

# INDIA

## IT for Change<sup>1</sup>

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## Introduction

This report was compiled by the research team at IT for Change using varied primary and secondary data. The primary data includes key interviews with civil society experts such as Arun Mehta and Vickram Krishna (Radiophony),<sup>2</sup> Mahesh Uppal (independent telecom consultant), Sunil Abraham (Mahiti Infotech), TK Manzoor (Akshaya), Basheer Ahmed Shadrach (International Development Research Centre, IDRC) and Nikhil Dey (Mazdoor Kisan Shakti Sangathan). Our secondary data included a survey of literature on information and communications technology (ICT) policy in India. We paid particular attention to the legal and regulatory framework for ICT policy at the national and state levels.

This report is organised into six sections, arranged to cover areas where there has been rapid development of ICT-related policy (up until the end of 2006). The sections on telecommunications, telecentres, community radio, open standards and intellectual property rights, and the information technology (IT) industry outline the key policy initiatives and the regulatory framework. They also sketch tentative future directions for development of policy in these areas. A section on *Participation* briefly notes the level of civil society participation in policy formulation and implementation.

This report shows that, unlike some other developing countries, India has not developed comprehensive ICT policy or legislation and has not established a specialised ICT agency to address all areas of ICT policy. Presently, different components of ICT policy are decided by the relevant line ministry vested with that responsibility. In this institutionally fragmented policy arena it is apparent that there are no common principles of a “people-centred, inclusive and development-oriented information society,” the goal set by the World Summit on the Information Society (WSIS, 2005). In the sections below, we examine the development of policy against these benchmark principles, and briefly propose some alternative lines of action which may be pursued in the years to come.

## Country situation

### Telecommunications

While there has been a revolutionary shift in telecom growth in India in the last decade, several lacunae persist and need sustained policy attention to achieve a just distribution of telecom resources.

#### Voice telephony

In 1994, the central government deregulated the Indian telecom market by allowing private players to bid for telecom licences, and in doing so ended the state monopoly over the telecom sector (TRAI, 1994). Telecom policy has been revised significantly over the years. In 1999, the New Telecom Policy was drafted, and there was a proposal to revise this policy in 2006, but this revision is now likely to take place in 2007 (TRAI, 1999).

The establishment of the Telecom Regulatory Authority of India (TRAI) as the single regulator for the telecom industry has been one of India's most successful regulatory policy reforms in the last decade. While TRAI has stimulated market growth, its ability to enhance consumer protection, promote rural telephony and enforce quality of service norms has been far from satisfactory (the continued deficiency in quality of service norms has been noted in TRAI documents) (TRAI, 2005).

Since 1994 there has been a rapid deployment of telephones all over the country (183.95 million telephones as of November 2006). The rate of growth in terms of teledensity is noteworthy when one considers that India has moved from 1.39 telephones per 100 inhabitants at the end of March 1994, when the shift to a new, more liberal telecom policy began, to 16.3 per 100 inhabitants in November 2006.<sup>3</sup> Mobile telephony grew exponentially over this period, while the number of land-line telephones has stagnated and occasionally shown signs of decline (Chandrasekhar, 2007). Official estimates indicate that the growth in teledensity will be sustained, and it is expected to increase from 16.3 per 100 inhabitants in November 2006 to 22 per 100 inhabitants by December 2007, thereby satisfying the target set by the Department of Telecommunications (DoT) (PIB, 2006a).

The difficulty is that a closer examination of the data suggests that it may not be a good measure of the extent of diffusion. To start with, the aggregate figure conceals a high degree of urban and regional concentration. Teledensity in rural India in 1998-1999 was just 0.5 lines per 100 people. While the figure crossed 1 per 100 in 2001-2002, and stood at 1.79 in December 2005, urban teledensity had risen to 34.77 during the same period. In November 2006, rural phones amounted to just 14.8 million compared to 183.5 million across the country. Furthermore, interregional variations were also substantial. In March 2003, while total teledensity in the state of Delhi was 26.85, in the state of Bihar it was as low as 1.32 (Chandrasekhar, 2003).

Access to voice over internet protocol (VoIP) services in India has resulted in the dramatic reduction of international and national tariffs over the last two years. However, there has been a recent proposal to regulate VoIP services by requiring service providers to acquire telecom licences and submit themselves to the jurisdiction of the telecom regulator as well as local tax authorities. If VoIP services are heavily regulated, it is likely to reduce or even eliminate the big price differential presently available in comparison with conventional public switched telephone network (PSTN) telecom tariffs (Elwood, 2006).

#### Data connectivity/internet connectivity

Data connectivity through packet switching networks also falls under the regulatory control of TRAI.<sup>4</sup> The development of this sector has

3 The rate of growth has indeed been rapid during this period, with teledensity reaching 2.86 lines per 100 people in March 2000, 3.64 in March 2001, 4.4 in March 2002, 5 in March 2003 and 9 in March 2005.

4 While TRAI's regulatory mandate is primarily confined to circuit-switched telecom networks, where a dedicated line carries data from end to end, this mandate has recently been expanded to include packet switching telecom networks, using the key protocols of the internet, such as TCP/IP. See: <[www.webopedia.com/TERM/P/packet\\_switching.html](http://www.webopedia.com/TERM/P/packet_switching.html)>.

1 <[www.itforchange.net](http://www.itforchange.net)>.

2 The institutional affiliations of the contributors are indicated in brackets.

proceeded along two distinct paths: private sector networks and state-owned networks. The spread of data connectivity by these networks has been modest. While the state-owned telecom provider accounts for almost 50% of the connections available, the overall availability of data connectivity in India is very low when compared with similarly placed developing countries (TRAI, 2006).

The Ministry of Communications and Information Technology (MCIT) has set ambitious targets for the roll-out of high bandwidth broadband connectivity nationwide through the incumbent state-owned telecom provider BSNL.<sup>5</sup> It is expected that more than one million broadband connections will be added before the end of 2007. A proposal has also been put forward to modify the definition of broadband connectivity from the present 256 kilobytes per second (Kbps) to 2 megabytes per second (Mbps) download speed (PIB, 2006a). This increase can be easily accommodated, as India presently has an installed bandwidth capacity of 16 terabits, of which only 0.2 terabits has been used (LirneAsia, 2006). BSNL and MTNL have already shifted to providing 2 Mbps connectivity in their basic broadband plan.

The recent decision by the DoT to invest resources from the Universal Service Obligation Fund (USOF)<sup>6</sup> in broadband technologies like WiFi and WiMax is a step in the right direction. It has planned to set up about 8,000 towers – the biggest cost components for wireless connectivity – in remote areas which are presently not served by any telecom network (PIB, 2006a).

One way for the DoT to achieve its ambitious broadband targets will be to encourage local governments to implement their own wireless projects. Various local governments in different parts of the world have invested public money in creating public networks which are accessible to all citizens.<sup>7</sup>

State-owned data networks have been rolled out by the central government and various state governments. Different state governments have developed different connectivity models. One noteworthy state government model is the Akshaya (Kerala) model. Akshaya telecentres use a mix of wireless and wired networks, as in the pilot in Malapuram district, where connectivity is provided through a public-private partnership. However, as the project looks to expand into the remaining 13 districts, they will ride on the State Wide Area Network (SWAN) which promises connectivity up to the “block” (sub-district) level.<sup>8</sup>

SWAN is the core infrastructure being developed by the central government under the National e-Governance Plan,<sup>9</sup> which promises to deliver e-government services and serve as a platform for G2G (government-to-government) communication (DIT, 2004).

The current implementation status of SWAN networks is unsatisfactory, however. It is only in four states (Maharashtra, Sikkim, Uttaranchal and Chandigarh) that the plan is going as per schedule

(DIT, 2006a). Certain states already have their existing network provided by the National Informatics Centre (NIC).<sup>10</sup> The aim is to synergise SWAN and existing networks and avoid duplication. The emphasis will also be on using/buying existing broadband infrastructure from public sector and private sector players.

#### Rural telephony

As pointed out, the deployment of telecom networks in India is geographically skewed and citizens in rural areas have little or no access to voice telephony or data connectivity. It is primarily the urban areas which have benefited from opening the telecoms markets to private sector participation. The policy effort to increase rural connectivity has rested on raising resources through the Access Deficit Charge (ADC) and USOF, relying on a state-owned telecom provider to roll out the necessary networks.

The 1999 National Telecom Policy established the goal of universal access to telephony, even in rural areas, leading the BSNL and other fixed-line operators to move into these areas. The entry of private players in the telecom market, however, has led to price wars that affect the profit margins of BSNL and private operators alike. BSNL operates in rural areas where it is the only service provider and revenues do not cover fixed costs, and while these were previously cross-subsidised with local and long distance calls, the price wars have made this increasingly difficult. The levying of an ADC on private operators is meant to help cover the deficit.<sup>11</sup>

The inability both to meet rural connectivity targets and to maintain a steady rural telephony growth rate has prompted a vigorous policy debate. This debate has three prominent strands.

First, it is suggested that rural telephony is an area which is not commercially lucrative. As a result, the government should step in and subsidise private sector investment in rural areas or should do the job itself.<sup>12</sup> Quoting Mahesh Uppal (2006), an independent telecommunications consultant:

So if rural connectivity is necessary, the government must give tax incentives... What we did instead was to allow all players to move from rural markets to the more lucrative markets, and in the process rural markets got neglected. We do not have transparent subsidies. If we believe in the market system, markets will not do certain things and cannot be expected to do certain things.

The second argument calls for private players to honour their licence obligations to provide rural connectivity. As tough competition to acquire customers has required significant investment in urban areas, both state-run telecom players and private telecom players have under-invested in rural areas.

Prabir Purkayastha of the Delhi Science Forum seems to suggest that recent moves like BSNL's “OneIndia Tariff Plan”, which the company adopted under political pressure exerted by the telecom minister, will adversely affect the company. The Tariff Plan reduces the tariff for national long-distance calls to one rupee (slightly over 0.02 USD) per minute, thereby leading to a reduction in the ADC which accrues to the company. The ADC was seen to be a major subsidy for

5 BSNL (<[www.bsnl.in](http://www.bsnl.in)>) is one of two state-owned telecom providers, the other being MTNL (<[www.mtnl.net.in](http://www.mtnl.net.in)>).

6 The Universal Service Obligation Fund was established in 2003 with the primary goal of providing access to basic telecommunication services to people in rural and remote areas at affordable prices. The financial resources for meeting this obligation are collected by way of a levy on telecom service providers. For more information, see: <[www.dot.gov.in/uso/usoindex.htm](http://www.dot.gov.in/uso/usoindex.htm)>.

7 Some policy advocates like Arun Mehta (2006) suggest that universal broadband access is unlikely to be achieved as long as “governments continue to look at telecommunications as a commercial venture rather than a public infrastructure.”

8 See: <[210.212.236.212/akshaya/swiderollout.html](http://210.212.236.212/akshaya/swiderollout.html)>.

9 See: <[www.mit.gov.in/plan/about.asp](http://www.mit.gov.in/plan/about.asp)>.

10 The National Informatics Centre (NIC) of the Department of Information Technology, Government of India, provides network backbone and e-governance support to the central government, state governments, union territory administrations, districts and other government bodies. See: <[home.nic.in](http://home.nic.in)>.

11 See: <[www.19.5degs.com/element/2329.php](http://www.19.5degs.com/element/2329.php)>.

12 The Bharat Nirman social inclusion programme launched by the central government does exactly this. The programme aims to establish village public telephones (VPT) covering 30,808 villages. (PIB, 2006a).

rural telephony. Purkayastha (2006) says that this, along with non-compliance by private players in fulfilling their obligation to invest in rural areas, is not doing any good to connectivity in rural areas:

The net result of all this is that BSNL and MTNL are likely to lose Rs 3,000-4,000 crore [USD 680-907 million]<sup>13</sup> of their long-distance revenue, even after higher landline rentals are taken into account. With the additional loss of Rs 1,800 crore [USD 408 million] from the lower ADC levy, at one stroke [this move] has converted what were still thriving public sector units, even under a strong competitive regime, to possible basket cases. Effectively, BSNL, which is the only company providing rural telephony, is being asked [through the new policy] to take a major hit in its revenue, while companies that are wilfully flouting the terms of their licence of providing 10% rural telephones get away scot-free.

It is apparent that neither a reliance on a state-owned telecom provider nor on private providers has worked. BSNL has been around for close to 40 years, but has failed to provide rural telephony. The free market approach has been in operation for more than a decade and the fact is that private operators have systematically excluded rural areas from their area of operations. It does not appear that providing them with further incentives would be useful.

A third policy framework has been proposed by the Rural Telecom Foundation (RTF). It seeks to ensure that rural telephony is a commercially viable enterprise run by small entrepreneurs. The foundation believes that both BSNL and MTNL, which have substantial landline operations, should seriously consider using low-cost shared party lines (also referred to as Gram-phones by the RTF)<sup>14</sup> to increase their respective market share and expand telecom access to the masses. RTF has installed pilot projects and has petitioned TRAI and DoT to adopt the model by granting it legal and policy sanction.

### Telecentres

Currently, there are around 12,000 to 13,000 telecentres spread across the country. Of these, 45% to 50% are government initiatives or public-private partnerships.<sup>15</sup> The remaining telecentres are “for profit”, with the most successful one being “e-Choupal”, run by a private commodities trading company, the Indian Tobacco Company (ITC).<sup>16</sup>

The Department of Information Technology (DIT) recently embarked on a programme under its National e-Governance Plan to establish 100,000 telecentres. These are being called Community Service Centres (CSCs). Each CSC will serve five to six villages. It is envisioned that connectivity to these centres will be provided by SWAN and content will be provided by various public sector agencies, as well as private players. The structure is a three-tiered one, with the village level entrepreneur (VLE) at the bottom, a services centre agency (SCA) managing a cluster of CSCs (for one or more districts), and the state designated agency (SDA) in charge of providing the requisite policy, content and other support to the SCAs (DIT, 2006b).

Despite the potential impact of CSCs in building an infrastructure of digital inclusion, some serious issues remain:

**Accountability:** How the CSCs are going to be accountable to the local self-government structure at the village level (*gram panchayat*)<sup>17</sup> remains a key area of concern. Since CSCs are serviced and maintained by entrepreneurs and guided by SCAs that are often private companies, community control over activities at these centres, and their adherence to larger social and developmental objectives, will be difficult to ensure.

In this context, it is important to refer to the Akshaya model in the state of Kerala. Although it is a public-private partnership with the centres run by a village entrepreneur, it is accountable to the *gram panchayat*. According to TK Manzoor (2006), the director of Akshaya:

They [the entrepreneurs] are not hardcore entrepreneurs, they are social entrepreneurs. The *panchayat* involvement is very high in the process; the entrepreneur is only a catalyst. The entrepreneur cannot take a huge profit. The ultimate beneficiaries are the people. This is what sets apart the Akshaya experience from other telecentre models.

**Revenue generation:** A related concern is the revenue generation model of the CSC. The scheme is premised on the assumption that over time (as government subsidy is phased out) these centres will become self-sustainable. However, current experience with telecentres in rural areas is not at all promising, and there are very few that have been able to achieve financial sustainability. While CSC documents do mention that the entrepreneurs can expect “guaranteed provision of revenue from governmental services” (DIT, 2005a), some key questions remain unanswered. Given the limited progress on developing back-end operations by the line ministries, whose digitalised services are to be provided through these centres? How long will it take to make enough relevant e-government services available at these centres? Will the revenues from e-government services be enough to incentivise the centre operators to balance social objectives with the commercial ones?

Aruna Sundararajan, the chief executive officer for the CSC project, insists that the business model will work:

The scheme has a calibrated kind of structure, in which government will provide at least a third of a kiosk's revenues via e-governance services. And if kiosks are not able to generate enough revenues, the government actually supports them financially. The scheme has already envisaged that the third of a kiosk's capital expenditure and operating expenditure will be guaranteed by the state and central government for four years. In other words, there is a strong element of financial support inherent in the scheme. In the first four years, entrepreneurs can draw on this support and after that – once the kiosks stabilise – they can be on their own (Talgeri, 2006).

**Content generation:** Content is another area about which the CSC scheme is not very clear. The current plan is to ensure that CSCs will serve as the nodal points for the implementation of an integrated service delivery model, under the National e-Governance Plan, whereby citizens can access different government department services across a single platform.<sup>18</sup> However, there is very little activity on the ground in terms of development of content and applications for these services.

13 One crore equals 10 million in the Indian numbering system.

14 A Gram-phone works on the principle that one telephone number, which would normally have been associated with one family, is instead associated/connected to four families. For more information see: <[www.ruraltelecomfoundation.org](http://www.ruraltelecomfoundation.org)>.

15 See: <[www.i4donline.net/articles/current-article.asp?articleid=846&typ=Columns](http://www.i4donline.net/articles/current-article.asp?articleid=846&typ=Columns)>.

16 E-Choupal is a system of village internet kiosks which provide information, products and services for improving farm productivity, reducing transaction costs and improving farm-gate price realisation. See: <[www.echoupal.com](http://www.echoupal.com)> and <[www.itcportal.com](http://www.itcportal.com)>.

17 *Gram panchayats* are local government bodies at the village level, elected by the adult population of the village. See: <[panchayat.nic.in](http://panchayat.nic.in)>.

18 See: <[www.mit.gov.in/plan/backdrop.asp](http://www.mit.gov.in/plan/backdrop.asp)>.

There is also an emerging view that services available under the Right To Information Act of 2005 should be channelled through the CSCs. The Right To Information Act (MLJ, 2005) is a recently passed law which empowers citizens to demand and obtain government information. The Act mentions that information should be disseminated over different media, including the internet. Chapter II of the Act states that “[I]t shall be a constant endeavour of every public authority to take steps in accordance with the requirements of clause (b) of sub-section (1) to provide as much information *suo motu* to the public at regular intervals through various means of communications, including internet, so that the public have minimum resort to the use of this Act to obtain information.”

In this situation, it would make perfect sense for CSCs to be the place where the Act can be implemented on issues related to accessing information, demanding access to information, and training on exercising citizen rights under the Act. A form of this model is the e-Seva initiative in the West Godavari district of Andhra Pradesh. Information related to various welfare schemes right down to the village level has been put on the internet, which can be accessed by villagers at community telecentres run under the initiative.<sup>19</sup>

The Kerala government’s Akshaya model once again has important lessons in the area of content development. According to Manzoor (2006): “There is primary-level content generation in the local language [Malayalam] in agriculture, health and education. Further plans are afoot to equip citizens in content development skills.”

*Amalgamating existing kiosks into the CSC system:* There is also the question of amalgamating existing telecentres with the multi-tier CSC system. There are currently around 13,000 kiosks out of which 45% to 50% are owned or supported by governments. Village self-government bodies are also acquiring computers in thousands of villages across the country, and they may also be interested in delivering e-government and other CSC services. It may be difficult to align the CSC system, with its strong private sector involvement and emphasis on providing many private sector services along with public services, with existing governmental initiatives at the state and local government levels. These may be differently oriented in many fundamental ways.

*Issues of monopolies in private services and in service delivery points:* Two kinds of monopoly concerns have been raised regarding the existing CSC design. One, since private service providers are allowed to become SCAs, would this not lead to the discriminatory exclusion of competing service providers? This is especially relevant in light of the fact that the government is subsidising the SCAs as well as lending its CSC brand name and credibility to them. The second issue regards monopolies on service delivery points. It is not clear from the present documents on the CSC scheme as to what happens if any person or agency other than the SCA-designated village level entrepreneur wants to “front-end” and deliver government services. Such an agency could be a local community group or the village local government body itself. Can they be refused the right to deliver e-government services? And if they are allowed to do so, would it violate the conditions under which SCAs and local entrepreneurs enter into agreement with the CSC system, because it could affect their revenue projections?

## Open standards/intellectual property policies

### Open standards

The issue of open standards is one of special significance in the public procurement context, given that the government is close to implementing the National e-Governance Plan and issues of data and software interoperability, procurement costs and national security need to be tackled upfront.

The DIT has convened a Core Group on Standards to look at the entire issue of interoperability. As software programs and the accompanying databases are developed at different levels of government by different agencies on different technology platforms, interoperability across platforms is essential for e-government to be functional and efficient (DIT, 2005b). It is also important that these platforms are accessible to all citizens irrespective of the operating systems or other software platforms used by them. The Indian Linux Users Group-Delhi has published a “Hall of Shame” list of Linux “unfriendly” Indian vendors, internet service providers (ISPs) and websites which “force consumers to use proprietary software or technologies, or otherwise perpetuate vendor lock-in.” Many government and public sector websites, including both the BSNL and MTNL sites, are included in the list. Apparently the website of the President of India, which was also listed, took notice and “removed the link promoting use of proprietary technology.”<sup>20</sup>

The MCIT and NIC are also currently working on a draft document for open standards through a Working Group on Open Standards. However, it is important that the implementation of the guidelines evolved by this group is monitored to make sure that government departments follow them. Many government agencies continue to take the easy route of being led by propriety software vendors in their e-governance plans.

Ideally, software procured with public money should be licensed under an open licence. In the present situation, where the intellectual property rights lie with the vendor, governments are left at the mercy of proprietary software providers. In contrast, with open source software vendors, the government should be in a position to use local competition to drive down prices and improve services, since with open licence software many local agencies could bid for the maintenance of the product.

### Digital rights management

The issue of digital rights management (DRM) is an area of emerging concern. The Indian government has tabled a Copyright Amendment Bill (2006) which seeks to insert a DRM clause into the Copyrights Act of 1957 (MHRD, 2006).

The following statement was submitted by the Alternative Law Forum (ALF) to the Registrar of Copyrights.<sup>21</sup>

DRM is a term used for technologies that define and enforce parameters of access to digital media or software. The reason for the deployment of such measures is – ostensibly – to “enforce” the copyright of the manufacturer or the copyright-holder as the case may be. However, DRM is extra-statutory. Consequently, rights that are conferred by the law are enforced by the copyright holder himself through technological measures so as to prevent access to such digital media or software which would infringe the copyright of the copyright holder. But, more importantly, this would

20 See: <lug-delhi.org/wiki/HallOfShame>.

21 See: <www.altlawforum.org/ADVOCACY\_CAMPAIGNS/copyright\_amdt>.

19 West Godavari District Portal. See: <www.westgodavari.org>.

also mean that DRM allows for copyright holders to restrict access to digital media or software under terms which would be currently permissible under copyright law. Furthermore, DRM will have a significant impact on innovation. This has particular significance for India where the fruits of innovation need to be accessible to both the innovator and the consumer. An example is the invention of the Simputer2, which was built on reverse engineering. With the introduction of DRM and the criminalisation of its circumvention, low-cost, locally relevant and contextually appropriate computer hardware and software may never become available to the public at large.

If an adequate policy response is not given to technology-enforced international property restrictions, the internet may soon lose its egalitarian character.

#### Software patents

The issue of software patents has been a long and contentious one. Around the world, very few countries actually allow software patents (US and Japan are notable exceptions).<sup>22</sup> Even the EU has deferred its decision on software patents after vociferous campaigning by small and medium industries.

A 2002 amendment by the Indian government declared that software would be non-patentable (MLJ, 2002). In 2005, however, the government sought to bring in software patents by defining non-patentable as applying only to a “computer programme *per se* other than its technical application to industry or a combination with hardware, a mathematical or business method or algorithms” (PIB, 2005). Since any commercial software has some industry application and these applications are technical in nature, this approach would open virtually all software to patenting. This formulation was deleted from the proposed Act when it was brought up for discussion, because of the resistance from some parties in the ruling coalition, but there is no guarantee that it will not be brought up again, and in a harsher form.

#### Free and open source software (FOSS)

Since the ICT industry has been a major employer and revenue-earner, many state governments have not been able to openly come out in support of FOSS for fear of antagonising the industry, which is dominated by multinational companies. While most Indian companies tend to plug into global value chains offered by multinationals, most multinationals have a strong interest in promoting proprietary software products.

The Indian government does not have any formal policy on FOSS, but open source software is supported in a number of ways. A National Resource Centre for Free and Open Source Software (NRC-FOSS) has been created at the Centre for Development of Advanced Computing (C-DAC), Chennai. There are other similar centres, like the Open Source Software Resource Centre (OSSRC) based out of C-DAC, Mumbai, and supported by the Indian Institute of Technology. Another FOSS initiative, supported by Anna University, has introduced two electives in this area in 300 engineering colleges across the Indian state of Tamil Nadu. Even though there is no official position, the central government’s National Informatics Centre indirectly supports FOSS, for example, by creating 118 websites using Plone.<sup>23</sup>

Mahiti Infotech’s Sunil Abraham (2006) explains:

Certain government departments have diktats which endorse the use of FOSS. For instance, the government of Delhi has mandated the use of Open Office instead of MS Office. In Tamil Nadu, the Electronics Corporations of Tamil Nadu (ELCOT) – the government’s ICT agency – has also supported the use of FOSS. It also insists that all hardware which is procured needs to be FOSS-compatible. The government of Kerala has mandated the use of FOSS in schools.

The Kerala government’s recently announced ICT policy lays an even greater stress on use of open source software (DIT, 2007). Calling for an active, but pragmatic, policy on FOSS in India, Abraham (2006) adds:

If we were a country with zero ICT, it would have helped to have mandated a FOSS policy as they have done in Vietnam. However, since we already have an ICT policy, it would make sense to move incrementally towards open standards and open source policy. The example of Vietnam can be a problem, since in that country it’s only the private sector which uses FOSS extensively. Malaysia is a better example. Malaysia mandates the use of open standards. In the case of Malaysia, if all other things remain the same in terms of functionality and price, they would prefer FOSS.

#### Community radio

In 1995 the Indian Supreme Court ruled that airwaves are public property: they were to be used for promoting the public good and for broadcasting a plurality of views, opinions and ideas. Its judgement held that freedom of speech and expression, guaranteed by Article 19(1)(a) of the Indian Constitution, includes the right to acquire and disseminate information. In turn, the right to disseminate includes the right to communicate through any media, although reasonable restrictions were permissible on such rights. The judgement said that “[t]he burden is on the authority to justify the restrictions,” adding that “public order is not the same thing as public safety and hence no restrictions can be placed on the right to freedom of speech and expression on the ground that public safety is endangered” (MIB, 1999).

In 1999, the central government opened up the airwaves to commercial broadcasters, but no mention was made of community radio. In any case, the heavy licence fees being charged for opening India’s first private radio stations were enough to ensure that only commercial broadcasters could take up the offer.

It was only in 2002 that the central government allowed “educational institutions” to broadcast, paving the way for campus radio stations. Despite this, only a few institutions used the opportunity effectively, and most broadcast facilities, even when available, lie unutilised.

The government recently came out with new guidelines in November 2006 for community radio (MIB, 2006). They define community broadcasts as follows: “The community radio station should be designed to serve a specific well-defined local community and the programmes for broadcast should be relevant to the educational, developmental, social and cultural needs of the community.”

As a result, non-governmental organisations (NGOs) are now allowed to set up their own radio stations, and the decision is expected to trigger a new community radio revolution in India. However, issues of the public funding of infrastructure and shared access

22 See: <[www.wipo.int/sme/en/e\\_commerce/computer\\_software.htm](http://www.wipo.int/sme/en/e_commerce/computer_software.htm)>.

23 Plone is an open source content management system (CMS). See: <[plone.org](http://plone.org)>.

to this infrastructure will become key issues if broad-based and sustainable community radio activity across various development sectors in India is to become possible.

### Indian IT industry

The Indian IT industry (comprising the IT, ITES<sup>24</sup> and hardware sectors) has been the “poster boy” of the entire liberalisation process. India’s IT-ITES industry is expected to exceed USD 36 billion in annual revenue in the 2005-2006 financial year, and its contribution to the national GDP has been pegged at 4.8% for the same period. The total direct employment in the Indian IT-ITES sector is estimated to have grown by over a million, from 284,000 in the 1999-2000 period to a projected 1,287,000 in the past fiscal year (2005-2006). It is also estimated that the IT industry has helped create an additional three million job opportunities through indirect and induced employment (NASSCOM, 2006).

The Software Technology Parks India (STPI) Act, and the liberal tax policy it implements, have driven investment in the sector. The law provides for direct and indirect tax exemptions, and channels all relevant government licences and permissions through a single agency. The STPI exemptions are to be phased out in 2009 and the industry is keen to get another extension. The central government seems sympathetic to the demand (Narayan, 2007).

While India has developed considerable expertise in the software export sector, the global orientation of this industry has not produced significant productivity gains for the domestic economy. The islands in which the software industry tends to operate have not had a great effect on the surrounding industrial and services ecosystem.

The IT industry has also had little relation with and responsibility for social development in India, and this has often meant a backlash against its ostensible opulence. This is contributing to social strife in cities like Bangalore, which is also called the “Silicon Valley of India”.

### Participation

ICT policy in general has been driven mostly by IT industry interests, although the urban consumer lobby is becoming increasingly assertive. There has been little input from development sectors into ICT policy processes, with the effect that the processes have mostly disregarded key developmental objectives. While being driven by industry and urban consumer interests, most ICT policies have generally taken a narrow techno-managerial orientation of efficiency and economic growth.

Recognition that ICTs can be a core public infrastructural resource, important for all-round social and economic development, will allow for a normative policy consensus for the information society. By requiring all ICT policies to satisfy the WSIS standards of being people-centred, development-oriented and inclusive, India can develop congruent ICT policies across the various sectors that are responsive to its developmental needs. However, this will require a wider participation of civil society actors from various developmental and social sectors in the ICT policy processes.

The current relationship between the public authorities and development-oriented civil society in this sector is very uneasy, and the latter’s participation in policy-making processes is abysmally low. The indifferent attitude of the establishment to civil society’s participation is evident from this excerpt from a recent report:

TRAI’s policy is to invite the consumer groups for consultations twice a year. But, it also invites service providers at the same time, making one-to-one interactions between TRAI and consumer groups virtually impossible. “There is no lobby for rural people. They are not considered consumers,” says Professor Ashok Jhunjhunwala of the Indian Institute of Technology, Madras. Under-served rural communities unfortunately have little access to the tools available to city users. With hardly any service, leave aside choice, market mechanisms clearly do not help. Complaints mean little... In his response to some of these issues, the outgoing chairperson of TRAI found little wrong with its working. He said civil society was inadequately represented, weak and poorly organised, which TRAI could not help (SATC, 2006).

The likelihood of the internet being regulated in the future makes it critical that civil society groups get involved in the policy process at an early stage, contributing to the agenda. For this purpose civil society organisations involved in different development sectors will first of all have to understand and appreciate the importance of ICT policies to their work.

### Conclusions

Our report shows that in India, ICT policy debates and the institutional environment are quite robust. However, civil society’s participation in policy discussions is low, or even non-existent. This has resulted in an industry-driven and technocratic policy process.

While the ICT industry itself is flourishing, there is a poor distribution of ICT resources across geographical regions, linguistic groups, social classes, gender and differently abled people. The failure to develop policy which responds to these concerns has resulted in a situation where certain parts of the country, and some social sectors, enjoy “developed-country quality” ICT services, while the rest of the country subsists with little or no ICT access to speak of.

The current policy efforts and business models to expand rural telephony may not do the trick. For instance, auctioning spectrum to attract high bids only serves to hike prices and prevent large-scale penetration of telecom services. Instead, such technologies must be de-licensed as far as possible. Services such as internet telephony must be legalised, a community entrepreneurship model must be encouraged, and direct public funding for spreading ICT use for social and developmental activities needs to be taken up as a priority. At a broader level, this will require a basic shift in the ICT policy paradigm whereby basic ICTs come to be seen as public goods, rather than as ordinary economic services left to the vagaries of the market. While internet regulation is still a fuzzy space, with convergence it has become an increasingly important arena: the opportunity is ripe for civil society groups to engage early on in setting the agenda.

While the new community radio policy promises much, there are certain issues which will need to be addressed early on. A key one is the ban on news and current affairs programmes for community stations, which limits their effectiveness as a medium of the masses. Arun Mehta (2006) from Radiophony points out: “News and current affairs is not part of this policy. What will people air – entertainment? [The New Delhi-based University] Jamia Milia Islamia’s community radio station has a surfeit of Urdu poetry, because without news and current affairs, they don’t have much else.” The ban applies only to radio broadcasts; several 24/7 TV news channels beam news and current affairs programmes into Indian homes.

24 IT-enabled services.

With regard to the issue of intellectual property rights, a briefing note by ALF on the impact of software patents on the software industry in India says:

Software technology is evolving much faster than other industries, including its own hardware industry. In this light, a patent that lasts up to 17 years is extremely alarming. Microprocessors double in speed every two years. Research in software is galloping ahead of developments. In most industries, researching new ideas often costs more money than bringing them to the market. The software industry is, on the other hand, loaded with ideas. The idea behind most software patents can be coded in just 20 lines of code, but any program incorporating that idea – along with many others – will be a thousand times larger. It is the writing of a program that takes all the time, not coming up with ideas.<sup>25</sup>

Arun Mehta (2006) maintains that “software patents are an unworkable idea. There is no formal system of classification of software algorithms. If I come up with a code, how do I know if I have broken the law? It is not possible to keep track of all the literature (codes). All the big technology companies have signed mutual pacts not to sue each other. It is a cartel.”

This issue, together with that of DRM, needs a clear policy intervention which upholds the public interest, especially in terms of India's developmental needs. It may be inadvisable, for instance, for developing countries to enter a “TRIPS plus”<sup>26</sup> agreement that involves an even higher degree of intellectual property protection than what is already mandated by the WTO-TRIPS norms. They should retain their freedom to legislate in the interests of safeguarding access to knowledge and information, and for broad socioeconomic development. ■

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25 See: <[www.altlawforum.org/PUBLICATIONS/Why%20software%20patents%20are%20harmful.rtf](http://www.altlawforum.org/PUBLICATIONS/Why%20software%20patents%20are%20harmful.rtf)>.

26 The TRIPS Agreement is the World Trade Organisation's Agreement on Trade-Related Aspects of Intellectual Property Rights. Under 'TRIPS-plus' obligations, western countries exert pressure on trading partners (read developing nations) to agree to provisions in regional and bilateral trade agreements that mandate even higher levels of intellectual property protection than those they agreed to under TRIPS. Developing countries are thus required under these trade agreements to include very high levels of protection in their national laws, with grave consequences for public health and other national policy objectives. For more information see: <[www.twinside.org.sg/title2/twr171d.htm](http://www.twinside.org.sg/title2/twr171d.htm)> and <[www.oxfamamerica.org/whatwedo/issues\\_we\\_work\\_on/trade/news\\_publications/trips/art5391.html](http://www.oxfamamerica.org/whatwedo/issues_we_work_on/trade/news_publications/trips/art5391.html)>.

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