Baywatch: Bigger than Aid?

Charles Kenny

This draft, on which comments are very welcome (to charlesjkenny@gmail.com), was written in a personal capacity. Some of the views expressed may not reflect those of the author, nor (one would hazard) those of his employer, its executive directors, or the countries that they represent.

The television is fast approaching global ubiquity. There is one television set for each four people on the planet.[i] In Indonesia, 89 percent of households have a television in their home.[ii] In India, over 112 million households have a TV.[iii] As early as 1995, television exposure in China was estimated at one billion people.[iv]

As electricity networks expand, television is second only to lighting in terms of priority uses.[v] A recent survey of households in a rural area of Indonesia showed how rapidly the technology spread. Within two years of electrification, television ownership was 30 percent. Within seven years of electrification, household ownership rates reached 60 percent –this in an area where average incomes were around $2/day. Compare this to refrigerators, which were owned by fewer than five percent of surveyed electrified households.[vi] Where there is still no electricity network, people hook televisions up to batteries -- indeed, in a number of developing countries, household television ownership rates are higher than household electrification rates.[vii] Failing that, people in developing countries will frequently walk long distances to watch television.[viii]

That strong demand to get a TV –or get *to* a TV—reflects a very strong demand to use it. People in developing countries watch a lot of television. The two-dollar-a-day households with televisions in the Indonesian survey were watching on average four to five hours per day –about the same levels reached in the US. In India, the average viewer is watching somewhat less —but still, 15 hours of television a week.[ix] If (give or take) three quarters of the developing world has access to a TV, and they are watching it on average for only ten hours a week, that totals about two trillion hours a year.

What is the social and economic impact of all that TV? In part, that will depend on what people are watching. In a 2002 Chinese village survey,[x] there was some reluctance to report watching television simply for entertainment or relaxation. Adults would tend to stress the use for children's education, or the importance of television as a source of information, including on production and markets. It is true that in rural areas, often only one or two local county or provincial channels could be received, which included programs on practical topics, such as pig breeding.

And such programs can have a considerable impact. For example, over 700,000 secondary-school students in remote villages in Mexico watch the *Telesecundaria* program of televised classes. While students enter the program with lower mathematics and language test scores than the average, by graduation they have caught up in math and halved the language-score deficit.[xi] Again, the 2002 global HIV-prevention campaign

Staying Alive was broadcast on television stations that reached nearly 800 million homes. Survey results from three cities in participant countries suggest that people exposed to the campaign were more likely to talk to others about HIV/AIDS and more likely to understand the importance of using condoms, discussing HIV/AIDS with sexual partners and getting tested for HIV.[xii]

Television news also has a role in improving governance, as suggested by the price Peruvian secret-police chief Vladimiro Montesinos had to pay to subvert that role during the 1990s. It cost only US$300,000 per month for Chief Montesinos to bribe a majority of congressmen, about $250,000 a month to bribe the judges, but about US$3 million a month to subvert six out of the seven available television channels. The Fourth Estate apparently has a role in making it more costly to run a country corruptly.[xiii]

But choices in what to watch have expended rapidly beyond news and animal husbandry, even in the poorest countries. The explosion of delivery technologies has let in a flood of new content. Nearly two thirds of households in India with a TV have a cable or satellite connection, for example. Even in Tamil Nadu, where average incomes are below two dollars a day, 60 percent of the households have cable or satellite.[xiv] In China alone, the number of hours of television broadcast each year increased from one to four million over the 1990s.[xv]

And when the shows about pig breeding face competition, people of the Developing World tend to watch the same programs as everyone else –not least, sports and soaps. Perhaps two billion people watched the 1998 Football World Cup Finals, for example. And the biggest television series worldwide is *Baywatch*, an everyday tale of lifesaving folk based on and around the beaches of Santa Monica, California. The show has been broadcast in 142 countries worldwide, and at its peak it had a weekly audience estimated north of one billion people.[xvi]

What is the economic impact of *Baywatch* in the Developing World? Making a lower-bound estimate is relatively easy. Assume the average episode has approximately half a billion viewers in developing countries, willing to spend around an hour to watch it. And assume an average opportunity cost of that hour at around $2.80.[xvii] That suggests the average gross economic value of a *Baywatch* episode to people in developing countries of around $1.4 billion. There were 242 episodes[xviii] --this sums to around $340 billion in gross value for the series.

By comparison, global aid flows are worth a little more than $60 billion a year, although a lot of that is actually spent on or in rich countries (not least for consultants and goods). Assume, at the very least, aid increases consumption in developing countries by half that much each year. So, stacked up against a lower bound estimate for aid of $30 billion/year, we have *Baywatch*, with a one-time impact of $340 billion. At a ten percent discount rate, that suggests global aid flows and *Baywatch* may have about the same (lower-bound) value.

But which has the larger long-term economic impact? It is hard to conclusive about this issue, given the limited academic attention paid to date to the global economic importance of television shows focused on lifeguards. With aid, the battles over the presence or absence of a significant statistical coefficient in a growth regression have filled the pages of development and economics journals. A *Google Scholar* search on "aid" "econometric" and "analysis" returns 21,800 records. A similar search on "Baywatch" and "econometric" and "analysis" returns a paltry 6 records, suggesting a notable gap in the literature.[xix] And so we are forced to speculate based on similarities and differences between aid and television dramas.

A first difference is that aid is meant to be invested, with a potential impact on long term income. In contrast, *Baywatch* is a consumption good, with a potentially negligible or even negative growth impact. But it should be pointed out that the investment avenue for the impact of aid on economic growth has been subject to two attacks in the literature. First, the evidence that low investment is the source of low growth in regions like Africa is less than persuasive. Second, the evidence that aid flows actually increase overall investment is also weak. It is these twin results that drive Bill Easterly's oft-cited observation that had Zambia used all the aid it had received since 1960 on investment, and had investment driven growth as it was meant to, today the country should be forty times richer than it is.[xx]

If the distinction between aid-induced investment and *Baywatch* consumption is weak grounds to suggest a differential economic impact, might it be the demonstration or institutional effects of the two are different? Aid usually comes along with advice and 'technical assistance', of course. But adjustment lending (which is predicated on recipients acting on that advice) apparently has little if any impact on growth rates –this might suggest the advice has limited utility. And aid also carries some institutional costs –tying up the time of senior government officials (Tanzania hosting 1,000 donor meetings a year) and creating dependency on continued aid flows. Doubtless people become addicted to *Baywatch*, as well, but it is likely that the phenomenon is not as concentrated amongst senior government officials, suggesting that the downside institutional impact may well be less dramatic. Again, a more considered answer will have to wait on more research. There are 14,620 Google Scholar returns on "aid dependency" compared to none on "Baywatch dependency."

There are the related Putnamesque fears of reduced social capital related to TV-watching, which might have a knock-on effect on economic outcomes. Harvard scholar Ben Olken finds that better television signal reception in Javanese villages is associated with more time spent watching television, substantially lower levels of participation in social activities and lower measures of trust. Reception of an extra channel of television is associated with a decline of about 7 percent in the total number of social groups in the village. However, despite the impact on social capital, improved reception does not appear to affect village governance outcomes, at least as measured by discussions in village level meetings and by corruption in a village-level road project.[xxi] Indeed, allowing people to watch *Baywatch* rather than a constant stream of animal husbandry

may even increase the development impact of television. A recent cross-country study of the impact of media competition concluded that it improved the quality of governance.[xxii]

Nonetheless, the cultural power of television can be used for ill as well as bad. Studies in Botswana and Zimbabwe have found that teenagers exposed to US television programming were both more likely to buy the type of clothing seen in US music videos and somewhat more likely to use cannabis and inhalants.[xxiii] These results echo results of surveys in developed countries which find that violent television, films and video games increase youth violence, and alcohol advertising increases youth alcohol consumption.[xxiv] Episodes of *Baywatch,* however, tend to carry strong moral messages (be nice to animals, lying doesn't pay, always wear a lifejacket), while violence is not graphic and tends to carry consequences.

Furthermore, beyond the clear educational benefits to watching a program about water safety professionals, the economic impact of *Baywatch* through cultural exchange might be dramatic. Enrico Spolare and Romain Wacziarg of Tufts and Stanford University respectively, point out in their recent paper "The Diffusion of Development" that income differences across countries are highly correlated with 'genetic distance' –a measure associated with the amount of time elapsed since two populations' last common ancestors.[xxv] They suggest this correlation points to the importance of cultural factors to development: "the diffusion of technology, institutions and norms of behavior conducive to higher incomes, is affected by differences in vertically transmitted characteristics… significant reductions in income disparities could be obtained by encouraging policies that reduce those barriers, including… cross-cultural exchanges."

In a television-specific case of cross-cultural exchange in action, Robert Jensen and Emily Oster of the National Bureau of Economic Research study the rollout of cable access in India and conclude that the introduction of cable in a village is associated with higher female school enrollment, declines in fertility and increased female autonomy. The size of these effects is large: within two years of introduction, between 45 and 70 percent of the difference between urban and rural areas on these measures disappears, and the impact of cable TV on enrollment and fertility is as large as increasing the length of time girls stay in school by around five years.

There are reasons to believe that *Baywatch,* filmed in Santa Monica, might be a particularly powerful medium of global cultural integration. For example, *Baywatch* is increasingly available in Nepal --a landlocked country where the direct educational impact of a program which focuses on ocean rescue techniques may be of reduced benefit. Nonetheless the broader impact of Nepali cultural exchange with an economic area such as Santa Monica could be considerable, given the 171-fold difference in their average incomes [xxvi] One of the show's stars, Pamela Anderson, has furthered the reach of this exchange by taking part in a campaign against leather goods produced in the Indian subcontinent –a protest that fuses the cultural traditions of Santa Monica[xxvii] and Hindu peoples.[xxviii]

Without considerably greater analysis than has been possible in this paper, it will be difficult to conclusively determine the impact of *Baywatch* on the economies of the developing world. It is likely that, as has been found with empirical examinations of the impact of aid, the sign and the significance of the impact of *Baywatch* depends on control variables or the definition used. For example, Easterly and colleagues find a decreasing significance of aid in the presence of good policies using more recent data,[xxix] perhaps the same might be found of *Baywatch* in the presence of cable TV including episodes of *Baywatch Hawaii*. There is, of course, the distinct possibility of interaction effects between *Baywatch* and aid itself.

Even after considerably greater academic attention, an eventual meta-analysis of *Baywatch*-related growth empirics may conclude that the overall impact is likely positive, but its exact magnitude is hard to pin down. After all, this is the conclusion drawn by meta-analyses of the aid and growth literature.

Regardless, it is clear that *Baywatch* is, by common economic metrics, a considerable force in developing countries. This suggests that policies which increase the impact of *Baywatch* on development could carry high returns. One example might be greater media plurality. A recent 97-country survey found that an average of 60 percent of the top five television stations in each country were owned by the state, with 32 percent on the hands of small family groupings. With greater plurality, it is surely likely that episodes of *Baywatch* will be repeated more often –although of course, we have not calculated the marginal benefit of *Baywatch* over other television shows, and it is quite possible that an even greater return would be delivered by local replicas –perhaps *Basecamp Watch* in Nepal.

[i] World Bank (2005) *World Development Indicators*, Washington DC: World Bank.
[ii] Halewood, N. and C. Kenny (2006) Young People and Communication Technologies Background Paper for the 2007 *World Development Report*, Washington DC: World Bank.
[iii] Jensen, R. and E. Oster (2007) The Power of TV: Cable Television and Women's Status in India, NBER Working Paper 13305
[iv] Jensen and Oster, 2007
[v] IDS (*The Institute of Development Studies*) (2003) Energy, Poverty and Gender: A Review of the Evidence and Case Studies in Rural China, mimeo, World Bank
[vi] Madon, G. (2003) Energy, Poverty and Gender: Impacts of Rural Electrification on Poverty and Gender in Indonesia, mimeo, World Bank.
[vii] McNeil, M. and V. Letschert (undated) Forecasting Electricity Demand in Developing Countries: A Study of Household Income and Appliance Ownership, mimeo, Lawrence Berkeley National Laboratory
[viii] IDS, 2003
[ix] Anuradha Khati Rajivan (1999) Policy Implications for Gender Equity: The India Time Use Survey, 1998-1999, International Seminar on time Use Surveys, 7-10 December Ahmedabad.
[x] IDS, 2003
[xi] de Moura Castro, Claudio, Laurence Wolff and Norma Garcia (1999) Bringing Education by Television to Rural Areas, *TechKnowLogia,* September/October. (available at: http://www.techknowlogia.org).
[xii] Geary, C., H. Mahler, W. Finger and K. Shears (2005) Using Global Media to Reach Youth: The 2002 MTV *Staying Alive* Campaign Youthnet Youth Issues Paper No. 5, Family Health International.
[xiii] McMillan, J and P. Zoido (2004) How to Subvert Democracy: Montesinos in Peru. *The Journal of Economic Perspectives,* Volume 18, Number 4,
[xiv] Jensen and Oster (2007)
[xv] De Leon, A. (2002) The Creative Industries in China, mimeo, World Bank
[xvi] http://www.bbc.co.uk/worldservice/specials/924_interview_archiv/page8.shtml
[xvii] GNI PPP per capita averages $8,190, dividing by (365*8) gives a very approximate hourly opportunity cost –assuming an eight hour work day seven days a week.
[xviii] http://en.wikipedia.org/wiki/List_of_Baywatch_episodes
[xix] Results from http://scholar.google.com/scholar, accessed 10/12/2007
[xx] See Kenny, C. (2006) What is Effective Aid? How Would Donors Allocate It? (World Bank Policy Research Working Paper 4005) for a review of the evidence.
[xxi] Olken, B. (2007) Do Television and Radio Destroy Social Capital? Evidence from Indonesian Villages NBER Working Paper 12561
[xxii] Besley, T. R. Burgess and A. Prat (2002) Mass Media and Political Accountability in World Bank Institute (ed) *The Right to Tell* Washington DC: The World Bank
[xxiii] Eltzroth, Carter and Charles Kenny (2003) Broadcast and Development: A Role for the World Bank? World Bank Working Paper No. 11.
[xxiv] Grub, J., P. Madden and B. Friese (1996) The Effects of Television Alcohol Advertising on Adolescent Drinking Poster Presented at the Annual Meeting of the Research Society on Alcoholism, Washington DC June 22-27.
[xxv] Spolare, E. and R. Wacziarg (2006) The Diffusion of Development NBER Working Paper No. 12153
[xxvi] http://www.kinseyinstitute.org/ccies/np.php
[xxvii] http://www.happycow.net/north_america/usa/california/santa_monica/index.html
[xxviii] http://news.bbc.co.uk/2/hi/south_asia/655593.stm
[xxix] Easterly, W., R. Levine and D. Roodman (2003) New Data, New Doubts: A Comment on Burnside and Dollar's "Aid, Policies and Growth" NBER Working Paper 9846