

Contesting the Spectrum Allocation Giveaway

The electromagnetic spectrum is not visible to the human eye and yet we inhabit a world that is surfeit with spectrum. The spectrum is everywhere. Electromagnetic (light) waves move through the atmosphere at different frequencies and are measured in Hertz (Hz). The oscillation of radio waves can be compared to the intensity of a sharp sea wave and the languid ruffle of a slow wave. Lower and higher frequencies exhibit different qualities and are therefore harnessed for different purposes. The general rules are as follows: Shorter wave-length, higher frequency, longer wavelength, lower frequency.

So what is special or unique about radio waves? It is the invisible network for all the major channels of mediated communication, wired and wireless technologies that operate on land, sea and in the air. Radio frequencies are used by a huge range of services ? commercial, public, personal ? that include aeronautical navigation systems, paging systems, Ham radios, broadcasting, mobile communication services in hospitals, the fire department and police, military systems, the postal service and increasingly via convergent technologies, mobile telephony that can carry voice, data and video. While frequencies between 3,000 Hz and 300 GHz are referred to as the radio spectrum, the most desirable range of spectrum - the penthouse range - lies between 300 MHz- 3GHz.

The defining characteristic of the spectrum is its scarcity, its existence as a finite resource. It is scarce because the use of a particular frequency for a specific purpose precludes others in the same region from using it. While digital compression technologies have managed to squeeze more out of frequencies, more is not infinite. Spectrum, in other words, is a common good, like the air we breathe. But unlike the air we breathe, spectrum is regulated as a public good. Public service broadcasting for instance, and its distribution is guaranteed by the State.

So how is this resource managed and by whom? The International Telecommunications Union (ITU) has primary responsibility for the allocation of radio frequencies to individual countries. This task arguably remains ITU?s most substantive exercise of power in a period that has witnessed the migration of power to non-UN bodies such as the WTO and individual governments like the USA. Administered by ITU?s Radiocommunication Sector (ITU-R) and based on internationally agreed Radio Regulations, the allotment and use of radio frequencies is a key agenda item for the ITU. These allocations are in turn administered by one or multiple organisations at national levels.

Spectrum is licensed in different ways. It can be licensed for free, auctioned, allocated via beauty contests or on a first come first serve basis. Auctioning is increasingly becoming a favoured system of allocating spectrum. It has become a source of lucrative revenues for governments throughout the world. The auction of radio spectrum, for third generation (3G) mobile

communications services in the UK netted the government US\$ 35 billion in revenues in 2000 (3).

So what are some of the key issues related to spectrum management and the ownership of the spectrum?

The digital age

Improved data compression and new transmission technologies have generally resulted in more digital channels being accommodated in the radio spectrum than was previously possible with analogue systems. These technical changes need to be seen against the background of a massive surge in demand for frequencies from the many new services offered by convergent technologies. The auction of licenses for digital services has resulted in the re-allocation of spectrum. The sectors that are most under threat are public broadcasting and community broadcasting and other forms of non-commercial spectrum use. In a neo-liberal context, there is severe pressure to free publicly-held spectrum for private use and to invest all radio frequencies with monetary value. For example, in order to free spectrum for 3G services, the FCC (the US regulatory body) is considering the auction of the 2110-2150 MHz band which is currently used by school and health care centres (4).

The battle ahead

The prospect of digital TV has pitted government and regulators on the one hand against the commercial broadcasting fraternity. Many governments have already announced dates for the withdrawal of analogue television services. They are well aware that this switch will free radio spectrum that can, in turn, be allocated for new broadcasting and mobile services.

However, commercial broadcasters do not, as a rule, want to invest in upgrading their digital services for fear that the costs involved and eventual spectrum auctions would damage their financial and business prospects. Traditional networks also fear the emergence of competitors for digital services from the IT sector, such as Microsoft and AT&T.

In some countries, most notably the USA, spectrum had traditionally been given away free to the big broadcast networks and to cellular phone providers. In 1993, a cash-strapped Congress decided to auction some parts of the spectrum. In the context of digital services, relaxation of cross-media ownership rules and the blurring of distinctions between content and conduit providers, it has been suggested that the broadcast networks are levied a tax for their use of

spectrum, and that the spectrum is de facto privatised and managed entirely on the basis of market rules. Conservative estimates place the worth of the spectrum used by the networks in the region of billion in the USA alone (6). Spectrum auctions and market pricing are just the first steps, with privatised spectrum trading to follow.

The inclination of the FCC and suggestions from industry in the USA that the spectrum be entirely deregulated and auctioned off to the highest bidders can lead to potentially disastrous consequences (8). If corporations are allowed to manage, buy, sell, lease, use and abuse spectrum, this can only hasten the creation of enclosures around other natural resources, like water, that we take for granted. What is even more worrying is the prospect of the migration of such rules to the ITU, therefore becoming the touchstone for national spectrum allocation policies. There is a need for civil society to monitor and resist any moves by governments to turn the radio spectrum, a public good, into a private commodity to be bought and sold to the highest bidder.

The meaning for Civil Society

From a communication rights perspective, an issue of serious concern is the need for protracted engagements at the ITU and in regional and national fora to address the need for spectrum allocation for public service and civil society use including the community broadcasting sector. Currently a sizeable swathe of spectrum is reserved for the defence sector, and for governments' own use, with the private sector getting the best of what remains. (9) There is a need for a more democratic allocation of spectrum space to ensure that the public interest is given primacy and that public service and civil society use of the radio spectrum is adequately provided for in both the analogue and the digital environment. This should include reservation of spectrum for public and community broadcasting and for other civil society uses.

Conclusion

A way forward is to advocate for a 'spectrum commons' model as an alternative to the market-based model. The spectrum commons would be administered by an independent organisation constituted of representatives from the government, the private sector and civil society. Such a model would be designed to produce a more democratic allocation of spectrum. It would start from the principle that the spectrum should be regulated in the public interest and for public benefit. Public service and civil society use of the spectrum would be guaranteed, ring-fenced and provided at no charge other than that needed to cover the costs of regulation. Commercial use of the spectrum would need to demonstrate social and economic benefit and would be considered a form of "leasehold" of a portion of the spectrum commons. Spectrum "rental" charges would be levied and applied to the public good with a proportion being re-invested in the improvement of the communications environment through support for civil society communications initiatives and other communications services for public benefit.

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