Chapter 16
The Role of Statistics in Development Informatics

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ABSTRACT

ICT4D and Development Informatics literature and media reports often use statistics offered by the World Bank, ITU or CIA to make a case for the introduction of ICTs in developing contexts. Arguably the most widely used statistic is the claim of World Bank statistics that a very large proportion of the global population live on less than USD2 per day. When scrutinized, such claims are not based on solid methodology or logic. Such overgeneralized statistics seem to ride on media hype, and appeal to empathy rather than good science. Yet ICT4D evangelists, who present ICT as the holy grail to transform underdeveloped regions into global economic powerhouses, appeal to such statistics for justification of their cases. Here a brief analysis of some problems with statistics, such as ICT4D data, is presented. Claims and policy-making based on such data should be approached critically and interpreted with a large dose of skepticism. A consolidated table of CIA Yearbook data on the global penetration of landline phones, internet access and mobile phones is presented as an appendix.

INTRODUCTION

Statistics is a tool for collecting, calculating and displaying sets of data that are categorized according to pre-selected attributes. That the attributes are pre-selected suggests that the slice made would show bias, and will influence the data, as any pre-selection depends on a subjec-

tive decision-making process. Statistics may be useful, but we need to acknowledge that it is not objective. It is only objective within a framework - which is constructed subjectively. It can tell us only what we force it to say, and what we want to hear. The process of data selection or reporting will also influence the data, and so will the interpretation and presentation of the data. And finally, statistical results could be used to justify just about any position.

DATA INTERPRETATION

A recent popular science book by Wilkinson and Picket (2010) is a prime example. The subtitle of the book states that equality is better for everyone, and the book offers numerous statistics and graphs in support of this statement. To address the inequalities among the global human population, their remedy boils down to a redistribution of wealth, a socialist position regarded by John Gray (2010) presently as existing only in the United States as an intellectual movement. Several of the remedies proposed by Wilkinson and Picket will be good from any ideological perspective - except of course for neo-classical corporate-minded economists. They argue amongst other things, for closing tax loopholes, to limit 'business expenses', some form of democratic employee-ownership, and more - which, given the abuse by many corporates, may be good, regardless of one's economic ideology. The foundation of their argument is what they perceive as a lack of democracy in economics, assuming that economics should be democratic, and further based on the assumption that equality is a basic human right. Such ideas are sweet music to the ears of social activists, but the framework within which they are presented assumes a mono-cultural americo-eurocentric view of humankind, a simplistic view of democracy and human liberty, as well as clinging to the ideal of progressivism. As Gray points out, these liberal and positivistic ideals of the Enlightenment, with its origin in the Judaeo-Christian view of the world, disregard the multiplicity and plurality of human behaviors, cultures, desires and endeavors.

Note that statistics itself is not used to make these claims. The argument in Wilkinson and Picket runs as follows. Among people with a lower income, there are statistically more health problems, social problems, and psychological problems than among people with higher income. Therefore the discrepancy in income is the cause of these problems. Social and even health problems must be due to the fact that lower-income individuals do not earn enough to live in the dream. They argue that all social evils, ranging from homicides, bullying and crime to poor aspirations of young people are due to financial inequality among people. If your income is not as high as other people, you are bound to have such problems. The remedy to fix this is to take away income from the higher income group, give it to the lower income group, and these problems will disappear. This is the result of the most surprising aspect of Wilkinson and Picket's argument: the confusion between correlation and cause, and moreover, an oversimplified view of causality. Human behavior is much more complex than to be reduced to singularities. In any complex system linear, monoplanar causality theory does not work. For more than half a century the feedback loop, for instance, was required to make cybernetic systems work. And humans are far more complex than mechanical cybernetic systems. Since the 1960s the "butterfly effect" has been used in climatology to explain complex non-human behavior. Causality in chaos theory proposes that there is no simple correlation between the input and output of a system. Causal theory has come a long way over the past half a century. Wilkinson and Picket's presentation on the causes of human problems is just too simplistic to be taken seriously. Also, social ills cannot be fixed with the simple medicine of money. As the fundamental cause in the case of their book is contributed to the lack of living in the American dream, it is assumed that cultures all over the globe want to live that dream.

Equality and Equity

Another problem with the position of Wilkinson and Picket is a confusion between equality (which I take to mean being equal) and equity (as the quality of being fair and impartial, which operates in the context of equal opportunities). Equality, a member of the French trinity (*liberté*, *égalité*, *fraternité*) during the era of being enlightened, originated in the late 1700s with reference to

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