CHAPTER-1: INTRODUCTION

1.1 Introduction:

Cable Services sector is a classic example of individual and industry initiative in India which has grown largely as an unorganized sector and regulation has come much later. Though no authentic figures are available but it is estimated that there are about 60,000 cable operators and 6000 cable headends of which Multi System Operators operating at the State level or in more than one States is about 100[1]. Cable services cater to about 74.75 million households which is about 62% of the total 121 million Cable and Satellite TV homes . But for an estimated 2 million digital cable homes which is about 3% of the Cable homes rest 97% of the Cable services were in analog mode till 31.3.2012.

While the number of Satellite TV channels is ever increasing, the cable capacities for carrying TV channels have remained stagnant , resulting in an intense competition amongst the channels to get carried on cable whether by paying carriage fees or other incentives. Because unless they get carried, the necessary TRP ratings to get advertisement revenue will not be obtained for them. The analog mode also lacks transparency with regard to the subscriber base leading to disputes between service providers at various levels of distribution chain. The lack of a transparent subscriber base also makes it possible for the operators to conceal and withhold tax revenue payable to the Government. The subscribers on the other hand are denied a wide and a-la-carte choice of TV channels with an enhanced audio and video quality with a number of value added services like Electronic Programme Guide.

[1] TRAI Consultation Paper on Restructuring of Cable Services dated 4th March, 2008 last accessed on 19.3.2014 at http://www.trai.gov.in/Content/ConDis/139_13.aspx

Digitalisation with addressability also makes possible delivery of a number of channels to cater to niche audiences. It also makes Triple Play , that is , provisioning of TV, telephony and internet services possible through cable. Digitalisation of Cable sector was also urgently required if they are to give an effective competition to the DTH services.

Government attempts to digitise cable started in the year 2003 and subsequently in 2006 with introduction of Conditional Access System for pay channels in parts of 4 metros of Delhi, Mumbai, Kolkata and Chennai. Recently in 2011 government has laid down a roadmap for mandatory introduction of Digital Addressable Systems in 4 Phases all over the country beginning November 2012 to be completed by Dec 2014[2]. Two Phases covering 42 cities having a population of one million and above have already been completed. The Phase III and IV is now to be implemented in rest of urban and rural areas. The study attempts to trace the background, the need and past attempts, understand the approach followed, the systems put in place and the strategy adopted by the Government to manage this enormous change, the issues and challenges faced by MSOs and LCOs and to what extent have the benefits envisaged for various stakeholders including consumers have manifested. It attempts to draw conclusions from the journey so far and attempts to make some recommendations for future.

1.2 Overview of Broadcasting Sector in India:-

The Television (TV) industry value chain consists of Content production, Broadcasting and Distribution segments. While the content production industry is unregulated, the broadcasting and distribution segments are

[2] www.DigitalIndiaMIB.com and mib.nic.in

regulated by the *Ministry of Information and Broadcasting (MIB)*[3] and the *Telecom Regulatory Authority of India (TRAI)*[4]. As per the stipulated policy, while the satellite footprints of a large number of channels uplinked from abroad may be available in India, only such channels as are permitted by the MIB under the *Uplinking policy guidelines* and/or *Downlinking Policy Guidelines* can be distributed for public viewing by distributors. Depending on the revenue model adopted by the broadcaster, a TV channel can either be a *Pay channel* or a *Free to Air channel(FTA)*. The pay channel revenue model envisages income from subscription revenues received from the distributors of TV channels as also from the carriage of advertisements on their channels. Whereas the FTA revenue model is dependent only on Advertisement Revenues. The distributors are required to enter into agreements with the pay TV broadcasters for distribution of the content over their networks on payment of an annual subscription fee. There are four kinds of permitted distribution platforms in India and they are the *Cable Television services, the Direct-to-Home services, the Internet Protocol Television services* and *the Headend in the Sky services.*

As per TRAI quarterly Performance Indicators Report[5] for Jul to Sep 2013, there are about 784 permitted satellite private Television channels in India. Of these 187 are pay TV channels and rest are free to air channels.

Cable TV services in India are regulated as per the *Cable Television Networks (Regulation) Act, 1995*[6], the Rules made thereunder, and the Regulations,

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[3] mib.nic.in
[4] www.trai.gov.in
[5] http://www.trai.gov.in/Content/PerformanceIndicatorsReports/1_1_PerformanceIndicatorsReports.aspx
[6] http://mib.nic.in/Acts%20%20%20Rules.aspx

Orders and Directions issued by TRAI who is the Regulator for Broadcasting Services. While the Cable Act provided for registration of Cable Operators with the Postal Authorities no authentic government figures are available as to their actual number. The distribution of content over cable network is limited by the extent and geographical spread over which the cable network has been physically laid. The cable distribution broadly consists of two types of service providers. The first type of Cable Operator is called the *Multi System Operator (MSO)*, who sets up the infrastructure called as '*Headend*' for downlinking of satellite TV channels uplinked by the broadcasters, aggregates and bundles them, adapts them for transmission over the Cable network. While MSOs can distribute signals directly to the consumers also, the model adopted is that the aggregated signal is provided to the Local cable Operator who distributes it further to the subscribers on payment of a monthly fee. The Cable TV Networks in India have been laid and owned by a very large number of small operators called the Local Cable Operators estimated to be about 60000 in number.

The *DTH services* were permitted under the Policy Guidelines on DTH services[7] issued by Government of India on 15.3.2001. The first DTH service provider operationalised its services on 2.10.2003 and the number of private DTH service providers has since grown to 6. A DTH service provider sets up an infrastructure to downlink the satellite TV channels uplinked by the Broadcasters, decrypts them wherever required, aggregates and bundles them, re-encrypts them, uplinks them via his earth-station to the satellite, for reception directly by the authorised subscribers through small roof top dish

[7] http://mib.nic.in/Broadcasting.aspx

antennas and Set Top Boxes. As the satellite footprints are available on a pan India basis, the DTH services are an important means of distribution of News and Entertainment channels in remote and inaccessible areas. While the transmission of content over DTH is digital in form and therefore provides enhanced picture quality and a number of other value added service, the carriage of TV channels over DTH is constrained by limited satellite transponder capacity, disruption of signal due to rain/bad weather and the lack of two communication between the service provider and the subscriber (the return path mostly through mobile). As per TRAI the number of DTH subscribers has grown from 46.25 million in March 2012 to 56.5 million in March 2013[8] showing an annual growth rate of about 22% and adding about 8.54 lakh subscribers per month.

Internet Protocol Television (IPTV) Services in India are regulated as per the *'Guidelines for provisioning of IPTV services'*[9] issued by MIB on 8.9.2008. These guidelines provide for distribution of TV content even by eligible Telecom or Internet Service Providers over their network in addition to Cable operators by use of Internet Protocol. While the IPTV services provide digital content and interactive services, the growth of IPTV services is intimately linked with the penetration and growth of Broadband connectivity. Both capital and operating costs are higher for IPTV players as compared to DTH and digital cable whereas ARPU is similar due to competition. While As per TRAI report, there were 210.38 million internet subscribers in India as on 30.9.13, the number of broadband subscribers (excluding subscribers who accessed internet through wireless phones) is 15.35 million only. The industry

[8] http://www.trai.gov.in/Content/PerformanceIndicatorsReports/1_1_PerformanceIndicatorsReports.aspx
[9] http://mib.nic.in/Broadcasting.aspx

estimated only 1 million IPTV viewers as on 31.3.2011[10] which is negligible as compared to the size of the TV viewing market. The lack of infrastructure, slow broadband speeds and quality of connection are major impediments for IPTV services to give a serious competition to DTH and digital Cable services.

As per 2011 census the total number of TV households stands at 116.5 million which is 47% of the total 246.7 million households in India. As per *FICCI-KPMG Report 2013,* out of a total of 154 million TV households as on 31.3.2012, 130 million were Cable and Satellite (read DTH) (C&S) homes. Rest 24 million were covered by the terrestrial service of Doordarshan. Excluding DD Direct DTH service, the number of paid C&S households is estimated to be 121 million. Excluding the 46.25 million private DTH households, the number of cable TV subscribers comes to about 74.75 million which is about 62% of the paid C&S households. Of these only 0.9 million were digital cable (CAS) as per TRAI report.

As per the FICCI-KPMG Industry Report 2013 on the Indian Media and Entertainment (M&E) Sector, consisting of Television, Radio, Print, Films, Music, Out of Home Advertising, Animation and Visual Effects, Gaming and Digital Advertising, Indian M&E industry grew from Rs 728 billion in 2011 to Rs 821 billion in 2012, registering an overall growth of 12.6 %. It further states that 'Given the impetus introduced by digitization, continued growth of regional media , upcoming elections, strength in the film sector and fast increasing new media businesses, the industry is estimated to achieve a growth rate of 11.8% in 2013 to touch Rs 917 billion. The sector is projected to grow at a healthy CAGR of 15.2% over the 2012-17 period to reach Rs 1661 billion by 2017'.

[10] Indian Entertainment and Media Outlook, 2011, page 28

The Television Industry which constitutes the dominant segment with an estimated size of Rs 370 billion in 2012 also showed a growth rate of 12.5% over 2011 and is expected to grow at an impressive CAGR of 18% over the 2012-17 period to reach Rs 848 billion in 2017. Aided by digitisation and consequent increase in ARPUs (Average Revenue Per User), the share of subscription revenue to the total industry revenue is expected to increase from 66% in 2012 to 72% in 2017.

Thus India is today the world's third largest TV market with 154 million TV households next only to China and USA. The Television is expected to command half of the entertainment pie by 2017.

1.3 Inherent Features and Limitations of Analog Cable TV Systems :

Despite the fast growth of the DTH services, cable services continue to dominate the distribution of TV channels. However while DTH and IPTV are digital services, cable services were predominantly analog in nature. There were a large number of inherent features and limitations due to the analog nature.

(i) Whereas the number of permitted satellite TV channels has gone up to 784 the analog cable is able to carry only 70-80 channels. While this restricts the choice for the subscriber, this has also become a severe limiting factor for the growth of the broadcasters and a heavy drain on their resources as they are forced to incentivize cable operators for carrying their channels by paying carriage fees or placement fees or other incentives in kind. This is primarily because of the fact that unless they get carried, the necessary TRP ratings to get advertisement revenue will not be obtained for them.

(ii) The analog cable does not allow a-la-carte selection of channels and the subscriber cannot tailor make his selection depending on his family preferences and his budget. He has to pay for and watch all the channels being pushed by the cable operator and cannot block any individual channel.

(iii) There is total lack of transparency in the subscriber numbers as no electronic database of subscribers gets maintained. Business transactions in the cable service chain are conducted on a "negotiated" subscriber base and allegations of under declaration which gives rise to frequent disputes between service providers at various levels of distribution chain and also makes it possible for the operators to conceal and withhold tax revenue payable to the Government.

(iv) The limited carrying capacities and lack of transparency in subscriber base distorts the business model for the broadcasters and increases their dependence on advertisement revenues and restricts scope for subscription revenues (65:35). In their race for higher TRP ratings the channels often sensationalise the content and make all efforts to catch the maximum eyeballs.

(v) The quality of picture on analog cable depends on whether a channel gets carried in Prime Band or non-Prime Band

(vi) Cable operators were facing severe competition from DTH and IPTV services which were in a position to provide high quality content and value added services and unless they upgraded their services they would have lost out business to new platforms.

1.4 Need for digitalization with addressability in cable sector:

In view of the above, the single most effective step that was required to be taken to resolve the problems of the broadcasting industry was the implementation of digitalization of cable TV system with addressability. Digitalization enables efficient utilization of the spectrum bandwidth available on the cable and thereby drastically enhances the capacity to carry channels on cable, and thus takes care of all the problems arising from limited capacities. Addressability means that the signals of cable operators would be encrypted and can only be received through a Set Top Box after due authorization from the service provider. This would enable identification and maintenance of data base for each subscriber, would bring in transparency and prevent piracy . The key advantages to various stakeholders was expected to be as follows:

(i) Consumers get empowered to exercise a-la-carte selection from amongst a much wider choice of high quality channels according to their family preferences and needs and limit spending depending on their budget.

(ii) The improved quality of content and access to various value added and interactive services like Electronic Programme Guide, Movie-on Demand, Video-on-Demand, Personal Video recorders enabling recording and viewing at convenience, Gaming, enhances viewing experience

(iii) Digitalisation enables the cable operator to provide Triple Play which is carriage of voice, video and data i.e TV, Telephony, internet and IT enabled services. Apart from being beneficial to the subscriber, the international experience suggests that the capacity to provide Triple Play enables them to compete effectively with DTH services, increase their Average Revenue Per

User (ARPU) and enables convergence of Broadcasting and Telecom services.

(iv) The broadcasters would be able to carry their business transactions on auditable subscriber basis instead of negotiated basis thus reducing disputes and increasing the subscription revenues for them. The increased capacity would enable the broadcaster to offer niche channels and HDTV channels and fix appropriate prices for them. Increased subscription revenue would allow broadcasters to move away from TRP centric content, and would enable removal of carriage fees as there will be no demand supply mismatch.

(v) Transparency in subscriber base would drastically bring down the incidences of evasion of Central and State Taxes mainly Service and Entertainment Tax, and increase revenues for the Government also.

1.5 Past attempts of the Government for digitisation of Cable Industry:

1.5.1 First attempt in the year 2002-03: introduction of CAS

In the year 2002 Government carried out an amendment to Cable Television Networks (Regulation) Act, 1995 by inserting section 4A which empowered the Government to mandate through notification, in a phased manner, installation of addressable systems (commonly known as Conditional Access System(CAS)) for viewing pay channels for any area, region or town. As the TV sets at the subscriber premises were capable of receiving only analog signals, an addressable system meant that the pay channels as selected by the subscriber, transmitted in digital format, would be encrypted by the Multi System Operator and would need a Set Top Box, conforming to BIS

standards, at the subscriber end to decrypt them and convert them to analog form to be receivable by existing TV sets without the need to replace them. This meant each subscriber of pay channels would be uniquely identifiable. No STB was required if the subscriber opted to view only "free-to-air" channels in the areas thus notified. Thus CAS entailed analog transmission of free to air channels for those who opted to view only free to air channels called the 'basic service tier', and digital transmission of both free to air and pay channels. The Government (and later TRAI) was to prescribe, from time to time, the maximum amount to be paid by the subscriber to the cable service provider for the "basic service tier" and to determine the number of channels to be included in this "tier" and the maximum cost for the same in different States/cities/areas of the country, from time to time. The details relating to the identity of subscriber, his billing and other details were required to be maintained in a computerised database called the Subscriber Management System (SMS).

Section 4A Notification was issued on 14.1.03 for introducing CAS in four metros of Delhi, Mumbai, Kolkata and Chennai. On 10.7.03 by a Notification, area was reduced in Delhi, Mumbai and Kolkata and date extended. Based on feed back from MSOs and Cable Operators and as a result of court cases problems were encountered in the implementation of CAS. The matter was referred to TRAI which was notified as the Regulator for Broadcasting Services on 9.1.04 . Based on interim recommendations of TRAI in February, 2004 the operation of CAS in the four Metros was suspended on February 27, 2004 till further orders. This notification was challenged in Courts. As a result of Madras High Court directive, scheme was implemented in Chennai. On

20.7.06 Delhi High Court directed that CAS be implemented in other 3 metros also by 31st December, 2006. As directed Notifications issued on 31st July, 2006 defining areas as per 10.7.03 Notification.

1.5.2 Reasons for failure of CAS scheme in 2003:

The 2003 scheme failed and needed to be rectified due to a number of reasons. It entailed an estimated 67 lakh TV households in the entire area of 4 metros to become CAS enabled within a time frame of 6 months without assessing the capability of the MSOs/Cable operators, the willingness of the broadcasters, and the availability of the STBs at an affordable price to the subscriber. The broadcasters were unwilling to enter into agreements with MSOs for providing signals for CAS region and a similar problem was seen between the MSOs and Cable operators. The broadcasters' unwillingness was because CAS would bring transparency about their viewership which was likely to affect their advertisement and subscription revenues adversely. Similarly LCOs were worried as transparency in subscriber base would mean increased payoffs to MSOs and the Government. There was no regulatory mechanism to settle the stakeholder disputes and to protect the interest of the subscribers. Further no effort was made on the part of any player to educate the consumer about the benefits and justification of switchover. As it was the MSOs who had invested in setting up digital headends and stocking STBs, they were most adversely affected due to frequent changes in notified area, forcing them to seek court intervention and complicating the matter further.

1.5.4 Modification of CAS scheme in 2006:

TRAI issued Interconnection Regulations, Quality of Service Regulations and Tariff Orders for CAS areas after due consultation with all stakeholders including cable operators. QoS regulations prescribed norms and procedures for subscriber connection, disconnection and transfer, grievance redressal, billing procedure, STB related issues and complaints thereof, positioning of channels and taking channels off air. The Tariff Order stipulated tariff ceiling for basic service tier at Rs 77/- per month (excluding taxes), two mandatory schemes to be offered to subscriber for supply of STBs on rental basis along with any other schemes which the MSO may like to offer for outright purchase, Ceiling on maximum retail prices for pay channels in CAS areas fixed at Rs 5 per channel (excluding taxes). The interconnection Regulations stipulated Standard interconnection agreement formats between Broadcasters and MSOs and between MSOs and LCOs. It was provided that service providers were at liberty to enter into mutually acceptable interconnection agreements which are different in a given timeframe failing which they shall be required to enter into interconnection agreements as per the standard format given. Revenue sharing between the service providers in respect of Pay Channels was provided as 45%, 30% and 25% for Broadcasters, MSOs and LCOs resp. While the carriage fee paid by the broadcasters was to be retained fully by the MSOs, the charges for basic tier services were to be retained fully by LCOs.

The revised 2006 scheme was thus designed and implemented in close coordination and consultation with TRAI. Specified time bound activities as provided for in the scheme carried out by Government, TRAI, Broadcasters,

Multi-system operators & cable operators ensured the smooth implementation of CAS w.e.f. 31.12.2006. The reasons for successful implementation were as under:-

(a) A well defined implementation schedule delineating specific role/responsibility of various agencies and time period required for each activity to ensure implementation by 31.12.06.

(b) Provides sufficient safeguards to protect consumer interest and their exploitation

(c) Main responsibility of implementation put on MSOs and broadcasters.

(d) Provision of action against them in case of non-compliance.

(e) Enabling provision for TRAI to take interim measures.

(f) Fixation of basic service tier by TRAI.

(g) Detailed steps and methodology for public awareness campaign.

(h) Authorisation of MSOs by Govt. to operate in notified areas.

(i) Compulsory Set Top Box rental schemes for consumers to be approved by TRAI.

As per Dec 2008 figures released by TRAI[11] a total of 7.68 lakh subscribers, of which 1.96 lakh viewers(5%) in Chennai, 0.76 lakh (15%) in Kolkata, 2.86 Lakh (60%) in Mumbai and 2.08 Lakh (42%) in Delhi have opted for STBs with highest percentage penetration in Mumbai and the lowest in Chennai. As on 30.9.2012 as per TRAI, a total of only 10.48 lakh STBs were installed in CAS notified areas.

[11] http://www.trai.gov.in/Content/PerformanceIndicatorsReports/1_1_PerformanceIndicatorsReports.aspx last accessed on 19.03.2014

1.5.5 Findings of survey reports on 2006 CAS scheme:

Three independent surveys were conducted on CAS as introduced in 2006.[12] Indian Institute of Mass Communication conducted a survey to assess the reasons for the low penetration of STB in CAS notified areas of Delhi, Mumbai, Kolkata and Chennai on the request of TRAI. Broadcasting Engineering Consultants India Ltd. (BECIL) was engaged by TRAI as a Consultant for conducting Audit of Quality of Service performance of the specified Multi System Operators in Delhi, Mumbai and Kolkata. Voluntary Organization in Interest of Consumer Education (VOICE), an NGO also conducted a study to take a feedback from the consumers, cable operators and Multi System Operators on the various delivery dimensions of CAS and its implementation in South Delhi.

The survey reports brought out certain issues needing redressal. One of the reasons quoted for lower penetration of Set Top Box was the consumer resistance to its cost which therefore needed to be brought down. This could be done firstly by reducing the customs and excise duties on its components so that indigenous production is incentivized and secondly by creating a large demand for them so that bulk production was able to bring down the costs.

The second issue was that the popular pay channels were being made available in unencrypted form by the LCOs. The subscribers therefore did not feel the need to purchase the STB. It was very easy to start providing a pay channel in an encrypted manner and immediately switch over to unencrypted manner and therefore even the Enforcement Teams were unable to collect

[12] MIB files

evidence for action against the cable operator. Though violation of Section 4A of Cable Act, were made cognizable and punishable under Section 16 of the Cable Act, however in the absence of evidence it became difficult to get the guilty punished through a judicial process. It was therefore felt that the problem of piracy in CAS areas might be brought down by notifying the entire city under CAS rather than in parts. Though there were certain technological solutions like fingerprinting and watermarking available to detecting cases of piracy by means of which concrete evidence can be generated to punish the guilty however these were cumbersome to implement. To ensure compliance and enforcement of stipulations laid out by Government and TRAI, it was strongly felt that amendments were required in the cable act where there was no provision or procedure prescribed to suspend or cancel the registration of a cable operator or to impose fines by administrative authorities for violations.

The third issue putting in place an efficient system for redressal of consumer grievances as also to ensure that MSOs and cable operators ensure compliance to the Quality of service regulations laid down by TRAI .

The consumer also needed to be educated on the requirement of installation of STB, benefits of digitalization and CAS and how to operate and use a Set Top Box as one of the findings of survey report was that in some localities consumers were not even aware of the need for installation of a STB, and that women and elderly viewers did not feel comfortable in handling the remote of STB and understanding its complexities and assistance when sought was not forthcoming from the MSOs or cable operators.

1.5.6 Need for revision of CAS scheme of 2006 :

The evaluation and discussions with various stakeholders also brought out that, while the pay TV subscriber base (25%-30% on an average) gets captured in the database of the MSOs, the FTA subscribers do not get captured and this model has therefore not been able to bring in complete transparency. Carriage of analog channels also blocks spectrum which could be gainfully utilized for delivery of additional channels or other services. CAS had also not brought in the desired increase in Government revenues in these areas. Thus it was felt that unless the FTA channels were also mandated to be encrypted and provided through STBs the desired objectives would not be achieved and accordingly the CAS approach adopted in 2006 needed to be modified.

1.6 Whether introduction of DAS on voluntary basis could have happened:

One of the options explored was to allow introduction of digital addressable systems (DAS) on a voluntary basis by MSOs/Cable operators. Of the total estimated 7% digital cable subscribers (5 million) , 4 million have accepted it on a voluntary basis. A TRAI constituted group had examined this issue and cited following three reasons in its report dated 12.6.07[13] as to why the play of market forces has not led to introduction of DAS on its own

(i) Introduction of DAS leads to transparency in subscriber base and viewership of pay channels which affects the revenues positively or negatively

[13] MIB files

at various levels of distribution chain which acts as deterrent in its implementation.

(ii) In a city with multiple MSOs and cable operators voluntary DAS can only succeed if all MSOs and cable operators voluntarily agree to roll out DAS simultaneously which is difficult to achieve in a deregulated environment.

(iii) There is consumer inertia in accepting DAS because of the financial burden on the consumer.

It was also observed that most of countries of the world have adopted a time table for the conversion of analog broadcast to digital. Thus unless mandated to happen within a time frame, digitalization of cable services is going to be an extremely slow process.

1.7 Paving the way for introduction of DAS:

Subsequently TRAI, in its recommendations on "Restructuring of Cable Services", dated 25th July, 2008 and thereafter in its recommendations on "Implementation of Digital Addressable Cable Systems in India" dated 5.8.2010[14], had recommended that digitalization with addressability be implemented on priority. In its recommendations dated 25.7.2008 TRAI had suggested a number of changes in present legal provisions and regulatory framework including the system of registration and renewal of cable operators, introduction of provisions for suspension and revocation, enhancement of FDI limits and need for making provisions for granting Right of Way to Cable operators, TRAI vide its recommendations dated 5.8.2010 has recommended a slew of incentives for digitalization and a timeframe for digitalization. While the TRAI was of the view that digitalization in four

[14] http://www.trai.gov.in/Content/Recommadation/13_RECOMMENDATIONS.aspx last accessed on 19.03.2014

Phases to be completed by 31st December 2013, the Ministry found it too aggressive. The Ministry held a series of consultations with concerned stakeholders. The paucity of set-top-boxes (STBs) required, inadequate local manufacturing capacity of STBs and time required for MSOs for channelizing investments towards setting-up of other digital infrastructure and equipment were the main reasons put forth by the Ministry for modifying the timeframe.

1.8 Notification of DAS and its implementation:

Finally, the Ministry moved a proposal[15] for the approval of the Cabinet to amend Cable Television Networks (Regulation) Act,1995 to put in place a legal frame work to implement DAS in the Cable TV sector and to lay down ***the time frame of implementing DAS in four phases*** all over the country as per the following schedule:

(i) ***Phase-I*** : 4 Metros of Delhi, Mumbai, Kolkata and Chennai by **31st Mar.,2012**

(ii) ***Phase-II***: Cities with a population more than one million (38) **31st Mar.,2013**

(iii) ***Phase-III*** : All urban areas (Municipal Corp./ Municipalities) by **30th Sep.,2014**

(iv) ***Phase-IV*** : Rest of India by **31st Dec.,2014**

The dates for each Phase were to be specified at one go by issuance of a notification under section 4A of the Cable Act so that there is clarity among the stakeholders on the roadmap. The Ministry was however empowered to postpone the dates if so required.

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[15] MIB Files

It was felt that the surety and setting up of such deadlines would give clear signal to the industry and investors that the digitalization is imminent and they would be able to channelize investments into the sector. The volumes that such a mandate would assure, would bring down the cost of equipment and STBs and promote indigenous manufacturing industry. However, taking note of the fact that India is a vast country, that equipment manufacturers of STBs, digital headends and other networking equipment manufacturers will have to gear up their production and develop indigenous products, that investments will have to be mobilized by different stakeholders down the distribution chain especially the Multi System Operators, that the consumers will have to be educated about the benefits of migrating to DAS, the deadline have been staggered. While the Cabinet accorded its approval for promulgating an Ordinance to bring in amendments to the Cable Act on 13.10.2011, the incentives on Tax and Duty Structure on cable services recommended by TRAI and MIB for reducing the fixed and operational costs for making DAS viable and for bringing down the cost of the STBs for the subscriber were not agreed by the Government . Cable Television Networks (Regulation) Amendment Ordinance 2011 was promulgated on 25.10.2011 and subsequently replaced by the Cable Television Networks (Regulation) Amendment Act, 2011 on 31.12.2011. The time schedule under section 4A was notified on 11.11.2011. The date for the first Phase was notified as 30.6.2012 instead of 31.3.12 to provide for the mandated at least 6 month time for transition. The Cable Television Networks (Amendment) Rules, 2012 were notified on 28.4.2012 for facilitating implementation of DAS. The Cable rules, *inter-alia*, provides for eligibility and terms conditions of registration of

LCO and MSO, procedure for applying for registration, procedure for ensuring consumer rights, etc. TRAI, the regulator for the broadcasting and cable services, also issued tariff order for digital cable TV systems; interconnect regulations, regulations relating to Quality of Service and Complaint Redressal System to facilitate the implementation of DAS.

The date for implementation of first Phase was further postponed to 31.10.2012 on account of certain regulatory issues and taking into account other factors, including the consideration that a large number of consumers had still not got the Set Top Boxes.

The Ministry embarked on an aggressive public awareness campaign through print, radio, television, mobile and website and social media networks with a view to make people aware of the changes necessary from the date prescribed for digitalization much ahead of the cut off date. The Ministry set up a Control Room to provide clarifications to people and answer their queries.

A large number of petitions were filed by various LCOs in various States for staying the implementation of DAS. While some were successful in getting partial relief from the courts the others could not get any relief. Resistance was also faced from some of the State Governments who wanted extension of the deadlines.

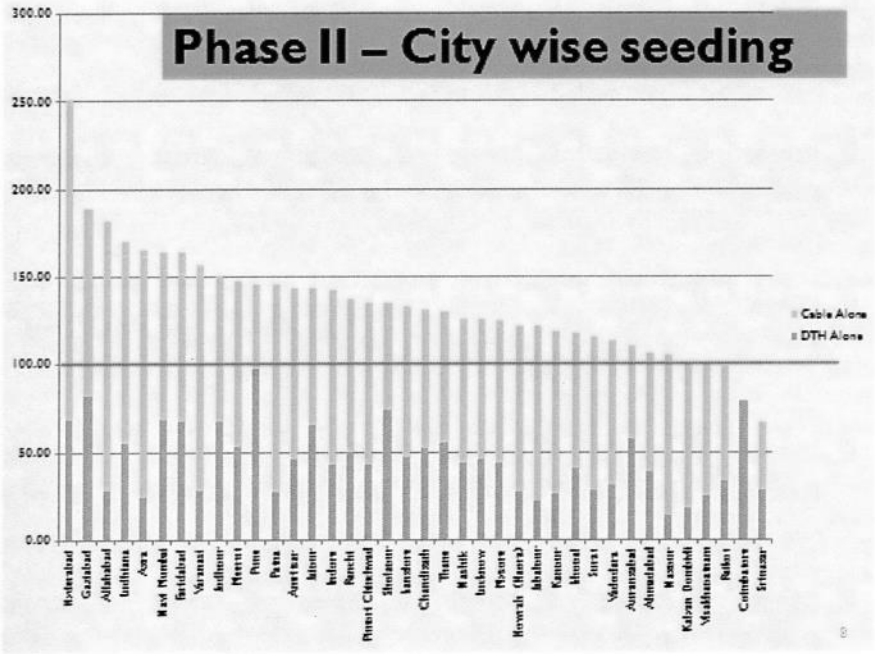
1.9 Status of Digitization as on 31.12.2013

As per 2011 Census there were 82.59 Lakh TV Households in the 4 metros notified under Phase-I. Considering multiple TV homes, MIB estimated an

additional requirement of 20% for STBs the total requirement thus coming to 99.11 lakh. Of these 32.22 lakh availed DTH services. As per the figures provided to MIB by MSOs, a total of 84.89 lakh cable STBs were installed taking the total number of STBs(DTH+Cable) to 117.11 lakh, an achievement of 118.16%. While the transition in Delhi and Mumbai was smooth, in Kolkatta the target was achieved with some hurdles and some issues still remain in Chennai.

In the 38 cities spanning across 14 States and one UT of the second Phase concluded on 31.3.2013, a total of 160 lakh STBs were required to be installed. While 75 lakh were covered by DTH, 142 lakh cable STBs have been installed as on 31.12.2013 as per MIB figures taking the total to 212 lakh (132.5%). While 36 cities have achieved 100% digitisation, 1 city (Coimbatore) was between 75-100% and 1 (Srinagar) less than 75%.

Figure:1.1



Source:MIB

1.10 STATEMENT OF THE PROBLEM

As per industry estimates there were about 74.75 million Cable TV households as on 31.3.2012 all over India. As per the roadmap laid down by the Government for transition from analog cable to digital addressable cable services, about 22.7 million (30.4%%) cable STBs have already been installed by 31.12.2013 during Phase-I&II in 42 cities with a population of one million and above, leaving a balance of 52.05 million to be installed by Dec 2014. This implies a rate of installation of 4.33 Million STBs per month in the balance 12 months. This phenomenal task poses a number of challenges not only for the Government but also for MSOs and LCOs. While there was a larger presence and availablility of digital ready infrastructure of reputed MSOs in the metros and larger cities, the digital infrastructure capable of implementing DAS may need to be created from scratch in smaller towns and rural areas as one moves to Phase-III and IV. The business models and practices of small time cable operators and consumption patterns of consumers are in for a drastic change. The journey so far therefore needs to studied in detail to do any course corrections for future.

1.11 PURPOSE OR OBJECTIVES

The study is proposed to be undertaken keeping in view the following objectives:

(i) To understand the Government and Regulatory efforts in managing the transition of cable services from an analog mode of delivery of content to a digital addressable mode;

(ii) To assess the impact of migration on various stakeholders especially the local cable operators and the consumers; and

(iii) To identify problem areas and make suggestions for midterm course correction

1.12 RATIONALE OR JUSTIFICATION

Mandating compulsory migration of cable services from analog mode to digital delivery with addressability has been considered as a panacea for the television broadcasting industry and a much needed Government intervention for paving the path for its accelerated growth. It has therefore been considered important to do a concurrent evaluation of this transition after two Phases have been completed and about 30% task has been accomplished. As this transition is going to affect the consumption patterns of about 74.75 million cable viewers and a Rs 370 billion television industry it is important to understand whether we are moving in the right direction or some mid term course corrections are required.

1.13 RESEARCH QUESTIONS:

The endeavour of the study is to find answers to the following Questions:

(i) Whether introduction of DAS has brought transparency in the number of subscribers and led to an increase in the Tax collections of the Government?

(ii) What has been the impact of the introduction of Digital Addressable Systems on the business, business model and role of the Local Cable Operators?

(iii) Whether and to what extent have the stipulations laid down by TRAI in its Tariff Order, Quality of Service Regulations and Consumers Complaint Redressal Regulations for protecting the interest of the subscribers have been complied with by MSOs and LCOs?

(iv) What is the perception and level of satisfaction of the consumer about the transition to digital viewing and its perceived benefits?

1.14 SCOPE/LIMITATIONS/DELIMITATIONS

While Census 2011 provides that out of a total of 246.7 million households , the number of TV Households is 116.5 million, it does not give any further bifurcation as to the number of households receiving signals through cable/DTH/IPTV or through terrestrial means. No authentic Government figures are available on the exact number of Multi System Operators or Cable Operators in India. Going by the Industry estimates there are about 74.75 million Cable TV Homes, 6000 MSOs and 60000 local cable operators in India. Any study entailing consumers or MSOs or LCOs thus necessarily has to be conducted on a sample as conducting a census on the population is not possible.

In Phase-I and II implemented so far, a total of 22.7 million STBs have been installed[16]. As the regulations required MSOs to seek registration from MIB, as per MIB figures provisional registration has been issued to 152 MSOs in these

[16] Source:MIB

42 cities[17]. The number of LCOs served by these MSOs and their details are still unknown. Going by the national estimated ratio each MSO can be taken to serve about 10 LCOs. Thus the number of LCOs might be in the range of about 1520.

Looking into the constraints of limited time and financial constraints the scope of the field study and data collection has been limited to the neighbouring Ghaziabad district only. It is learnt from MIB that permissions have been given to four MSOs in Ghaziabad and a total of 1.65 lakh STBs have been installed. As Ghaziabad is in the NCR it is expected that collection of primary data from LCOs and Consumers would be possible.

The policy envisages a number of benefits for the broadcasters and MSOs in terms of increase in subscription revenues accompanied by a reduced dependency on advertisement revenues, reduction in carriage fees paid to MSOs, transparency about their viewership, greater incentive for investing in production of quality content and starting niche channels. However these benefits are supposed to be realised over a medium term rather than in short term. Moreover broadcasters would not be willing to part with the financial details. Hence Broadcasters and MSOs have been left out from the purview of this study. If during the course of study any secondary data is found available that would be relied upon to draw inferences.

1.15 LITERATURE REVIEW

While some of the countries have achieved complete switchoff of analog services, many others have also prescribed deadlines for achieving the same.

[17] http://digitalindiamib.com/Registered_MSOs_as_on_30th_Dec_2013.pdf last accessed on 19.03.2014

As the nature of the television broadcasting content distribution industry with its large dependence on the cable services and the digital approach followed is unique to India no useful purpose will be served in studying how such countries are managing their transition. No peer reviewed study is available on the issue of the policy approach to digitisation of cable services under implementation by Ministry of Information and Broadcasting in coordination with TRAI. No such study either by the Government or TRAI or any other entity or individual as yet is available on the impact of the implementation during Phase-I and II as these have just been concluded. TRAI Consultation Papers and Recommendations on the subject and Explanatory Memorandum in its Tariff Orders , Interconnection Regulations and Quality of Service Regulations on the DAS provide the necessary background and context which have been referred wherever required.

FICCI-KPMG Industry Report 2013 on Indian Media and Entertainment sector mentions as follows:

Commenting on the benefits of digitisation it says-

'The year 2012 heralded the much awaited start to digitization of cable. Despite some hiccups, Phase 1 saw significant progress in implementation of mandatory digital access system (DAS) across the four metros. Industry now hopes to realize benefits over the medium term – including enhanced ability to monetize content, greater transparency and equitable revenue share across the value chain, lower burden of carriage fees and hence increased ability to invest in differentiated and sophisticated content. Phase 2 digitization across

the next 38 cities is anticipated to move ahead on similar lines, albeit with some delay vis a vis planned timelines. '

'In 2012, the television industry commenced its journey down a game changing path, with the seeds planted for sweeping changes that would significantly change the way business is done. Digitisation of cable is expected to bring in transparency and increase subscription revenues for Multi System Operators (MSOs) and broadcasters. It is also expected to reduce carriage fees, building a case for the launch of niche channels and investment in content for existing channels. Developments and refinements in viewership measurement systems may affect the way advertising is distributed among channels.'

'The benefit of phase 1 and phase 2 digitisation in terms of growth in subscription revenues is expected to be seen over 2013 and 2014'

'In digitised areas, carriage costs appear to have declined'.

On the extent of transparency achieved in the subscriber base it says :

'Industry discussions suggest that the digitisation in Phase 1 cities may not all be addressable yet. MSOs are in the process of verifying their customer base, and updating their systems before packages are deployed'

'It is important to continue the momentum and ensure that digitisation of cable gets completed; else there may be a risk that even Phase 1 cities may regress to a mélange of analogue and digital cable'.

The report also gives a clue to the opposition being felt from the Local Cable Operators and says:

'TRAI has recommended a revenue share of 55:45 (MSO: LCO) for the basic free to air tier and 65:35 (MSO: LCO) for a combination of free to air and pay channels. There have, however, been instances of LCO protests against the TRAI recommendation with demands for a greater revenue share for LCOs.

LCO cooperation remains crucial for smooth implementation of DAS across Phase 2 cities, and MSOs are expected to avoid tough negotiations at least till the end of Phase 2. This may lead to further delays in monetizing gains from digitisation.'

'With the eventual control of the subscriber moving to MSOs post digitisation, the distribution industry is expected to see a power shift towards MSOs. LCOs are expected to take up the role of collection and servicing agents while MSOs control the infrastructure and generate bills through a subscriber management system.

However, even as MSOs may have control of the subscriber, LCOs will be crucial to customer interactions and day to day management. Therefore LCO relationship management remains crucial for MSOs.'

On the consumer side it says:

In the process of digitisation, while STBs have been seeded by MSOs, and the consumer has started receiving digital signals, packages have not yet been deployed. Essentially, the consumer is receiving the full portfolio of channels from their MSO (barring a few exceptions such as some regional channels, which are made available upon request). Industry discussions suggest that the ARPU at the consumer's end has not increased materially – the customer is still paying analogue rates. Industry discussions suggest that

maintaining the status quo on ARPUs may be one of the factors that helped MSOs retain a large share of their analogue subscriber base.

We also note that at current ARPU levels, most of the newly digitised customers would qualify for a 'base pack'. Hence, it is likely that the consumer may have to pay more for the same set of channels or may not get all the channels at the earlier price. In such a scenario, cable TV operators will have to aggressively compete with DTH operators to retain their subscriber base, while providing the customer with a better value proposition.

Thus it is apparent that the transition so far has led only to the deployment of STBs and addressability is yet to be achieved. Instead of collecting individual preferences from the subscriber and making available customised pack, consumers are still being given the basic pack perhaps at the charges which they were paying earlier. The full impact of digitalisation seems yet to be disclosed to the subscriber and the prices may increase for him as and when the same is done and may lead to increased opposition from him. While TRAI has issued directions setting deadlines for collecting Consumer Application Forms the addressability and full impact is yet to manifest. The opposition from the LCOs and consumers may increase and hence a course correction may be required.

1.16 METHODOLOGY ADOPTED

The study is empirical and data has been collected from both primary and secondary sources. The latter has been collected from the Industry and other Reports, Sources in the Ministry of Information and Broadcasting and TRAI and their websites. The primary data has been collected with the help of

questionnaires and interviews with the LCOs in Ghaziabad DAS area, and with the help of questionnaires from a sample of consumers in the Ghaziabad DAS area. Views of the representatives of associations of MSOs and Cable Operators, interviews and discussions with the MIB and TRAI officials, officials of Ghaziabad, Kanpur and Unnao district incharge of the cable. The primary data collected has been analysed to draw conclusions using Statistical Tools like SPSS.

The District was chosen considering the paucity of time , proximity to Delhi (NCR Region), administrative convenience in closely being able to supervise the survey, likelihood of better cooperation from the district officials in sharing data as I belong to UP cadre, a representative district with an Urban Rural mix and availability of a large sample.

As per the list obtained from Ghaziabad entertainment tax department, it has only 2 MSOs namely Den Networks Ltd and Hathway 142 LCOs are with DEN and 30 LCOs are with Hathway. About 25 LCOs included in the DEN figure, have signals both from DEN and Hathway. The total number of STBs installed is about 1.65 lakhs. The actual subscriber numbers would be less due to multi TV homes. A sample size of 1041 consumers have been surveyed which comes to about 0.63 %.

Out of 172 cable operators, survey could be completed for 60 leading to a sample size of 35 %.

The Questionnaires were then compiled using the SPSS software and the results analysed.

1.17 CHAPTERISATION SCHEME

Chapter 1: Introduction

This Chapter gives a background information about the current status of the Broadcasting sector, the problems being faced due to analog nature of cable services, detailing the need for digitalisation. It goes on to enlist past experience of government to digitise the sector and the results so far. It then goes on to detail what thinking went into the formulation of the present policy and what procedures were followed.

Chapter 2: Policy Framework For Digitalisation

This Chapter brings about certain relevant details about the recent amendments to Cable Act and Rules made by the Government as also the recent Tariff Orders, Quality of Service Regulations, Consumer Complaint Redressal Regulations, Orders and Directions issued by TRAI for defining the regulatory policy for DAS cable.

Chapter 3: Managing the transition- Implementation Structures and Mechanisms

The management of this transition requires close coordination amongst the Central Government, the State Governments, Broadcasters, Multi System Operators, Local Cable Operators, Equipment Manufacturers and Consumers. A close monitoring is required to ensure adequate supply of Headends and STBs and networking equipment, ensuring timely issuance of permissions to MSOs for working in the notified areas. A massive public awareness campaign is required to be coordinated to enhance public awareness about

the benefits and improve accessibility by the consumer. The chapter focuses on how this task has been managed by the Government

Chapter 4: Changing Business Model of Local Cable Operator- Issues and Challenges

This chapter analyses the response of LCOs of Ghaziabad to the questionnaire, how migration has affected the business and revenue model of the Local Cable Operator. It also attempts to analyse how his role has changed and what factors are leading to an opposition from them.

Chapter 5: Consumer Perception and Response

This chapter analyses the response of the consumers in Ghaziabad to the questionnaire, how his consumption pattern has changed, whether and to what extent have the benefits envisaged for the consumer while going in for digitalisation have manifested and the extent of satisfaction of the consumer. It will also evaluate whether the safeguards provided for protecting their interests have been able to achieve the desired objective.

Chapter 6: Impact on Tax Collections

This Chapter compares the receipt of Entertainment Tax collections from DAS areas in the State of UP in the pre DAS and post DAS scenario. It also attempts to analyse the impact on other central government tax collections post DAS.

Chapter 7: Conclusion and Recommendations

The conclusions of the study on various research question stated above will be summarised. An attempt will also be made to suggest any midterm course corrections that may be required in the policy framework or its implementation