Annexure - 1

REACHING A SUBSCRIBER BASE OF 250 MILLION BY 2007 CONTRIBUTION OF THE GSM CELLULAR MOBILE INDUSTRY PROSPECTS & CHALLENGES

I. INTRODUCTION

a. World over, **telecom is accepted to be a critical infrastructure sector**. Growth and development of telecom services has a direct and significant impact on the efficiency, competitiveness and growth of every other sector of the economy. In fact, international studies have shown a direct relationship between growth in tele-density and its impact on economic growth. It has been established that **for every 1% increase in tele-density, there is a 3% increase in the rate of growth of GDP.**

b. It follows from the above that if we can create a **nationwide telecom infrastructure that can deliver easily available, affordable and efficient telecom services to all consumers**, this will have a **multiplier impact on the growth of the economy**. To ensure access, affordability and efficiency in the telecom sector, it is important for **policy and regulation to encourage as well as facilitate healthy and vibrant competition and a sufficiently vigorous spread of telecommunication services.**

c. Within telecom, it is the **mobile infrastructure that has demonstrated itself to be the most conducive** medium to **rapidly and economically deliver the benefits of communications and connectivity in developing economies.** Cellular mobile telephony is uniquely suited bridge the digital divide and bring modern telecommunications services to chronically underserved communities. Setting up a fixed line infrastructure is a costly and time-consuming task, cellular networks are cheaper to set up and faster to deploy and thus represent the optimal solution to expeditiously reaching the power and benefits of telecommunications to remote and rural India.

d. The importance of telecom and telecom infrastructure was first recognized in the **National Telecom Policy 1994** (NTP-94) which recorded that telecommunication services of world class quality were necessary to ensure the success of the Government's new economic policies. The Policy also recognized that development of telecom is both technology and capital intensive and that the rapid acceleration in the growth of telecom services would require huge resources, which were beyond the capacity of the Government. The Policy identified a resource gap of over Rs. 23,500 crores that would be necessary to meet the

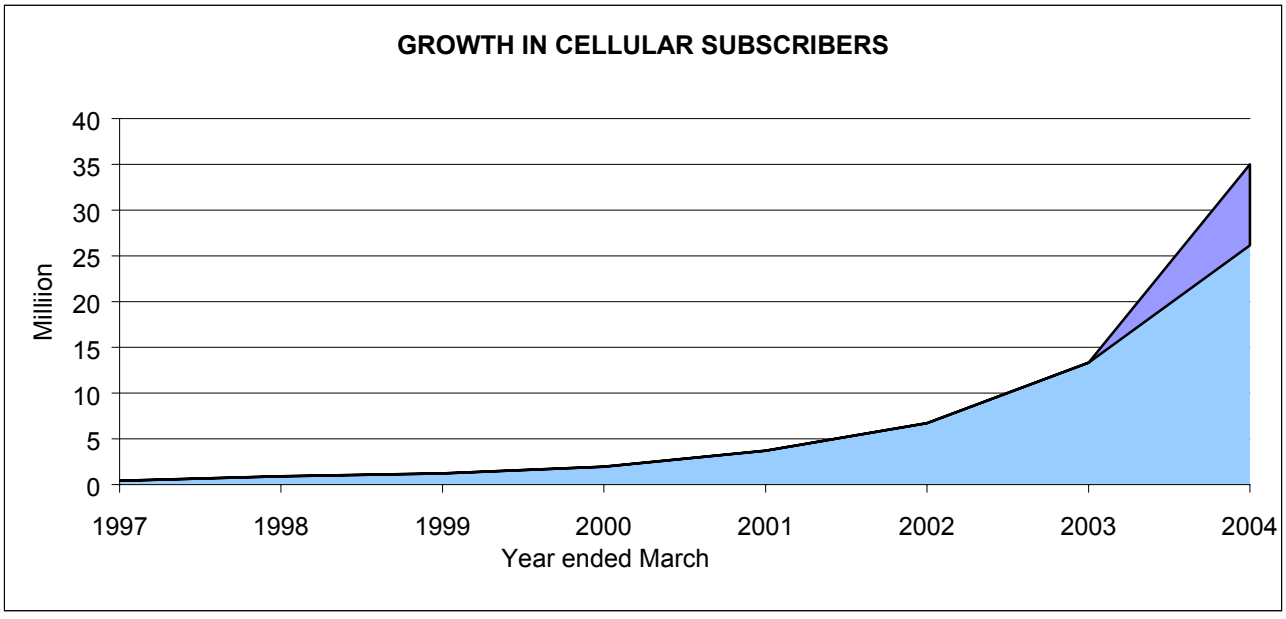
revised targets of the Eighth Five-Year Plan. Accordingly, to bridge this resource gap, telecom was opened up to private sector participation.

II. GROWTH OF CELLULAR MOBILE SERVICES

a. Cellular mobile was one of the first sectors to be opened up to the private sector when the Metro licenses were awarded in 1994. However, the initial growth was stifled by the high prices resulting from very high license fees. Since then, **a series of initiatives taken by the Government** have **completely transformed the mobile landscape.** Introduction of **NTP-99**, **migration** of existing operators to the new revenue share regime, introduction of **increased competition** into cellular services and most importantly the introduction of a **Calling Party Pays (CPP) regime** have all **contributed to improved affordability, increased consumer choice and the overall growth and prosperity of the industry**.

b. **1999 marked the turning point in the fortunes of the cellular mobile industry**. The number of cellular mobile subscribers has grown from a miniscule 1.24 million in March 1999 to touch 35 million in March 2004 and cross 45 million in October 2004 growing at a compound annual growth rate (CAGR) of around 95% p.a. (See Graph-1) It can thus truly be said that India's real telecom liberalization started in 1999.

GRAPH-1



Year ended March	1997	1998	1999	2000	2001	2002	2003	2004
GSM Cellular Subscribers (in Million)	0.41	0.91	1.24	1.96	3.70	6.71	13.34	26.15
CDMA Cellular Subscribers (in Million								8.85

Source: Cellular Operators Association of India

c. Cellular mobile now forms an integral component of the Indian telecom pie. When cellular services were first introduced **in 1995, the total tele density of the country was 0.8 per hundred persons**. (All fixed lines and no mobiles). In the nine years since then, the mobile landscape in the country has undergone a dramatic transformation. **Tele-density has grown exponentially to reach 8.24 per hundred persons in October 2004**.

d. The contribution of mobile to this performance is significant. **By the end of October 2004, the total cellular mobile subscribers had overtaken the number of fixed line subscribers in the country.** The number of mobile subscribers has now crossed 45 million and continues to **grow at an average rate of around 1.5 million subscribers per month**. **Cellular subscribers now constitute around 4.1 % of tele density** and account for over 50% of all the phones (fixed + mobile) in the country.

e. **GSM continues to be the main driver** for cellular mobile growth accounting for around **80% of all the mobile subscribers** in the country and continuing to contribute **80% of the subscriber additions.**

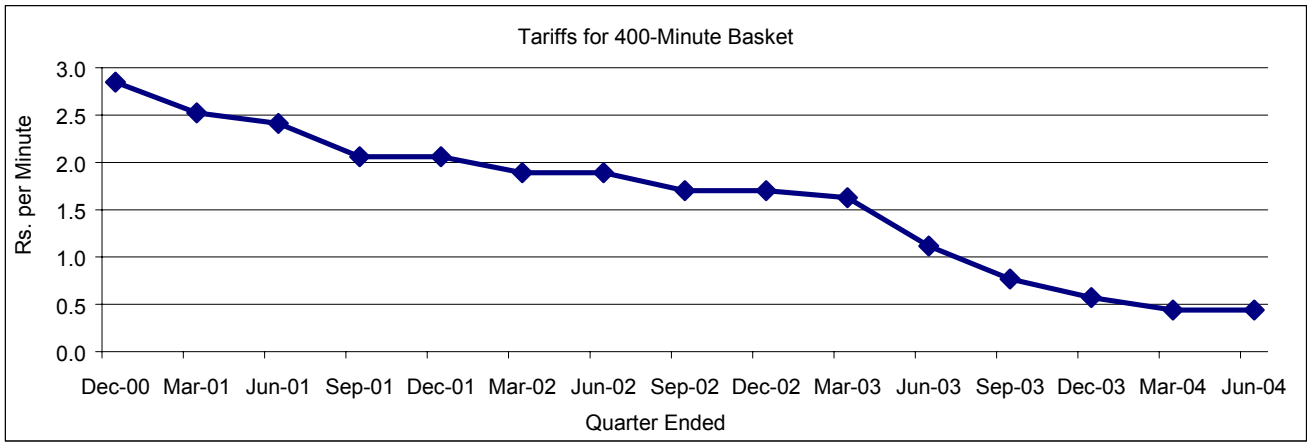
f. This **aggressive growth of cellular mobile services was the result of both improved affordability and increased coverage.**

g. **Affordability** of cellular mobile services has been progressively enhanced with the continuous introduction of increased competition into the sector. The introduction of the 3rd and 4th GSM operator in 2001-02 and the migration of fixed operators to full CDMA based cellular mobility in end 2003 has resulted in **India becoming one of the most intensively competitive cellular mobile markets in the world**.

h. Further, the introduction of CPP (Calling Party Pays) system in May 2003 removed one of the greatest barriers to take-up of cellular mobile services as it encouraged increased subscription amongst the low-end and marginal consumers. Minimum effective local call charges for cellular mobile services are have dropped from Rs. 2.85 per minute in December 2000 to around **44 paise per minute in June 2004.** (See Graph-2)

GRAPH-2

IMPROVING AFFORDABILITY OF MOBILE SERVICES



Rs. per Minute

Quarter ended	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03	Mar-04	Jun-04
Tariff	2.85	2.52	2.41	2.06	2.06	1.89	1.89	1.70	1.70	1.63	1.12	0.77	0.57	0.44	0.44

Source: TRAI Quarterly Performance Indicators Report

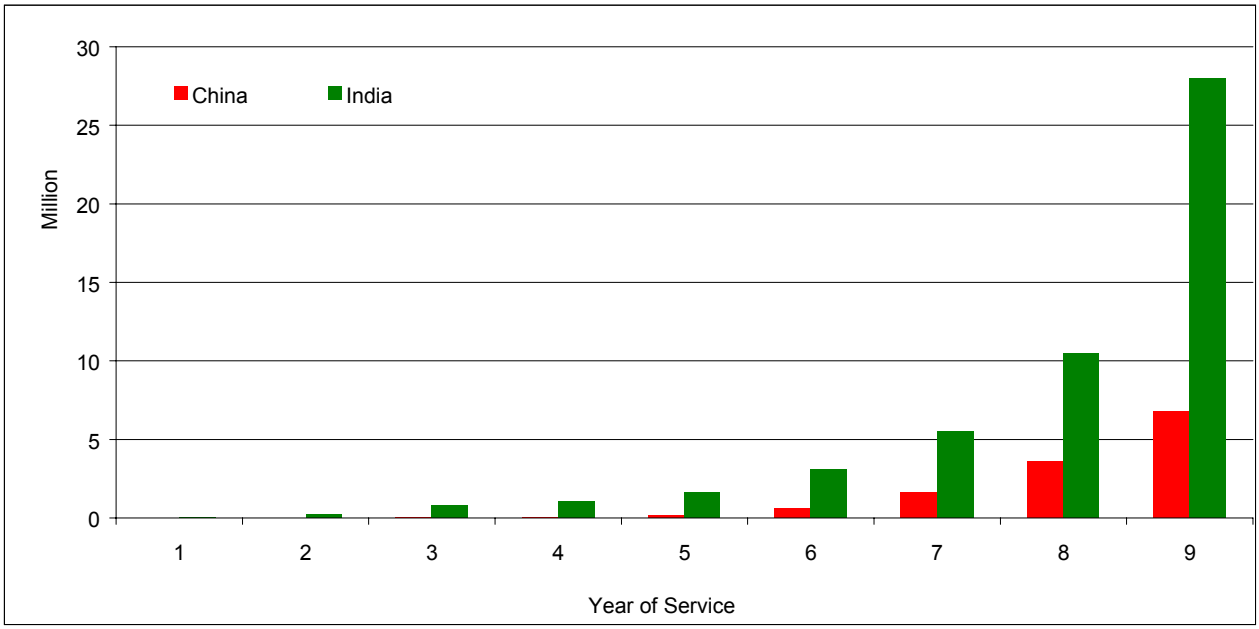
i. As a result of NTP-99, cellular mobile operators were able to break out of the vicious circle in which they had been trapped under the high fixed license fee regime and use the resources that had been freed up to invest in their networks and rollout their services in more and more cities and towns. India comprises of around 5000 cities and towns. Cellular mobile services / **coverage** was available only in around 421 cities and towns in June 1999, it is now **available in over 2500 cities and towns all across the country**. **Due credit in this regard must also be given to BSNL which has spearheaded the initiative to rollout in smaller cities and towns** by leveraging its nationwide fixed line infrastructure. In fact BSNL, in a very short period of time has been able to notch up an impressive performance and has raced to second position in the market accounting for 8 million mobile subscribers all India by end October 2004. The **private operators too have undertaken to extensively rollout their networks in the smaller cities and to**wns. It is expected that **by June 2005, the private operators will be present in at least around 4000 towns** and in the process **also provide air cover to several thousands of villages.**

j. As of date, Indian cellular service providers (both GSM and CDMA) have set up 109 mobile networks and are offering services to over 45 million subscribers in around 2500 cities and towns all across the country at tariffs which are amongst the lowest in the world. Of this, GSM alone has 78 networks, serves around 36 million subscribers and covers around 2500 cities & towns

k. The **success of India's reform policies** can be clearly seen when the mobile growth is **benchmarked against that of China**. China because of its similar geographic and demographic profile has often been looked up to as a role model for India's reform initiatives. China represents one of the greatest success stories of mobile communications. At the end of 1990 there were just 18,319 cellular subscribers in China i.e. one out of 65 million people in that country owned a mobile phone. However, by the end of the decade, numbers were practically doubling year-on-year. China is now the largest mobile phone market (by subscribers) in the world with around 320 million subscribers and currently accounts for the greatest absolute number of new subscriber additions of any market. However, if we look at a **year-on-year comparison from start of service between India and China, we can see that India is in fact far ahead of China at its current stage of mobile development.** At the end of Year 9 (1996), China had only reached 6.8 million mobile subscribers, while India by the end of Year 9 (2003) had already crossed 28 million mobile subscribers. (See Graph-3)

GRAPH-3

CELLULAR GROWTH – INDIA VERSUS CHINA



Year of Service	1	2	3	4	5	6	7	8	9
China									
Year ended December	1988	1989	1990	1991	1992	1993	1994	1995	1996
Mobile Subscribers (in Million)	0.003	0.01	0.02	0.05	0.18	0.64	1.6	3.6	6.8
India									
Year ended December	1995	1996	1997	1998	1999	2000	2001	2002	2003
Mobile Subscribers (in Million)	0.03	0.22	0.79	1.07	1.6	3.1	5.48	10.48	28.0

l. Thus it would be fair to say that **if India can maintain its present aggressive growth rate, it will not just emulate but it will surpass the growth of China.**

III. FUTURE PROSPECTS

a. Going forward, the future looks bright for India, as there are a number of demographic and socio-economic factors in India's favour that would continue to fuel the aggressive growth rate of the cellular mobile industry. These include factors like a **rising income levels, a booming knowledge sector, a burgeoning middle class and growing urbanization of population.**

b. **Cellular mobile telephony** is **uniquely suited bridge the digital divide** and reach the power and benefits of telecommunications to remote and rural India. Mobile telephony will thus have an **increasingly important role to play in India's future economic growth**. The last few years have already demonstrated what can be achieved by mobile telephony, as the cellular mobile industry, in virtually the last 5 years, has equaled the number of fixed connections set up the fixed line incumbent in the past 50 years. **Going forward, the growth can be expected to be equally explosive, if certain key policy and regulatory issues are expeditiously addressed**.

IV. SUBSISTING CHALLENGES

a. It has been estimated by some experts that the addressable mobile population in the country will be around 300 million by 2007. In fact even now, the **addressable mobile population in the country is in excess of 200 million**. But India has a **mobile subscriber base of only around 45 million**. The **disconnect** between addressable population and actual subscriber base arises primarily **because about 70% of India's billion plus population lives in the rural areas where the cellular coverage is not extensive**. Going forward too, it is expected that the increased potential will come from rural and un-served areas. Thus, the **most important challenge before the industry now is to reach out and address the potential users in the rural and remote areas.**

b. Secondly, we have to **ensure that services remain affordable**. The success of mobile telephony in India has amply demonstrated that the **key success factor in driving tele density and mobile growth has be the increased affordability of services.**

c. Achieving these twin objectives of availability and affordability will not be an easy task. Network deployment is a capital-intensive proposition. Further, in India, the **addressable population is dispersed throughout the country**. Consequently the operators will have to rollout extensively to be able to reach the addressable population. This is in stark contrast to

our role model China, where the population and mobile users are concentrated over a far smaller geographic area. The eastern region of China covers 48% of the total population and contributes 70% of total mobile users. Further, the per capita GDP in this region is about 67% higher than national average of USD 887, thus giving the Chinese service providers the advantage of availability of high income concentrated population in geographically contiguous areas. In **India however the geographic and economic dispersal of the addressable population will constitute a formidable challenge in meeting the Government's subscriber objectives**. As a result of this disparity, an India operator will have to rollout in around double the number of cities than his Chinese counterpart, to be able to access the same addressable population, thus involving a significantly higher amount of capital and operational expenditure.

d. However, as mentioned earlier, the **hyper competition in the market has led to extremely low mobile tariffs**, which are currently prevailing at around 44 paise per minute. Whilst the low tariffs have resulted in an aggressive expansion in the subscriber base, it has considerably **reduced the margins of the operators, leaving them with inadequate resources to invest in expansion of networks to rollout into the rural areas**.

e. India will have to look for **cost-effective and efficient solutions to ensure that the mobile infrastructure pervades across the length and breadth of the country.** Options to do this in the most optimal manner could include :

1. Optimal utilization of existing infrastructure through introduction of unified licensing
2. Putting in place a suitable ADC regime that yield requisite funds for achieving social objectives
3. Reduction of costs through infrastructure sharing
4. Reduction in High Costs of Duties & Levies
5. Facilitation of increased funding through increased Foreign Direct Investment / Foreign Institutional Investment (FDI/FII) limits.
6. Expeditious introduction of broadband and 3rd Generation mobile services (3G).
7. Laying down uniform Nation wide guidelines for various Procedures & clearances

1. Expeditious Introduction of Unified Licensing

a. When **Unified Licensing** was first mooted in 2003, it was as a measure that would do away with the artificial segregation of service specific licenses and enable operators to optimally utilize their existing infrastructure to offer a gamut of services at the most affordable tariffs.

b. In India, the introduction of a holistic licensing regime has been envisaged as a two-step process. Step 1 which was taken in October 2003 unified fixed and mobile services under a single unified access license. Step 2 which will essentially include the long distance services under the ambit of a unified license is still awaiting the recommendations of the Regulator.

c. The delay in the introduction of full unified licensing is hurting the industry as it is not only stalling the introduction of additional competition, but is also preventing operators from optimally using their existing infrastructure to offer the most affordable services to their consumers.

d. At present players **who are** interested in acquiring long distance rights are awaiting the introduction of a full-unified license **before acquiring the said rights.** Unified Licensing **will result in a** proliferation of long distance players **and the increased competition in this segment will automatically** translate into more affordable services, increased customer choice, quality of services, etc.

e. At present a mobile call from end-to-end in any service area, whether it is 50 kms or 500 kms, is available at local call rates. However, the moment the call transcends the border, the charges increases significantly, because the mobile operator has to go through an NLD operator. Under a unified license, operators would be able to interconnect across borders thus be able to optimally using their infrastructure to offer the most affordable services to his consumers.

f. Introduction of full unified licensing is expected to dramatically transform the competitive landscape especially in the long distance segment and in the process also give a significant boost the growth and rollout of mobile services. Further, it would facilitate nation wide calls at near local call rates **which would give as** tremendous boost to both subscriber growth as well as usage and revenues.

g. **Expeditious introduction of full unified licensing is** also important for investor confidence and to attract more foreign investment into this sector.

h. **It is important to note that the** commitment to introduce full unified licensing within 6-months **was one of the** prime motivators **to the** amicable settlement of the limited mobility dispute **& the** withdrawal of the challenge to unified access licensing.

2. Ensuring Affordable Access through a suitable ADC regime

a. Access Deficit Charges are paid by all operators and the ADC funds are used to meet the national objectives of providing **affordable access to consumers especially in the rural and remote areas. However for the ADC regime to be successful it is important that it is enforceable and self-regulating.**

b. The recent **instance of illegal routing of ILD calls** has exposed the flaws in the present regime and has resulted in a **loss of several hundreds of crores for the PSUs. This in turn has hampered** the ability of BSNL **to rollout its services** especially in the rural areas and consequently **the telecom growth objectives set by the Government.**

c. The **30-40% reduction in the ADC charge on ILD calls that is being considered to address the above concern, will not discourage grey market activities, rather** it will **only slightly reduce the size of the incentive** for operators indulging in grey market activities. For example, for an operation of **100 million incoming ILD minutes per month,** reducing the ADC from the present Rs. 4.25 per minute to say Rs. 2.5 per minute will merely **reduce the incentive or arbitrage opportunity from Rs. 42.5 crores to Rs. 25 crores per month**, which is still a huge incentive for illegal routing grey market traffic.

d. Further, **a lower ADC on ILD calls will only advantage the international operators** who do not need this benefit. It may be pointed out most countries are increasing their termination charges, which not only adversely impacts the Indian operators and their consumers, but also results in increased outflow of foreign exchange from the country. It would thus be undesirable for India to reduce its termination charges (by reducing ADC) to benefit the foreign ILD operators.

e. The above **concern can be addressed by permitting a higher Mobile Termination Charge (MTC) for incoming ILD ca**lls. This will **incentivise the mobile operators to put in place the necessary checks & balances to distinguish between various types of c**alls and check grey market traffic. At present the mobile operator has no incentive to invest any resources to check grey market traffic as he is paid the same termination charge of 30 paise / minute for local, STD and ISD calls.

f. This would also be **in line with international practices** as **globally, charges for termination on mobiles are invariably higher.**

g. **The ITU Recommendations** (D-140 on Accounting Rate Principles of International Telephone Service)also provide that, for calls terminating in India, we can negotiate for accounting rates of about 34 cents. When the international operators are demanding high termination charges for calls terminating in their countries and these rates, we believe, have further gone up recently, we fail to see why should Indian cellular operators should be deprived a benefit permitted by ITU and international practice.

h. It is understood that **BSNL too, would be comfortable with this higher MTC regime.**

i. The **exact level of MTC may be left to forbearance** and should be determined through mutual negotiation between the service providers.

j. However, it is suggested that **a floor MTC of Rs. 1.75 per minute may be prescribed for incoming ILD calls**. This would be **well within the extent of ADC reduction that is presently under consideration**. (that ADC on incoming ILD calls be reduced from Rs. 4.25 to Rs. 2/ minute.) All that is being suggested is that instead of passing on the reduction in ADC to the foreign operators, an equivalent be provided to the access providers in the form of higher MTC.

k. The introduction of an **higher MTC on incoming ILD calls will result in a win-win situation for all concerned** as it will ensure the full recovery of targeted ADC amounts, check grey market traffic is checked and ensure that BSNL gets the full resources as ADC to achieve its social objectives, the mobile operators get an improved termination charge in line with global practice and the Government is able to realize its objectives of reaching the targeted subscriber base within the defined time frames.

l. It may be appreciated that for mobile services the entire circle is a local area and operators are proving end-to-end services within their services area at local call rates. However, at present intra-circle calls are also being loaded with ADC thus making these calls more expensive. It is submitted that **since affordable access is vital** for achieving the 250 million target, all possible efforts should be made by the Authority to ensure that **no ADC is loaded on intra-circle calls**.

m. Further, **the ADC funds should as far as possible be recovered from international calls,** with a higher MTC on incoming calls to check grey market traffic. If necessary, a modest ADC may be loaded on NLD calls.

n. **Under the prevalent ADC regime**, **private fixed operators**, who are now in fact all unified access licensees, **are entitled to retain ADC on calls that originate as well as terminate on their network.**

o. **This provision competitively disadvantages the cellular operators**. This is on account of the fact that the **fixed wireless services** being provided by the FSPs / UASLs are **classified as fixed services and thus entitled to ADC.** However, these services are **for all intents and purposes tantamount to full cellular services** and can be **offered seamlessly throughout the service area**. This **creates a non-level playing field and competitively disadvantages the cellular operator** vis-à-vis the fixed wireless service provider. In fact it may be noted that a large UAS operator is prominently advertising its fixed wireless as a mobile service (WALKY).

p. **This anomaly needs to be addressed.** With the **introduction of unified access licensing** and the **complete waiver of all rural rollout** obligations for the fixed operators, **there is absolutely no justification in continuing to provide them with ADC funding.**

3. Sharing of Infrastructure between Public & Private Operators

a. In a capital starved country like India, it would indeed be wasteful for every operator to duplicate costly infrastructure. **Infrastructure sharing** o**n fair, transparent and commercial terms** will ensure that **consumers in rural areas get choice of service, quality as well as affordability;** the **nation achieves aggressive rollout and improved tele density** whilst the **operators get an attractive commercial proposition and an opportunity to expand coverage and reach of their services**. BSNL, the incumbent fixed line operator has created an extensive nationwide fixed line infrastructure, which can be leveraged, at small incremental costs to also reach the cellular mobile services to all corners of the country. BSNL is already building upon its fixed line infrastructure to provide its mobile services. This opportunity needs to be extended to private operators as well as this will not only proved **increased choice to the consumer, but also bring in revenues for BSNL**. All operators have accepted the principles of infrastructure sharing and the modalities are being worked out.

4. Reduction in High Costs of Duties & Levies

a. The Indian mobile sector is one of the most highly taxed sectors in the country with annual recurring regulatory costs still accounting for as much as one-third of its operating costs. (See Table-1)

TABLE-1

BURDEN OF ANNUAL DIRECT REGULATORY COSTS IN INDIA

Elements of Cost	Annual Levy	Payments by Private GSM operators (in 2003-04)
1. **License Fee Revenue Share**	6-10% of Revenues	Rs. 954 Crores
2. USO Levy	Part of License Fee above	
3. Spectrum Usage Charges	2-6% of Revenues	Rs. 290 Crores
4. Service Tax	8%	Rs. 600 Crores
5. Access Deficit Charges	10-12% of Telecom Sector Revenues, imposed as levy on NLD & ILD calls, including cell-to-cell calls	Rs. 800 Crores*
6. Import Duties	- On Mobile Handsets -5% - On Mobile Infrastructure -16%	

b. This high duty and levies structure is also significantly out of line with international norms as can be seen from the following Tables 2 & 3.

TABLE-2

BURDEN OF ANNUAL DIRECT REGULATORY COSTS – INTERNATIONAL COMPARISON

In %

Regulatory Cost / Country	License Fees	Spectrum Charges	USO Levy	Total
India	8[1]	3[2]	-[3]	11+
China	0	Neg.[4]	0	Neg.
Pakistan	2.5	0.5	1.5	4.5
Sri Lanka	0.3	Neg[5].	Nil	0.3+
Malaysia	0.5	Nil	6	6.5
South Africa	5	Nominal [6]	No. of Comm.Phones[7]	5+
Singapore	n.a.	Neg[8]	-	Neg.
Hong Kong	-[9]	5	-[10]	5+
South Africa	5	-[11]	0	5+

Source: Country Regulators / Ministries, ITU Regional Working Group Forum, April 26-27, 2004, New Delhi

Notes:
1. Varies from 6-10%
2. Varies from 2-6%

3. Included in License Fee, is 5% of Revenues1 Million Rmb/MHz, less than 0.05% of RevenuesSri Lankan Rs 60,000 per KHz
6. 1800 MHz and 2.4 GHz spectrums at Rand 100,000 a year for each frequency pair used, plus Rand 5 million annual radio frequency spectrum licenseUniversal Service Commitment – 52,000 community telephone service phones over a period of six years for Cell C
8. Approx. Rs 3.7 lakhs for 6.2 MHz - as a % revenue share, insignificant value
9. 2G: 20 HK$ per subscriber per year (effective from 1st May'04)0.6HK$ per ISD call to heavy traffic. 0.23 HK$ per ISD call to other countries
11. 1800 MHz and 2,4 GHz spectrums at Rand 100,000 a year for each frequency pair used, plus a R5m annual radio frequency spectrum license.

TABLE-3

BURDEN OF IMPORT DUTIES – INTERNATIONAL COMPARISON

In %

Import Duties	Handsets	Infrastructure
Country		
India	5	16
China	0	0
Pakistan	Nil	10
Sri Lanka	Nil	Nil
Malaysia	Nil	Nil
Singapore	0	0
Hong Kong	0	0

Source: Country Regulators / Ministries, ITU Regional Working Group Forum, April 26-27, 2004, New Delhi

c. The industry has been representing before the Government on the need to **rationalize the cost structure** of the sector to bring it in line with international best practices. The 2nd Meeting of the ITU Regional Working Group on Private Sector Issues, which met in Delhi on April 26-27, 2004, also discussed the issue of the high incidence of duties & levies on the telecom sector. The Forum was attended by around 140 delegates from over 15 Asia-Pac countries. The Group was of the view that a common yardstick could not be applied for countries at different stages of economic growth and the levies on the sector would be to some extent dictated by the level of economic development in respective countries.

d. For **developing countries, within which India would be covered, the Group made the following recommendations with respect to the different cost elements:**

Issue	Recommendation for Developing Economies
1. Entry Cost	Nominal to cover Administration charges / Eliminate Non serious players by Eligibility criteria
2. Annual Fees on Operator	To cover the administrative and regulation cost around 1% of Gross Operating Revenue. Excludes Revenue from non-operating sources e.g. Sale of Handsets, etc.

3. USO	It is a necessary levy and should be properly utilized exclusively for Rural Telecommunication Levy to be determined by Government from time to time to be capped at 5%.
4. Spectrum Charges	The spectrum pricing should be such that objectives of affordability, growth and accessibility are achieved while ensuring efficient use of spectrum and quality of service.
5. Indirect Taxes on Capital	Telecommunication being an important Infrastructure sector preferential treatment to be given. All Indirect Taxes cumulative should not exceed 12%.
6. Handsets, spares, components and accessories	All applicable duties and levies put together should not exceed 10%
7. Usage Fees to Subscribers (VAT /Service Tax / GST)	Between 5% to 8% depending on the state of economic development of the country

e. **Recent developments** in India do appear to indicate that **some elements of high cost may be reviewed downwards** inasmuch as :

i. The TRAI has suggested in its draft unified licensing recommendations that the **annual license fee should be pegged at 1% + contribution to USO**. This would be in line with international best practices.

ii. The **ADC regime is being reviewed** and there are indications that the quantum of access deficit **will be lowered**. As suggested by us, this **regime should be made self-regulating** by permitting a higher MTC on incoming ILD calls, intra-circle calls should be exmepted from ADC to make local access most affordable and that there should be some eligibility norms to be complied with to receive the ADC Funding.

iii. **Spectrum pricing is also being looked at** by the TRAI. Since spectrum is a vital raw material for mobile services, the price of spectrum would have a considerable bearing on the prices of mobile services. As mobile services are expected to contribute significantly to future growth objectives, it is desirable that spectrum be priced in a manner that is in consonance with the overall telecom policy of the country. Further, as spectrum, being an input / raw material, it may be more appropriate to tax the final product i.e. the revenues of the service providers.

f. **Positive decisions on the above cost elements will give a further fillip** to the growth of the sector.

g. In addition to the above, an element of cost, which needs to be considered, is the **definition of Adjusted Gross Revenues** (AGR), which is the basis on which all operators are paying their annual license fees. At present the definition of AGR, which has been adopted, includes

several elements of revenues that are not related to telecom activities. One key element in this regard is the revenues from the sale of handsets. It must be appreciated that with the usage tariffs for mobile telephony touching a low of 44 paise per minute (tariffs for a 400 minute basket, as estimated by TRAI), the **biggest hurdle for the low end and marginal consumers is the price of the mobile handsets.** As mobile telephony grows it will continue to reach out to the marginal subscribers, for whom the price of the handset could be the only reason for not taking up the service. The **inclusion of handset sales revenues in the AGR definition hinders/ discourages service providers from offering bundled (handset + airtime) services** to new consumers, which going forward**, could have an inhibiting effect on the aggressive subscriber growth targets** being set for the industry. It is therefore **important for the Government to review the definition of AGR and most urgently, exclude revenues from handset sales from the purview of AGR / payment of license fees.**

5. Increased Flow of Investment through FDI/FII

a. Another aspect to facilitating aggressive rollout is to actually enhance the prospects for inflow of increased funds. It has been estimated that a sum of close to **Rs. 125,000 crores will be required over the next 3 years to meet the aggressive targets that have been set by the industry**. It is unlikely that this funds requirement can be met from domestic sources alone. **Foreign investment through FDI or FII will thus play an important role** in providing the resources for growth and expansion of networks. The Government too, has recognized the need for increased FDI/FII and in the Union Budget for 2004-05, the **Finance Minister announced an increase in the FDI/FII limit from 49% to 74%.** The terms and conditions for this are presently being worked out by the Government, however it must be kept in mind that whilst it is important to address the legitimate management and security concerns of the Government, it is equally important to ensure that the **terms and conditions are not so constrictive as to actually discourage the inflow of FDI/FII.**

6. Expeditious Introduction of Mobile Broadband / 3G

a. **Broadband** could play a key role in achieving India's infrastructure objectives and delivering world-class telecom services across the length and breadth of the country. Broadband has been identified as the next priority area for India. The cellular mobile services sector can play a key role in contributing to the country's broadband objectives through 3G services. Introduction of 3G services holds significant advantages and a strategic relevance for a developing country inasmuch as :

i. **3G has a 4-5 times higher voice capacity than present 2G services. In a market that is driven by affordability, 3G** can serve as an **ideal platform to deliver low cost voice telephony to Indian consumers**. As a result, 3G can be an extremely effective tool in **driving penetration of the huge addressable market in the rural areas** where price of service will be the key factor for encouraging increased subscriber take-up is and voice telephony will continue to be for quite some time at least, the primary requirement for the masses.

ii. 3G can also prove to be a **crucial tool in undertaking social initiatives such as delivering E-Education, Tele medicine,** etc.

iii. 3G will also be very **relevant for enhancing India's competitiveness in the ITES / BPO segment** where India is already a significant force to reckon with in the global market. In fact in a meeting early this year, with the industry, Commissioner Liikanen of the European Commission opined that 3G will be essential for sustaining India's competitiveness the global ITES market.

iv. **The** Government's vision of leapfrogging to services beyond 3G level can also be greatly facilitated by the introduction of 3GSM (WCDMA), **as this will** allow for the almost concurrent introduction of 3.5G services. **This is because HSDPA (hi-speed downlink packet access), which offers peak bit rates of 10.7 mbps, uses the same spectrum the same infrastructure as 3GSM (WCDMA).**

v. The **hi-speed data capabilities** of 3G will fulfill the content rich mobility experience that will increasingly be demanded **in the urban and metropolitan markets**.

b. 3G services would not only be an **ideal media to achieve India's primary objective of low cost voice telephony services across the length & breadth of the country**, but also provide an **opportunity for operators to increase their revenues** through increased volumes / usage of voice telephony as well as the premium data services. Data from countries that have introduced 3G has demonstrated that introduction of 3G leads to increased ARPUs, not only through increased use of data services, but also increased use of voice telephony services.

c. It may be noted that as it will **take at least 12-18 months for the 3G networks to be up and running and stable**, **for 3G services to be able to contribute to the 250 million target, the 3G decision must be taken almost immediately.**

7. Uniform Nation wide guidelines for Various Procedures

a. Lastly, we would like to state that while there are a number of policy and regulatory issues that need to be addressed to clear the way for the aggressive growth of mobile telephony in the country, we **must not ignore the micro aspects of processes and procedures**. The cellular operators need to approach their respective state governments and authorities for various clearances that are involved in the establishment and maintenance of a world-class cellular mobile network

b. **Lack of clear applicable and enforceable guidelines & rules means that d**ifferent rules, regulations, procedures, timelines, costs, etc are adopted by various state governments which **cause significant amount of effort and delay** in the operators getting the requisite clearances to set up their networks thus resulting in delay in setting up services, higher costs, etc.

c. It must be appreciated that as networks grow and rollout increases, these problems will multiply manifold. Telecom is an essential utility & must be recognized as such. It is thus **opportune for the Government and industry to collaborate and exhaustively detail out the various procedural aspects** for which guidelines need to be framed as also **consensually develop the actual guidelines and rules that would then be applicable nation-wide.**

d. **As a first step it is suggested that uniform rules and guidelines be developed for the following :**
   i. Right of Way
   ii. Municipal & Civic Clearances,
   iii. Guidelines regarding setting up of Cell sites to provide seamless coverage & service

e. It is also imperative that the various clearances are given in a timely manner so that undue delay does not hold up provision of service, lead to increased costs, etc.

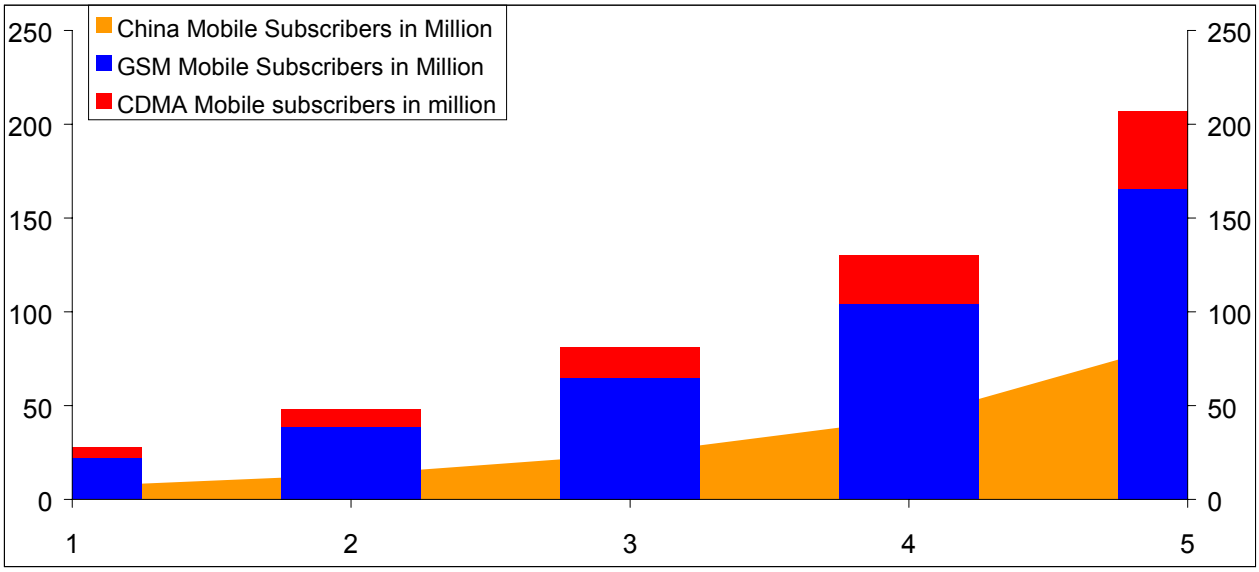
f. In this regard, the delays in receiving SACFA clearances and requisite TEC Certification need to be addressed. It is therefore suggested that service providers should be allowed as far as feasible to do self-certification with random checks by the authorities to ensure compliance.

V. CONCLUSION

a. If the above measures are implemented in a timely manner through suitable policy and regulatory initiatives, then **the Indian cellular wireless industry has the potential reach a subscriber base of nearly 207 million subscribers by the end of 2007** and thus contribute in a significant and substantial manner to the overall target of 250 million fixed + mobile subscribers that is being set by the Government. Of this total mobile subscriber base of 207 million, we believe that in line with international trends, **80% of the mobile subscriber will be on GSM standard**. India thus has the potential to surpass the mobile success of China (See Graph-5) and to become the next Asian Tiger.

GRAPH-5

CELLULAR GROWTH – INDIA VERSUS CHINA



Year of Service	9	10	11	12	13
China					
Year Ended December	1996	1997	1998	1999	2000
Mobile Subscribers in Million	6.8	13.2	24	43	85
India					
Year ended December	2003	2004	2005	2006	2007
GSM Mobile Subscribers in Million	22.4	38.4	64.8	104	165.6
CDMA Mobile subscribers in Million	5.6	9.6	16.2	26	41.4

*******ENDS*******