations (or, less formally put, the freedom to achieve various lifestyles)” [14: 75].

Appadurai (2004) goes beyond Sen’s work to define not just feasible functionings as capabilities but the aspiration to function itself as a “capacity”. Appadurai’s understanding of aspirations is novel in two ways. First, it shows that aspirations, properly understood, are more like capabilities (such as skills or knowledge) and less like preferences as understood in economics. Second, Appadurai argues that aspiration is a cultural capacity in that aspirations are situated in the norms and presumptions of what constitutes a good life and of what is possible. What is possible for an individual is at least partly determined by his or her community’s context and history. Appadurai argues that both the poor and the rich can express desire, but that the capacity to aspire is not distributed evenly. The well-off have a more developed capacity to aspire; they are better able to build pathways to connect their ends and means “because they have a bigger stock of available experiences of the relationship of aspirations and outcomes” [15: 68]. Appadurai concludes that the capacity to aspire is thus a “navigational capacity” and the poor lack opportunities to practice using this capacity. It follows that as one’s opportunities change the capacity to aspire and the objects of desire also change. It also follows that poverty can partly be seen as a failure of aspirations [16] and as a failure to acquire relevant information [17]. Appadurai’s construction of aspiration would see development as the strengthening of this cultural capacity, so the poor can seek and gain the resources to overcome their poverty.

### B. ICTD and Aspirations

Unlike the broader development literature in which the role of aspirations is often not explicit, a number of ICTD studies find evidence of altered aspirations in their work. The term “aspiration” is not, however, commonly understood as defined by Appadurai (2004). The relationship of these aspirations to measurable development indicators is either lightly hinted at or not specified at all. In these works ICTs are frequently associated with notions of upward mobility. These visions of mobility are both material and symbolic in their content, reflecting both the potential for economic gains and for the identification with status and modernity that ICTs seem to promise. A range of *expressed* aspirations has been captured in ICTD case studies over a range of geographies.

Burrell and Anderson (2008) show that internet and mobile phone use patterns among Ghanaian immigrants in London could in part be explained by the aspirations that motivated their migration (such as the desire to travel, to be wealthy, or to create businesses). These immigrants used the internet to imagine accessing and learning about other destinations after their emigration from Ghana. Revealing the frequent disconnect between ideas and reality the authors found that computers represented “change and transformation in a way that was abstracted from their utility” [18: 219]. ICTs allowed migrants to feel more modern and their very use symbolized a new way of life in a foreign country.

Radhakrishnan (2007) connects ICTs to newly forming aspirations and to changing views of “being Indian”. The author found that, among the poor in urban India, the image of the financially secure software worker had become the new ideal to which to aspire. She argued that these aspirations reflected larger trends in the country in which knowledge professionals become “producers of individualistic ideologies, which were then consumed by the majority” [19: 157]. Here we find ICTs tied to class-specific expressions of aspirations and of Indian-ness.

Kuriyan and Kitner (2009) examine the extent to which telecenter projects in India and Chile were benefiting women, and were bridging the gender digital divide. The authors found that women were constructing personal identities, and either trying to cross class boundaries or to hold on to their middle class positions, through the use of ICTs. Further, although computer education programs were implemented in the name of the poor, semi-middle class rather than poor women were the dominant user group. The authors found that women participated in computer education programs ostensibly to ensure a better life for themselves and their children. However, few women were able to articulate specific benefits from their telecenter usage or to imagine actual pathways to the better lives that they sought.

In a similar vein, Pal et al. (2007) found that the expression of new aspirations was practically the only tangible outcome of ICTD projects for education. In this study of computer aided learning centers in four rural districts in Karnataka, parents

expressed the value of computer courses in enabling economic mobility even when they did not understand the functions and uses of computers. This sense of value came from having seen people using computers in a range of situations, and against a background of jobs in agriculture losing prestige and value. In this new but somewhat mystifying world, “computers can make you powerful” [20: 5].

In Illiane and Sherry (2008), a study of the informal sector in Morocco, ICTs once again play an aspirational role for individuals. This is a rich ethnographic account of an entrepreneur called Samurai who sold mobile phones in the black market. In addition to the economic aspirations (and gains) associated with these phones, the authors found that ICTs allowed Samurai to engage in what was perceived to be “cleaner” and more prestigious work than his previous career as an auto mechanic. Finally, using and possessing a black market mobile phone gave entrepreneurs the opportunity to (re)assert and aspire to their historically Arab/Muslim identities. Thus “the appropriation of foreign imported goods was, in many ways, as much a political as an economic strategy” [21:249].

The aspirations generated by ICTs in many of these cases are highly varied and culture-specific. Kuriyan and Kitner (2009) see ICT-inspired aspirations as linked to a middle class identity and status. Radhakrishnan (2007) sees the IT worker as producing a modern culture to which the ‘common person’ in India then aspires. Illiane and Sherry (2008) find that ICTs enable entrepreneurs to engage in respectable work and to assume an Arab/Muslim identity. They show that Samurai not only aspires to new identities but that he and his ilk have become an economic force shaping the ecology of commerce for the city. Burrell and Anderson (2008) find that the internet allows migrants to feel part of a foreign world and a globalized lifestyle. Pal et al. (2007) see ICTs being valued as an alternative to declining agriculture and as holding a mystique for rural populations. All of these studies find that ICTs are routinely linked to material aspirations such as incomes, jobs and higher education. However, the pathways by which individuals can actualize the potential of ICT usage are rarely clear. Most of these papers treat aspiration as (individual) expressions of desire or identity and not as a capacity or capability.

### III. TOWARDS ASPIRATIONS AS A DEVELOPMENT INDICATOR

Cases such as those reviewed above illustrate the often symbolic and at times material power of ICTs among the poor and the near poor, but it remains unclear how “aspirations” can be understood or made operational in the context of ICTD. Are aspirations, as feared by Geertz [22], expressions of newly awoken desires that follow major technological and social change, but that can rarely be actualized within the political-economic structures of most societies? In this view, unmet aspirations may be socially more disruptive than no new aspirations at all. Are aspirations to be considered positive outcomes of ICTD interventions because they are necessary (though not sufficient) conditions of poverty alleviation? In

this view, the raising of aspirations through technological or social change is inherently beneficial.

We suggest that the aspirational component of ICTD interventions is symbolically and economically meaningful if, and only if, aspirations are treated as Appadurai’s navigational capacity. The “capacity to aspire” can then be seen as a concrete improvement on the status quo and as a first step on a newly available pathway to get from here to there. The enhanced capacity to aspire, which may be as time- and space-specific as the aspirations themselves, then qualifies as an interim development indicator. Since changes in the final indicators of interest, such as school completion rates, improved health, upward mobility and gender equity may demand a 10-15 year time frame to become visible and measurable, incorporating interim development indicators into policy agendas has considerable value.

How might one recognize and measure an increase in the capacity to aspire with ICT services? One approach would be to ask if poor people use already existing resources differently after exposure to ICT services. Dev (2007) says: “aspiration relates to how people want to be in the future, for which reasons people use their existing capabilities differently from earlier.” For example, imagine that a woman living in rural India participates in a subsidized computer education course provided by the government. She subsequently says, “Now my children can have a better future because I know about computers.” To move from an expression to a capacity this woman could use her newfound computer skills as a tool to navigate between her current situation and her desired outcome. This does not mean that the woman should get a job in the IT industry. But it could mean that she starts saving more money, or using money she was already saving, to send her children to computer classes. Or it could mean that the prestige acquired by learning about computers gives her access to a higher paying job, even if the job does not use her computer skills, and even if she could have performed that job even before taking her computer class. Her capacity to aspire has increased if she can “build a roadmap from where she is, to where she wants to be” [23].

A second approach would be to examine the effect of ICT interventions specifically on “average” members of low-income or marginalized groups. It is not enough, if we take Appadurai seriously, to find enhanced capacities only in individual cases. Such individuals may be especially fortunate, socially connected or motivated outliers – yet vignettes of individual butchers, bakers and candlestick makers are far more common in the ICTD literature than group- or class-based analyses. For example, when ICTs are introduced in rural villages in Kenya for e-learning in classrooms, we would investigate not a handful of best-performing students but the shift in overall aspirations, and if possible, in outcomes, for low income parents and students over time. Are “average” parents more likely to invest in their children’s education and subsequent coursework in villages with e-learning facilities than in those without? Alternatively, when governments, such as in the case of the Magellan program in Portugal, subsidize

the ownership of computers for individual families, how may this shift citizens' aspirations for progress, whether associated with computers or not; and can they articulate any potential pathways to realizing those changes? Understanding aspiration as a navigational capacity, and as a group phenomenon as opposed to an individual one, broadens the scope of development research as well as the scope of development policy.

We note that it is not always obvious what constitutes a "group"; low-income households in geographic proximity may or may not be a coherent community, and people who identify themselves as part of a common group are not "object-like phenomena occupying discrete space" [27]. A group is defined by certain (cultural or economic) traits that make it what it is, but its members frequently self-define the group as what or who they are *not* (see e.g. [28]). If aspiration is indeed a cultural capacity, it is incumbent on ICTD researchers to characterize their units / groups of analysis explicitly, and not simply bound them by physical limits.

A third approach would be to analyze in detail the social networks within communities in which ICTD interventions occur. Recent work in development economics suggests that role models are significant in the formation of aspirations [17, 24]. Individuals can find pathways from aspirations generated by role models to outcomes using existing social networks, and the lack of role models is a hindrance to aspirations. It is possible that people most readily aspire to the achievements of those who are somewhat better off than themselves, but not so much better off that their level seems unreachable [16] – this hypothesis is consistent with the empirical work on role models. New models of social economics also suggest that neighborhood effects such as peer pressure shape individual aspirations, raising them but also potentially lowering them [25]. Several studies on ICTDs, in particular on the mobile phone, have shown that these technologies do expand social networks [e.g. 2, 18, 21]. A measurable set of expanded social contacts – which may include useful new connections, revived old connections, or visible new role models -- is a pathway to new aspirations and thus a legitimate interim measure of development.

At the same time, the development literature suggests that social networks alone may not be sufficient, and that there remains a central role for public policy in securing the benefits of development for the poorest as a group. Drèze and Sen (1989), for example, show that state policies and civil society actions are necessary for the prevention of famine and chronic hunger [26]. These considerations raise important questions for research in the field of ICTD. They remind us that there is a political and public dimension to the capacity to aspire, and that state policy may be an overlooked determinant of this capacity. ICTD research must then ask how public policy can support technology dissemination, so that pathways are created through which the potential of ICTs can be actualized. ICTD research that goes beyond individually expressed or realized aspirations to understand if and how group-specific norms and capacities are also changing, as Appadurai argues

they must, could make stronger claims about the eventual achievement of development goals.

#### IV. CONCLUSION

We have argued that, following Appadurai, aspirations in the wake of ICTD interventions should be seen as a navigational capacity; and that an increase in the capacity to aspire should be considered an interim development indicator that can be incorporated into ICTD project goals and evaluations. The ICTD literature has already distinguished itself from the broader literature on development in that it has explicitly acknowledged enhanced aspirations as a development "outcome". ICTD interventions are well positioned to build the capacity to aspire because their focus is on managing resources, providing information, and facilitating processes through ICT usage.

It is a challenge to make aspirations operational as capacities, and to decide which of these capacities constitute measurable development indicators. We have suggested three questions towards this operationalization:

- (i) Do poor people use already existing resources and capabilities differently after exposure to ICT services?
- (ii) What is the effect of ICT interventions specifically on average or median members of low-income groups?
- (iii) Are there measurably new social networks enabled by ICTDs that allow the poor to look beyond their existing windows of aspiration?

We have further argued that research on the development outcomes of ICT interventions has to understand micro-level outcomes as partly produced by macro-level public policy on technology development and dissemination -- especially if the goal is to improve the well-being of the poor or the marginalized *as a group*. To do this, researchers must explicitly define their groups of interest, and explain what makes a collection of persons a group.

The operationalization of the capacity to aspire as a development indicator will be difficult to generalize across space and time. Aspirations in this formulation are inherently varied (many pathways are possible towards the same goal) and class-specific (different classes are differently endowed with the capacity to aspire, and could well aspire to different end goals or use different means towards their goals). This could limit the use of this indicator in making cross-national comparisons, and in tracking progress over time – a disadvantage compared to the more conventional indicators in use today. At the project level, however, an evaluation that includes the capacity to aspire and its change over time, especially of the poor, is a meaningful indicator of progress towards longer-term development goals.

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