Risky Sex, Addictions, and Communicable Diseases in India: Implications for Health, Development, and Security

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This monograph was published as Special Report 8 in the Health and Security Series by the Chemical and Biological Arms Control Institute (CBACI), Washington D.C., September 2004.

ABSTRACT: This monograph provides a comprehensive and unifying view of a number of health issues confronting India and how, over time, they could impact the stability and security of the nation. New pandemics like HIV/AIDS have confounded attempts at containment because their spread highlights vulnerabilities in social and political norms and behaviors that have historically been ignored. Their spread also exposes a highly inadequate medical and educational infrastructure. To stop the spread of communicable diseases for which risky individual lifestyles and behaviors, societal norms and beliefs, poverty and lack of empowerment, and stigma and discrimination are major factors it is necessary to examine the system as a whole and to develop new paradigms and tools. Sexually transmitted infections and addictions to alcohol and drugs have emerged as a major interconnected global threat. This monograph makes the case that India is highly vulnerable to this threat and major policy changes, an unprecedented cooperation between public and private sector, and an order of magnitude more investment in health and education is needed to prevent a runaway situation as has transpired in much of Sub-Saharan Africa.

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FOREWORD

This study on India is part of the Chemical and Biological Arms Control Institute's program on Health and Security – Special Report Number 8. In addition to the present study, there exist companion monographs on the impact of health on the security of China, Russia, and South Africa.[1] [2] [3] [4]

Rajan Gupta is the leader of the Elementary Particles and Field Theory group at Los Alamos National Laboratory. He came to the USA after obtaining his Masters in Physics from Delhi University, India, in 1975 and earned his Ph.D. in Theoretical Physics from The California Institute of Technology in 1982. The main thrust of his research is to understand the fundamental theories of elementary particle interactions, to model and simulate Biological and Statistical Mechanics systems, and to push the envelope of High Performance Computing. He has published over 100 research papers in prestigious refereed journals and is a fellow of the American Physical Society.

Starting in 1998 his interests broadened into the areas of health, education and development. The initial motivator was the specter of the global spread of HIV, and in particular, the ominous situation in his country of origin – India. To understand the issues and to make a difference he visits India twice a year to work with students, villagers, and industrial workers through his contacts with schools and non-government organizations. He has developed a WEB site http://t8web.lanl.gov/people/rajan/AIDS-india/ to provide useful information on HIV/AIDS and other societal issues in India. This monograph is based on five years of study and work in India.

His collaborations with some of the leading schools in Northern India lead to the creation of a regional program – empowering students to become agents of change through developing computer based multimedia presentations on societal issues and their solutions. The goals and scope of this project are described at http://t8web.lanl.gov/people/rajan/AIDS-india/multi.html.

In Los Alamos, Dr. Gupta volunteers his time as a HIV/AIDS pre-and post-test counselor for the New Mexico Department of Health. He also teaches students at Los Alamos Middle and High School issues surrounding HIV/AIDS and addiction to alcohol/tobacco/drug and prevention strategies as part of their health classes. His experiences with student and rural populations led him to develop a partnership with leading doctors, health educators and the film school at the College of Santa Fe to create health education material in audiovisual media. Their goals, described at http://www.geomedianet.org/, are to reach and educate the poor and illiterate populations directly and accelerate the train-the-trainer programs. Their vision is to help poor and marginalized populations confront the many health and developmental issues they face on a daily basis through increased awareness, understanding and empowerment.

AUTHOR'S PREFACE

Collecting reliable statistics in a country as vast and diverse as India is a formidable task. I have not carried out any formal surveys. The data presented here are based on official statistics and on published articles in journals, newspapers, and on the web. To illustrate the magnitude and seriousness of the problems and the understanding and response of the people I have also used anecdotal information and interactions in the form of conversations and interviews with different sets of people during my visits to India during 2002-2003. The article was completed in March 2003. Some new information was added during proof reading stages ending August 2004.

The motivation behind writing this monograph was to provide a unifying view of a number of health issues confronting India and how, over time, they could impact the stability and security of the nation. New pandemics like HIV/AIDS have confounded attempts at containment because their spread highlights vulnerabilities in social and political norms and behaviors that have historically been ignored. Their spread also exposes a highly inadequate medical and educational infrastructure. To stop the spread of communicable diseases for which risky individual lifestyles and behaviors, societal norms and beliefs, poverty and lack of empowerment, and stigma and discrimination are major factors it is necessary to examine the system as a whole and to develop new paradigms and tools. Sexually transmitted infections and addictions to alcohol and drugs have emerged as a major interconnected global threat. This monograph makes the case that India is highly vulnerable to this threat and major policy changes, an unprecedented cooperation between public and private sector, and an order of magnitude more investment in health and education is needed to prevent a runaway situation as has transpired in much of Sub-Saharan Africa.

I. INTRODUCTION

As we step into the twenty-first century, technology and medical research has provided us with the tools to eliminate most of the serious communicable diseases. Many diseases, like smallpox, polio, measles, hepatitis B, etc., can be eradicated through a childhood vaccination program. Many bacterial diseases can be treated and cured by the use of antibiotics. STIs cannot be spread by casual contact and can therefore be eradicated by a change in behavior brought about through awareness and education and through the use of condoms and microbicides.. Nevertheless, we are failing to control the spread of many of these diseases. Poverty and illiteracy are major reasons. Poor countries do not have the education or health infrastructure to implement awareness leading to prevention and vaccination programs. Illiterate people often do not access modern medicine and are often cheated when they do. Even within rich nations if there are poor or marginalized populations there is a heavy burden of these diseases. Changing this situation is within our grasp with current technology and knowledge. What is missing is the social and political will to make health care and education global priorities.

Today, we understand that health plays a key role in the development and security of nations. The December 2001 report by the United Nations Commission on Macroeconomics and Health makes explicit the connection between development (macroeconomics) and health.[5] The UN Security Council, for the first time ever on 17 July 2000, declared HIV/AIDS a threat to international security. The Security Council resolution stresses "the importance of a coordinated international response to the HIV/AIDS pandemic, given its possible growing impact on social instability and emergency situations."[6] The National Intelligence Council in September 2002 released a report on the emerging very serious HIV/AIDS problem in five countries of strategic importance to the United States: Nigeria, Ethiopia, Russia, India, and China.[7] President Bush, on 27 May 2003 signed the Emergency Plan for AIDS relief Act – a five-year, $15 billion initiative to fight the AIDS pandemic in the most afflicted countries of Africa and the Caribbean. In his words it sends a clear statement to the world that "HIV is here; that we have to do something about it; that treatment is possible and we're calling upon other developed countries of the world to join us."[8]

India, amongst the populous developing nations, presents a unique opportunity in the global effort to turn the tide against communicable diseases. It has a large educated and technically skilled population and, compared with many other developing nations, has a significant infrastructure for the delivery of health care and education. The open questions are – can it develop a leadership that takes these diseases seriously? Does it understand and accept the long term implications of the various societal problems for the stability and security of India and of South Asia in general? Will it generate the social and political will to empower the poor and the marginalized? Will it adjust its priorities and commit resources to implement the many difficult programs and sustain them over at least the next two decades?

There are many health crises occurring simultaneous in India. These include both communicable (for example sexually transmitted and blood borne diseases including HIV/AIDS, Hepatitis B and C; tuberculosis; malaria; and water borne ones like diarrhea, dysentery, cholera, and typhoid), and non-communicable problems like alcohol and drug abuse, heavy metal and chemical poisoning, mental illnesses, and depression. The magnitude of these problems is well known as are the chief underlying reasons: (i) the lack of a credible and adequate health care system for over 80% of Indians[9], (ii) lack of significant new financial resources to enhance the system, (iii) a large illiterate and poor population, and (iv) very high levels of corruption.[10] The challenges to providing good health care are being compounded by the very rapid growth in addiction to alcohol and drugs and the spread of sexually transmitted infections due to risky sex. Both problems involve behaviors and lifestyles and require additional infrastructure for control as compared to other communicable diseases.

This monograph will not reassess the Indian Health Care system[11] as that is a vast subject and there exist very good references.[12] Instead, the focus will mostly be on alcohol and drug abuse and risky sex (the leading risk factors for HIV/AIDS, Hepatitis B, Hepatitis C, other STIs and addictions), the nexus between them, and their implications for development and security. A very detailed picture of the HIV epidemic in India has recently been presented by the Population Reference Bureau (PRB) based on the data collected by the National AIDS Control Organization (NACO).[13] The PRB analysis strengthens the discussion in this article. For brevity, it shall be assumed that the reader can access PRB's work and the NIC reports,[7] and uses them as complementary sources.

Addictions and sexually transmitted infections (STIs) lead to debilities, loss of productivity, and pre-mature death. Today the magnitude of these problems raise some very disturbing questions. Will risky sex, STIs, and addiction undermine the development of India? Will they impact the security and stability of India? Will key security sectors such as the defense and police forces see the burden of infections or addictions rise to a level that impacts their ability to defend the country or provide law and order? Will a significant fraction of the bureaucratic, judicial, industrial and service sectors, or agricultural labor force get infected/addicted, thus undermining the government's capacity to provide services, decrease economic productivity, and erode development? Will the health care and financial systems become overwhelmed? Will the infected/addicted people die pre-maturely and without care? Will social and political unrest occur as a result and destabilize the country?

Health care and education in India are both state subjects — the central government provides policy, guidelines, laws, and some resources to the states, but the resource allocation, implementation and monitoring are in the hands of the state governments. States with better governance and more community involvement (for example Delhi, Punjab, Gujrat, Kerala, Maharastra, Tamil Nadu) are doing much better than say Bihar, Orissa and Uttar Pradesh with respect to delivery of health care and formal education. The disparity between states in the delivery of health care and education to all is, unfortunately, very large and is affecting the whole nation. The problems are so huge that, in addition to a very close and cooperative relationship between the state and central governments, the active participation of communities and individuals will be essential to mitigate them.

This article gives a broad perspective on the issues of risky sex and addictions, their interconnections, and how they impact health, development, and security in India. A very significant part of the article focuses on HIV/AIDS because lessons from Africa illustrate very clearly what can happen to a nation with high incidence of risky sex and addictions, a highly inadequate health care system, and the lack of political and social will to address these behavioral issues.

The first part of the article provides an overview of the situation and anecdotal perspective on the seriousness, scale, and reach of these problems. The burden of communicable diseases and HIV/AIDS and the reasons for their spread and persistence is given in Section II. Risky sex and its implications for STIs and reproductive health are discussed in Section III along with some other consequences of the lack of education on reproductive health in schools and of access to health care for the vast majority. These issues are then illustrated through two conversations, one with a taxi driver and another with sex workers in Chennai. The scale and patterns of alcohol and drug addictions is presented in Section IV and public perceptions illustrated through conversations with a childhood acquaintance and with a second taxi driver in Delhi.

The second part of the article presents an analysis linking the issues together and discusses implications for health, development, and security. Section V links the two parts by first defining four segments of the population – the well-to-do (the elite or the critical sector), those in transition, the poor, and the marginalized.

This last group is not a separate population but consists of those marginalized by society at large due to their risky sexual behavior and/or addictions. It then analyzes the prevailing political and social realities, beliefs and challenges as they relate to these four segments. Section VI presents an analysis of why the well publicized example of empowerment of sex workers, the Sonagachi project, has not been replicated nationally even though a majority of the infections are attributed to sex with sex workers. Section VII revisits the issues and challenges from the perspective of generating social and political will. My recommendations for policy and for strategies for implementation in India are given in section VIII. Section IX contains an analysis of the implication of the many health crises for the stability and security of India and the region. Finally, the main points are summarized in the concluding Section X.

IIA. INDIA MUST ACT DECISIVELY TO STOP THE SPREAD OF HIV/AIDS

HIV/AIDS presents a unique global challenge for many reasons. (i) Almost everyone exposed to the virus develops chronic infection, progresses to AIDS, and without antiretroviral therapy dies within 5-15 years of being infected. (ii) There is, at present, no cure or vaccine and the prospects of one within the next decade are small. (iii) HIV infection has no distinguishing symptoms and very often those infected remain asymptomatic for years. During this period they can continue to infect others if they do not modify behavior. (iv) The long latency period between HIV infection and AIDS and the lack of incentive to get tested keeps the true burden of infections hidden until the number of infected people become very large and the epidemic spreads into the general population. (v) The most at risk populations globally are the young adults, the 15-25 year olds. Losing the most productive members of society early in life impedes development and imposes a heavy social cost. (vi) The typical pattern observed in the developing world is for both parents to get infected and die before ages 30-35, leaving behind AIDS orphans. (vii) Social stigma and discrimination prevents effective intervention, especially within marginalized communities. (viii) Lacking credible data and afraid of confronting sensitive social, cultural, moral, and religious beliefs most governments in developing countries have exhibited denial, failed to launch effective prevention schemes, and delayed appropriate action for at least a decade. By the time they have been forced to react, the magnitude of the pandemic has grown beyond their national resources to contain.

The National Intelligence Council report lists India as having the largest numbers of HIV positive people by 2004. Starting with an estimate of 5-8 million infections in 2002, the report projects that India will have in the range of 20-25 million infected people by 2010. Even if one accepts the lower estimates of 5.1 million HIV infected people reported by the Indian government at the end of 2003 and increasing to 10 million by 2010, the numbers have phenomenal implications for India. First and foremost, almost all those currently infected will be dead or will have progressed to AIDS by 2010 if antiretroviral drugs are not made available to them. At an annual total cost of $400 per HIV positive person (this figure includes the cost of ARV drugs at prices negotiated by President Clinton in November 2003, tests, and other related medical expenses) India could provide treatment to only one million patients since the total budget for health of the central government in 2003 was about $300 million and all external funding for HIV/AIDS was about $60 million. Assuming a sustained growth of 7 percent in the GDP, and consequently in the budget for health, 1.7 million patients could be taken care of by 2010. Assuming the costs come down by another factor of two and provided all of the government's resources for health are put into HIV/AIDS treatment, 3.5 million people could be put on treatment by 2010. Even if one starts with 5.1 million HIV positive people at the end of 2003, the number 3.5 million falls short of those that will be needing treatment by 2010. Since it is inconceivable that all of government's resources for health would be diverted to HIV/AIDS, it is clear that India has already fallen behind. The loss of the 5 million people already infected is no longer a question of if but simply of when. The social, political, and economic implications of the loss of these 5 million for the nation are still unknown as the epidemic is mostly hidden.

Based on the current number of infections, about 5.1 million at the end of 2003, and costs, about $400 per person per year for treatment and care, two criteria are used throughout this monograph for assessing whether India's response to HIV/AIDS should be considered adequate:

- It allocates at least $100 per HIV infected person per year for spreading awareness, testing and counseling, and treatment and care.
- At least 51% of this budget should come from within India.

By these criteria, India's efforts are inadequate since the 2003 budget for HIV/AIDS was about $70 million, of which about $60 million were from outside.

Based on current data and projections, India is faced with the following possibilities with respect to controlling HIV/AIDS and other health crises:

- It is forced to divert additional funds from other sectors to health, and in particular to HIV/AIDS. The only non-productive sector with a large allocation is defense. While such a switch in priorities, leading to part of the defense budget going to health care, is unlikely to happen given India's security concerns, the question that nevertheless needs to be considered is what will be the consequences for development, security, and governance if a large scale public outcry demands reallocation.
- Government's prevention programs start working and the pandemic is contained. This is unlikely to happen by 2010 as the pandemic is still mostly hidden – most of those infected do not know their HIV status, the medical community has yet to engage, and the social and economic conditions fueling the spread are changing very slowly.
- The private sector and non-government organizations make an unprecedented commitment to stopping the spread of HIV/AIDS and making health care a priority. Their efforts, along with those by the government, succeed in controlling the spread.
- A low cost and highly effective vaccine is discovered in the next few years. So far there is little hope for the development of such a vaccine by 2010.
- International donors step up their efforts and increase funding by at least a factor of 10. This is very likely, but by 2010 even $500 million per year in aid will be too little and too late if there are 10 million or more people infected and there continues to the lack of political and social will to assume responsibility.

The most likely scenario until 2010 is business as usual – a lot of talk, continued unresolved debates on harm reduction approaches versus a return to virtuous life governed by moral values and sexual fidelity, and poor implementation. On the other hand there is reason for hope as India has the capability and infrastructure to make significant progress relatively quickly if strategies outlined in this and other studies are implemented by generating political and social will.

Outside of Sub-Saharan Africa, India bears the largest burden of disease, poverty, and despondency. According to the World Health Organization (WHO), the incidence and prevalence of STIs in India is very high. WHO estimates that approximately 100 million cases of STIs caused by bacteria (gonorrhea, trichomoniasis, chlamydia, syphilis) occur every year.[14] Bacterial STIs are curable, whereas the STIs caused by viruses (of the Herpes Simplex and Human Papilloma Virus families, Hepatitis B, and HIV) are not. Prevalence figures for the first two viral STIs are not known, however cases reported by individual hospitals show numbers similar to those for bacterial ones and a rapid increase in recent years. An estimate of the rapid spread of viral STIs can be deduced from the World Health Organization's estimates for the growth in the numbers of HIV positive people (growing from "zero" to 5.1 million people between 1986 and 2003[15]), Hepatitis C (10-25 million[16]), and Hepatitis B (35-60 million[17]). Amongst women there is also a very high incidence of white discharge (due to bacterial vaginitis, or candida, or other causes) and a high prevalence of pelvic inflammation disease (PID). It is estimated that roughly 40% of all cancers are cervical cancers, presumably a consequence of the high rates of chlamydia and Human Pappilloma Virus (HPV) infections.[18] India, therefore, should not assume that it will not witness a repetition of what has transpired in most Sub-Saharan African countries.

There are at least six lessons one can draw from the spread of HIV/AIDS in Sub-Saharan Africa. The first is that in spite of the fact that HIV is a very fragile virus and not easily transmitted via sexual intercourse, it

spreads very fast since the number of people indulging in risky sex without condoms or sharing needles during IV drug use are very large. The second is that developing countries dealing with HIV under a business-as-usual approach do not have the health care infrastructure to either stop the spread or take care of the infected even with prevalence rates of a few percent. The third is that beyond a certain number of infections, about 5% of the adult population, countries face a runaway epidemic and most intervention strategies have little impact. The fourth is that without massive public health campaigns even prevalence rates of 30-35% in the 15-49 year old population are not enough to convince people to change risky behaviors. Fifth, is a special lesson from South Africa – when a country has a "two" classes of society, one with access to resources and the other not, policy makers are lulled into inaction if they see HIV as a disease of the poor. They continue to assume that a general plan for development will suffice and do not understand that HIV/AIDS deserves special attention. The circumstances contributing to similar lack of action in India are discussed in Section V. Sixth, countries with a runaway spread of HIV/AIDS will face an equally huge problem of AIDS orphans with a lag time of about ten years.

Of these six lessons, Indian policy makers are focused only on the second – India will not see the prevalence rates common in Sub-Saharan Africa because it is far more developed and has a much better health care infrastructure. They seem to ignore the fact that already India, with only about 0.8% of its adult population infected, is not confident of controlling the epidemic on its own. It has made almost no commitment of indigenous resources to build the infrastructure for control. At 20-25 million people infected, which is still low in terms of percentage of all adults, even the most generous help from developed nations will not be sufficient due to the sheer numbers. So the lesson that should be learned is that numbers like 20-25 million, which are only 7 years away according to the NIC report[7] or maybe a decade away in more optimistic scenarios, cannot be allowed to happen if India does not want a runaway epidemic on its hands.

The basic contention of this article is that, given the vulnerabilities and the current state of implementation of programs, India is not protected from large scale spread. To contain the HIV/AIDS epidemic there has to be a fundamental change in thinking and priorities, and India has to launch full scale prevention, testing, counseling, treatment and care programs without further delay. The urgency for action is best captured by the following statement by Prime Minister Vajpayee – "the best time for planting the tree was twenty years ago, the next best time is now." Government and non-government organizations must now act decisively to implement this vision/rhetoric.

IIB. THE HIV/AIDS SITUATION IN INDIA

The latest prevalence figures from the National AIDS Control Organization (NACO)[19] are available at http://www.naco.nic.in/ (also see the NIC[7] and the PRB[13] reports). Estimates of the total number of infections (end of the year figures) for the six year period 1998-2003 are

Year	Total number of HIV positive persons
1998	3.5 million
1999	3.7 million
2000	3.86 million
2001	3.97 million
2002	4.58 million
2003	5.1 million

These numbers constitute the upper end of the estimated range and have usually been taken as the working estimates. Data prior to 1998 are no longer accepted as reliable because surveillance was inadequate. The yearly incidence rate, based on the simplest possible model that it is the difference between numbers estimated for successive years, is (also see figure 1)

Year	Annual increase in number of HIV positive persons
1999-1998	0.20 million
2000-1999	0.16 million
2001-2000	0.11 million
2002-2001	0.61 million
2003-2002	0.52 million

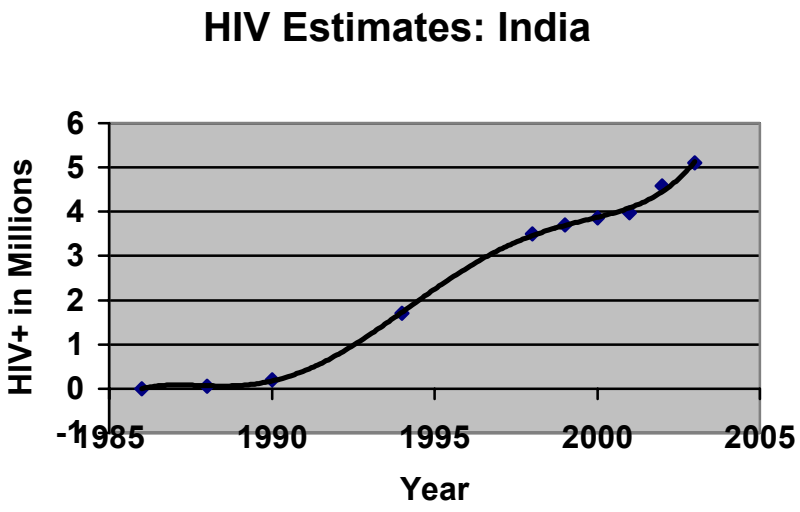

Figure 1: HIV infections in India. Data from the NACO website http://www.naco.nic.in/. *The line connecting the points has been drawn to guide the eye.*

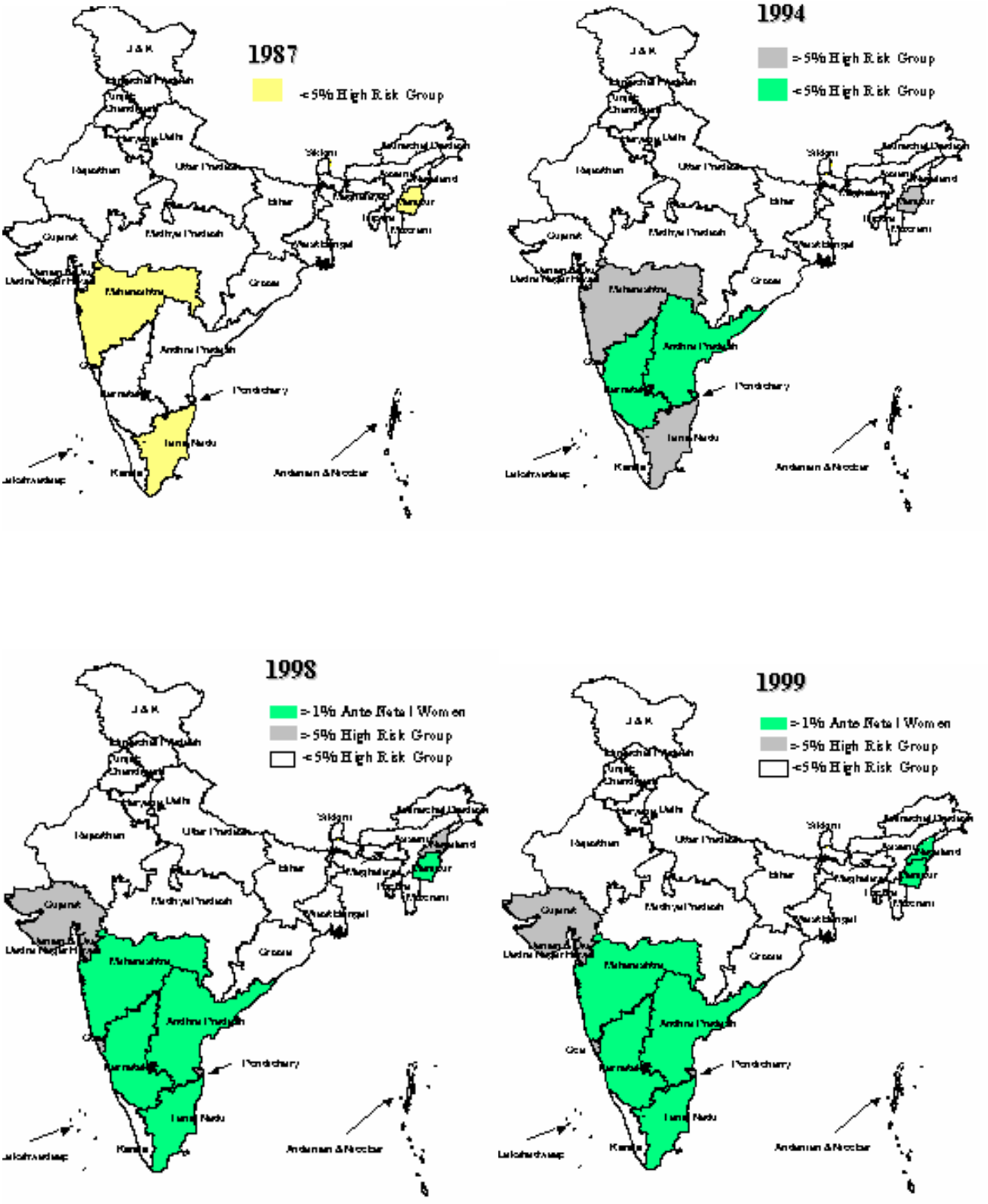

Figure 2: Rate of spread over time. Figures are from NACO website http://www.naco.nic.in/.

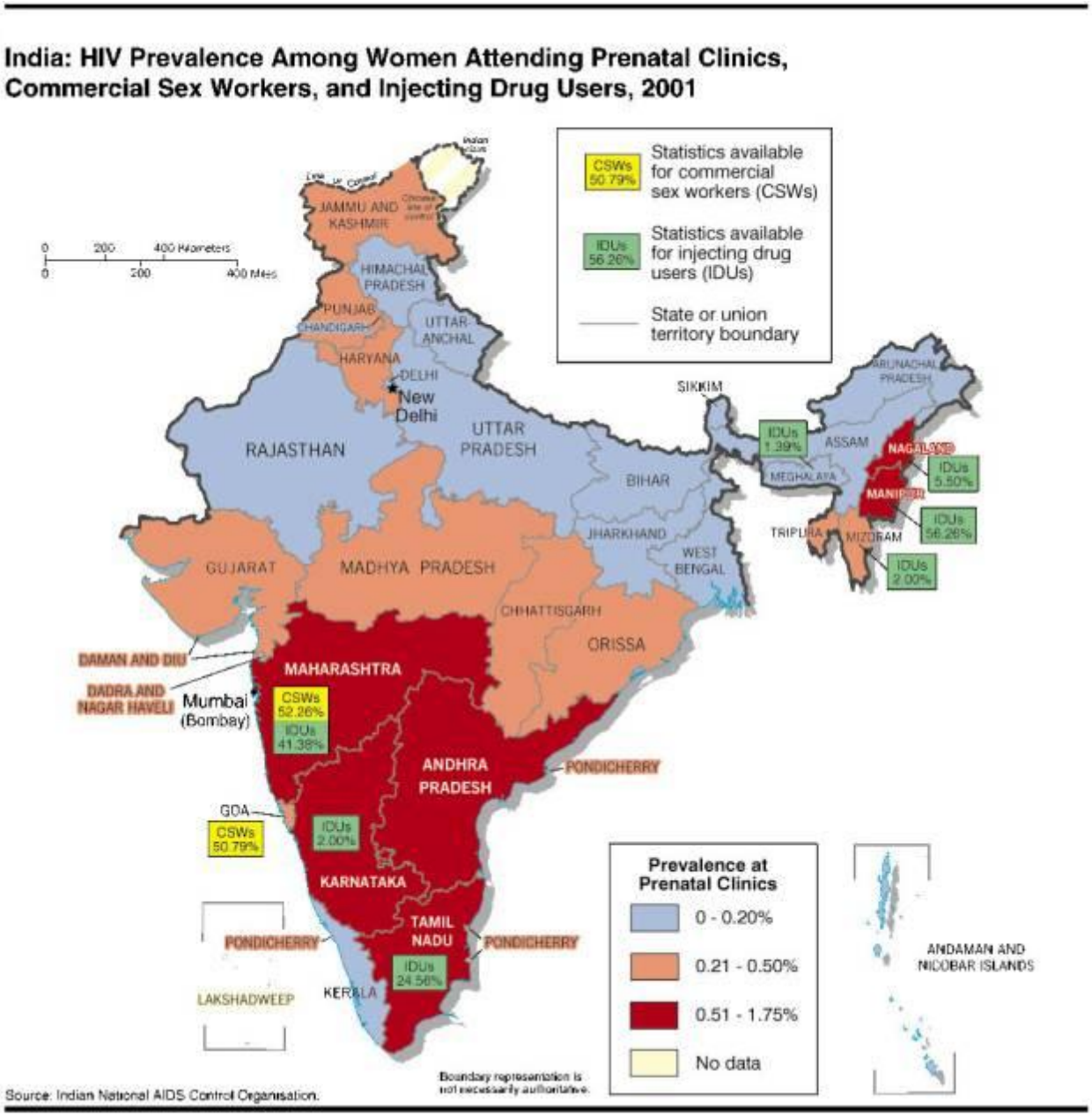

Figure 3: Most recent data from NACO as reported in the September 2002 report by NIC.[7]

This analysis of incidence rates does not take into account deaths of HIV positive people, which should be included to obtain a more complete picture. The rate of spread and the hardest hit areas are summarized in Figures 2 and 3 (see similar figures in the PRB report[13])

Taken at face value the 1998-2001 data presented by NACO imply two very important points:

- The rate of HIV infections has been controlled and has, in fact, decreased significantly over the years 1998-2001. The efforts of the government and the non-government organizations (NGOs) should, therefore, be considered very successful and the system should be judged to be working very well.

- The rate of infection per capita in India has already been brought below that of the United States. Based on the data for 2001, India had 110,000 new infections in a population of 1.03 billion with prevalence figures of 4 million whereas in the United States there are about 40,000 new infections every year in a population of 289 million and with prevalence figures of 850,000-950,000.[20]

Consequently, any policy maker would conclude that India should no longer be considered at risk for a catastrophic growth of HIV/AIDS cases. This would be a remarkable achievement if true. With such low numbers, in terms of percentage of population, and a decreasing incidence rate, the focus of all international agencies will rightly shift from India to other nations that are struggling with this scourge. On the other hand,

- Of the 320 sentinel surveillance centers, only two deal specifically with men having sex with men. The one in Mumbai has reported a sero-positive rate of 23.6% [based on approximately 2000 people tested in 2000-2001]. The one in Chennai reported 2.4%.

- Prevalence rates in sex workers and IDU are very high as shown in figure 3.

- Incidence rates in prenatal centers in the leading states of Andhra Pradesh, Karnataka, Maharashtra, Manipur, and Tamil Nadu vary between 1.13-1.75%. The pandemic should therefore be regarded as having spread to the general public and is not limited to just the high risk groups.

- Information from leading hospitals in the four northern states of Punjab, Haryana, Delhi, and Rajasthan that screen the blood against HIV, Hepatitis C, and Hepatitis B shows that the incidence of HIV, Hepatitis C, and Hepatitis B among voluntary blood donors is roughly in the ratio 1:3:15. These ratios are consistent with estimates from the WHO. There are large local variations; for example one hospital reported roughly equal number of cases of Hepatitis B and C, and both were about 15 times the HIV positive numbers.

- In this group of voluntary donors, classified as a low risk group by NACO, the fraction of HIV infected are on average 0.1-0.2 %. The variance in this number across the nation is large as many regions of South India are reporting over 1%.

- The number of HIV positive cases that any given center or medical facility is seeing has increased steadily over the past five years. Whether this is due to an actual increase in number of infections, or due to more people at risk getting tested, or better awareness and recognition of symptoms by doctors, or a combination of these factors has not been resolved.

- The cumulative number of cases of AIDS reported to NACO as of February 29, 2004 is 67416.[19] This number is about 1.3% of the estimated prevalence figures. The HIV/AIDS pandemic in India is, therefore, still "hidden".

- The official figures are hard to believe — the extrapolation uncertainties in going from surveillance data to national figures are huge as the demographic model used for risk assessment, especially of a "hidden" epidemic, is overly simplistic.[19] Since HIV/AIDS testing centers, including sentinel surveillance centers, are reporting a steady increase in numbers (both as a percentage of those tested and in absolute numbers) of new infections during the last five years the predicted declining national rate between 1998-2001 should have raised serious concerns regarding the modeling of vulnerable populations and how the virus spreads.

- The NIC/CIA 2002 report puts the number of HIV positive people in India at 5-8 million at the end of 2002, and the projected estimate for 2010 at 20-25 million.[7] These estimates are certainly within the range of uncertainty of the surveillance and the model used for extrapolating these to the national figure.

The sudden jump in infections during the year 2002 and a similar increase in 2003 corroborates my contention that surveillance is still poor and the models used in the analysis are simplistic. Promoting and giving undue credence to such estimates by the officials represents disservice to all Indians and, in fact, to the global fight against HIV. History will judge the years1999-2004 (phase II of the National AIDS control program) as the critical period during which India should have had its prevention and treatment programs in place and working. By underplaying the problem and claiming to have brought down the incidence rates to such low numbers it, unfortunately, failed to create the necessary momentum and may now have a runaway pandemic on its hands. The spread of HIV/AIDS is too important an issue for India to ignore and the large uncertainties in prevalence figures due to inadequate surveillance should be recognized as an indicator of a poor public health care system and should not be used as an excuse for proceeding slowly.

The situation with respect to Hepatitis B or C infections is worse. There are no sentinel surveillance centers nor has the government started a national data base of incidence and prevalence figures. Given the very high prevalence estimates, containing HIV/AIDS, Hepatitis B, and Hepatitis C – three serious blood borne and sexually transmitted diseases – should be an integral part of the national agenda.

Status of HIV Infections in the Armed and Police Forces

Official figures of infections in the armed forces and current trends are contained in a sixteen page booklet called "Commander's Handbook on AIDS" prepared by the Armed Forces Medical College (AFMC), Pune.[21] This booklet, with very limited circulation even within the armed forces, is also meant to be used by the officers to spread awareness to their soldiers. The 1999 edition of the booklet says that "1,432 confirmed cases of HIV have been detected till July 31, 1997". It goes on to say that "… (this) represents only the tip of the iceberg because a majority of our personnel have never been tested for HIV. Epidemiological estimates indicate that there may be at least 6,000 HIV positive persons in our services. While 1,432 have been detected, more than 5000 still lie hidden." The booklet identifies risky sex as the cause for 95% of the infections, and soldiers as a high risk group because they are "subjected to enormous physical and mental stress".

The 2002 booklet states that as per a recent report by the AIDS Control Organization (ACO) of the armed forces, over 3500 personnel have contracted HIV over the last decade (1990-2000). The handbook cautions that the number of hidden cases is likely to be much higher. This handbook provides further details of the epidemic within the army. It says that the detection of HIV infection during 1990-98 among service personnel was found to be the highest in the Navy, followed by the Army, and the lowest in the Air Force. It also lists the cities and regions of India where most infections have been detected. Not surprisingly, these coincide with regions where HIV prevalence rates are the highest, port cities, and metropolitan areas where a very large fraction of the sex workers are infected.

The spread has occurred despite the Indian Armed Forces being highly disciplined organizations. All three arms — the Army, the Navy, and the Air Force — are fully aware of the dangers of HIV and of the vulnerability of the young soldiers to risky sex. AMFC commandant and venereologist Lt. General Vishnu D. Tiwari recognizes that the defense forces are a vulnerable population, especially the relatively young age group between 25-34 years, and stated, "Frequent movements, separation from families, and more importantly a low

threat perception of the disease, makes them more susceptible." Recognizing the alarming growth of HIV/AIDS worldwide, the first sero-surveillance center was set up at the Armed Forces Medical College in Pune in 1987 to detect, document, take measures, and devise effective strategies to control spread amongst the armed forces personnel and their families. Today there are three referral centers at Delhi, Mumbai and Pune to diagnose, document and provide treatment for opportunistic infections. All infected personnel are expected to report to one of these centers every three months for evaluation.

The awareness and prevention programs were started in 1995-96 and are now, on paper, well established. There are very clear chains of command, the unit commanders have been trained in HIV prevention strategies, and all officers have clear instructions to educate those serving under them. At all levels of command steps are being taken to minimize further infections and Armed Forces Medical Services (AFMS) surveillance shows that the epidemics has reached a plateau. However, conversations with young recruits reveal that most unit commanders are reluctant to discuss issues of sex and sexuality in any detail or freely, and their limited discourses are like sermons. Furthermore, condoms are not made available freely and anonymously. The emphasis remains on abstinence rather than on a combined strategy of abstinence and harm reduction.

AFMS and NACO work together to control spread. The AFMS guidelines and policy for HIV/AIDS are the same as created by the Government of India through NACO. Thus, while treatment for opportunistic infections is provided to armed forces personnel, anti-retroviral therapy is NOT. Those who can afford it are encouraged to get the drugs privately. In keeping with the national policy, there is no mandatory testing. Effective diagnosis has relied on the practice that most armed forces personnel donate blood on a regular basis and infections detected as a result are followed up. The other mechanism for detection is testing those coming to STD clinics. Once someone in the services is found to be HIV positive, their health is monitored and they are expected to report to one of the three referral centers once every three months for evaluation. Concomitantly, effort is made to keep them in service as long as possible by giving them less physically demanding tasks. Testing for family members is available at the zonal centers but there is little coordinated effort to promote this service.

In practice, the most effective form of prevention is informal and relies on the bond of "brotherhood" between the medical officer and the soldiers at the regimental level. If the medical officer is good and caring, he/she assumes responsibility for spreading awareness through one-on-one interactions and camaraderie. However, when the soldiers are on postings where the risk for infection is the highest or the medical officer does not accompany them, the message is, unfortunately, not reinforced and risky behavior occurs.

The armed services, while professing no discrimination against people with HIV as long as they are medically fit, have often resorted to loopholes to dismiss those infected. Ashok Pillai[22] and Abraham Kurian[23] are the past and present presidents of the Indian Network for People living with HIV/AIDS (INP+). Both were infected while in service and both were discharged on grounds of being medically unfit for duty once their HIV status was diagnosed. Both showed extreme courage in overcoming their fears and stigma and became role models. Ashok refused anti-retroviral therapy for a very long period, before he became very sick towards the end of his life, to express solidarity with the majority of the HIV positive people who do not have access to these life saving drugs. Assuming that there are 6000 HIV positive persons in the armed forces, providing treatment and care would imply an annual expense of about $6 million. While this is a small fraction of the total Defense budget (the combined 2002-03 defense expenditure for revenue and capital accounts was Rs 650 billion or roughly $14 billion), it is a significant fraction of their medical budget!

The Indian Police Service does not have a national strategy or surveillance system and only in the last couple of years have they even started HIV/AIDS prevention.[24] So far their main activities have been to hold

seminars for senior officers and medical staff and infrequent lectures, given by doctors or HIV/AIDS activists, to a fraction of the police force at few of the stations, mostly those in the larger cities. (There is still no policy of mandatory vaccination against Hepatitis B for members of the Police force or the armed forces. This lack of action illustrates the low level of understanding and commitment to control STIs.) The continued reports from sex workers of harassment by policemen on the beat and demands for money and free sex, mostly without condoms, suggests that even if the police force has been made aware of the danger, there has been little change in behavior. In short, the extent of the epidemic in the police force is still unknown and hidden.

Both the armed forces and the police are highly regulated and structured organizations. They are also a captive audience. It should, therefore, be easy to spread awareness. However, awareness is not enough and the special circumstances under which members of these organizations operate have to be acknowledged and incorporated into messages designed to change behavior. Prevention strategies should include the following.

- Awareness lectures on STIs and HIV/AIDS every six months. The lecturers should rotate between HIV positive peer educators, non-services medical doctors, and NGO workers.
- An adoption of harm reduction programs which includes free and anonymous access to condoms and counseling.
- Training in how to deal with sex workers and risky sex. In particular, the police force should be trained to combine law and order with harm reduction programs vis-a-vis sex workers. The goal of this training should be to maintain the law and to help prevent exploitation of sex workers as that increases their vulnerability for acquiring STIs and to exploitation, marginalization, and discrimination that drives them further underground.
- To apprehend and bring to justice those coercing minors and adults into the sex trade.
- India has traditionally contributed a significant fraction of the peace keeping forces operating under the UN flag. Conflict and civil wars create the circumstances for both risky sex and exploitation. These are also high stress situations under which many soldiers are tempted to seek release in sexual escapades as such opportunities present themselves routinely. Peace keeping contingents need to have awareness lectures on a weekly basis while on duty and should have free access to condoms and confidential counseling.

Based on my conversations with a number of police officers, even policy in regard to these issues is still unclear, and implementation is very uneven and spotty. High levels of corruption and easy access to risky sex will challenge these organizations to keep infection rates for STIs low in the coming years.

Factors Preventing Effective Response to HIV/AIDS and other STIs

There are many factors that are preventing an effective response to the spread of HIV/AIDS. Overall, as discussed below, the major factors are systemic and need a major change in society and in economic development, especially in rural areas, for effective intervention. There is very little capacity at any level to deal with diseases like HIV/AIDS and addictions that are behavioral and for which there is no cure in the form of a "pill" or a vaccine. While counseling, care, and treatment for a country with 5.1 million HIV positive people is hard to envisage with current resources and would take time to develop even in a good system, there is no excuse for not providing treatment to the roughly 50,000 people already diagnosed with AIDS, and the timidity displayed in spreading awareness and changing laws that keep communities like sex workers, men having sex with men, and intravenous drug users marginalized and their risky behaviors underground. Most important, even if sensible polices are developed, corruption continues to play a huge role in preventing effective implementation and thus in facilitating the spread of HIV. Society as a whole has to come to grips with removing corruption at all levels as HIV/AIDS is not just a medical problem.

Schools have not implemented a comprehensive curriculum on reproductive health, sexual hygiene, sexually transmitted infections, and addictions because of unresolved moral dilemmas. So there is poor awareness of risk in the youth and many learn the hard way after risky experiments, infection and/or sexual exploitation. The policy of silence and the presumption that people will automatically adhere to high moral standards means that each successive group is left to learn from their own experiments and mistakes.

Most women in India do not have the power to negotiate sex. This is true within marriage, in extra-marital liaisons and of sex workers. Women also have fewer opportunities for economic independence and sufficiency, and are often denied adequate nutrition, health care and education right from birth. Thus, sex work becomes the only means of survival for many of the destitute, i.e., widows and those abandoned by their husbands. As discussed later, women are often victims of domestic violence, rape and abuse. Since risky sex is very often coupled with expression of power, control, and exploitation, the spread of HIV is very intimately connected with the extreme gender inequality and violations of basic rights of women. The long term hope is education and health care leading to economic opportunities, the formation of caring and nurturing behaviors between the sexes, gender equity, and the development of civic sense.

Poor Public Health and Health Care

Health care is not a national priority. The central government's total budget for health in 2001 was about Rs. 13 billion, i.e., Rs 13 per person per year. The cost, at Rs. 600 per child, of just Hepatitis B vaccine for the 25 million newborns every year exceeds this budget, which is why it is not part of childhood immunizations. The total public and private expenditure on health per capita is about Rs. 150 per person per year, of which about 70-80% is private and out of pocket, and accounted for mostly by the well-to-do. Also, in terms of access, the inequalities nationwide between urban and rural areas and between the top 10% and the bottom 10% are glaring. Furthermore, health is a state subject and many states are running in deficit and have no new resources to allocate to enlarge the system. These states, which include the populous states of Bihar and Uttar Pradesh, have very poor delivery of health care.[9]

According to the 2001 census,[25] seventy two percent Indians live in villages, and most have very limited access to health care. Furthermore, due to lack of money, time, awareness, trust, and for social and cultural reasons, most people, especially the poor, the illiterate and the marginalized, do not access health care facilities that do exist until the disease has progressed to a stage that leaves them with no choices other than becoming bedridden or seeking care. By this time even simple diseases become life threatening and very expensive to treat.

Due to the deep rooted social stigma associated with STIs, most of the population, especially the poor and the villagers, goes to quacks for treatment. Shame and feeling of guilt are also important factors in people not seeking proper medical help for STIs. While this approach has worked for the treatment of easily diagnosed and treatable STIs like gonorrhea, chlamydia, and syphilis, quacks are not capable of providing an early diagnosis of HIV nor do they have any incentive to send the patient to a HIV testing and counseling center.

This general pattern of how people access health care facilitates the spread of HIV because, in the absence of testing, counseling and cure, infected people go through, without changing behavior, a long asymptomatic period before the onset of severe symptoms and AIDS. During this time they may not even suspect that they are infected or are infectious and thus have no incentive to get tested. They, thereby, continue to infect others. They become unwitting transmitters not because they are irresponsible and uncaring, but

because they are ignorant, poor, and illiterate and past experiences have taught them to mistrust the system. Thus, stopping the spread of HIV will require the overall strengthening of the education and medical systems, and not simply setting up HIV centers that provide testing but no counseling, care, or treatment.

Even when people access the medical system, corruption and a bloated bureaucracy are an impediment to delivery. For example, the government has authorized reimbursement of expenses for medicines to treat certain opportunistic infections like TB. The patient, however, is expected to first pay for the medicines, collect the receipts, fill out the paperwork and submit it to the appropriate authority, and then wait a month or more for payment. This elaborate system was set up to prevent abuse/corruption by the medical community and is not working from the patient's point of view. Many are not told that they can get reimbursed for certain medicines; many do not have the money to pay for the medicines up front and are suspicious of getting reimbursed so they do not get expensive prescriptions filled; the process is cumbersome and often involves the need to bribe the officials; and, finally, the stigma of having to divulge their HIV status to many people and in crowded places prevents them from seeking help. By setting up such an elaborate reimbursement system, the government is proclaiming that doctors, even those working in the leading medical institutions, cannot be trusted to stock and give the necessary medicines to patients when they come to the clinic for consultation. The bottom line is that a corrupt system will continue to undermine even the best attempts at stopping the spread of all communicable diseases, not just HIV. So, if the government is serious about containing HIV and the development of India, they have to stop corruption at all levels, starting with senior officials and politicians setting a good example.

Even though India is the largest producer of generic anti-retroviral drugs, these drugs are still too expensive for over 95% of those infected. There are almost no provisions for free treatment. Without access to anti-retroviral drugs and treatment, people have little incentive to get tested even when they suspect being infected and have access to a testing center. For the infected, life without treatment is short and debilitating. Lacking health and rightfully fearing social stigma and discrimination they have not been willing to come forward and train to become educators. Furthermore, barring a few exceptions, HIV positive people have not been included in policy and planning exercises. This is a missed opportunity for in the Western world HIV positive people have played a very effective, responsible, and essential role in removing stigma, creating awareness, developing sensible policies, and implementing novel programs.

There continues to be considerable spread of HIV through the use of unsterilized medical instruments and needles. In rural setting this is often due to lack of resources, though corrupt practices too are rampant. But even in the best hospitals there exists a predilection towards cutting corners or making a quick buck. India has a very large medical community of international standards, and yet it has been slow to respond to the HIV crises. One big reason is that the medical community as a whole is overwhelmed, and in most parts of India their perception so far is that HIV is no more serious than the many other diseases that are also largely fatal. In addition, lacking the ability to offer cure, the inability of over 95% of patients to afford the anti-retroviral treatment, and the general lack of interest in, and the culture of, counseling doctors have little incentive to engage. Thus, more than even the immediate impact on the wellbeing of the HIV positive, it is essential to engage the medical community by providing training and subsidizing treatment so that they feel they have something to offer.

The numbers of intravenous drug users (IDU) are much higher than the government is willing to admit and they can be found in all parts of India, both rural and urban, and not just in the state of Manipur and the largest metropolitan areas. The problem is already very severe in most slums and among the menial laborers in all major cities. The government should, therefore, start training NGOs, community workers, and peer educators immediately, and start involving the medical community in promoting harm reduction methods including needle exchange programs. Simultaneously, there should be a comprehensive program to reduce alcohol and

drug addiction and trafficking. There is very little appreciation of the long term implications of the fact that India is sandwiched between the two largest opium/heroin producing regions of the world — the golden triangle and the golden crescent. The amount of drugs consumed in, and trafficked through, India will continue to grow unless there is a long term commitment to an awareness campaign and control over trafficking.

Poor Policy in an era of Simultaneously Occurring and Mutually Reinforcing Health Crises

India is facing not just the HIV/AIDS crisis but several pandemics simultaneously. This is a consequence of poverty, illiteracy, and a poor health care system in general. Many of these infections have significant impact on the progression of other diseases. For example, high prevalence rates of HIV infected people in a country with high rates of primary infection of tuberculosis (TB) is a well-recognized and publicized problem that poses special challenges. Outside of sub-Saharan Africa, India has the highest numbers of such co-infections — 5.1 million HIV positive cases, about 2 million cases of active TB per year, and about 60% of the population estimated to have primary infection of TB.[26] It should therefore come as no surprise that TB is the most common opportunistic infection in India and roughly two-thirds of the HIV positive cases die of TB. Thus, controlling HIV and TB should be a joint agenda.

The implications for delivery of health care in light of the simultaneous pandemics — HIV and TB — are frightening. All hospitals will have to take special precautions to isolate patients with co-infections of TB and HIV to prevent the spread of TB to other patients, the hospital staff, and the patient's family. HIV infected people are much more likely to have a shorter life after HIV infection if they already carry a primary infection of TB. The progression of TB in people co-infected with HIV is faster and the emergence of drug resistant strains more likely with repeated episodes of TB. In fact, there already is growing evidence for the spread of multi-drug resistant strains of TB to which HIV positive people are especially susceptible. On the positive side, the long awaited implementation of DOTS (Directly Observed Treatment - Short course) at the national scale is occurring for people presenting symptoms of TB. If carried through this program will be a big step forward, however, it does not address the vulnerabilities of people with primary infection of TB that get co-infected with HIV.[27]

Another such closely coupled system is Hepatitis B and C infections and high rates of alcoholism. In the chronically infected, both Hepatitis B and C are slow killers. These viruses kill by destroying the liver as does long-term alcohol abuse. In the western world, epidemiological studies show that both Hepatitis B and C viruses typically destroy a person's liver 20-25 years after infection. This estimate is based on cases where the immune system does not overcome the infection (i.e. in the chronically infected), and the patients have not accessed interferon and Ribavarin combination therapy. The time interval before the onset of serious liver disease is significantly reduced in people who are infected with Hepatitis B and/or C virus and who also abuse alcohol. In India most people with chronic Hepatitis B or C infections are undiagnosed and less than 5% of the population could afford the treatment. In this regard the situation is similar to HIV; all three are hidden and fast growing epidemics.

A major cause for concern should be the fact that few, if any, government hospitals or blood banks screen the blood against Hepatitis C because of the comparatively high cost of the screening kits (Rs. 150-200 each). Pilot projects to understand how to build the infrastructure for this screening and to pay for it are just being initiated. Nevertheless, the government claims that the risk of contacting these diseases from blood transfusions and through the use of unsterilized instruments has been very significantly reduced. The public is not fooled – very few professionals are willing and ready to have any kind of invasive procedures done on them

or on their family members unless they know the doctor personally or have a close associate who will take personal responsibility for supervising their treatment. This is especially true of care in government hospitals. Such lack of trust has little to do with money and the ability to pay for the services, but with numerous examples of botched cases due to sloppy and corrupt practices. It is not at all clear whether the medical community can or will adhere to higher moral and ethical standards when surrounded by a highly corrupt society. Until corruption is significantly reduced in all walks of life, the threat of spread of blood borne diseases will not be removed.

The spread of all three infections, HIV/AIDS, Hepatitis B, and Hepatitis C, is also caused by shared needles during intravenous drug use (IDU), and the reuse of needles and other medical instruments without proper sterilization in medical settings. The rapid spread of HIV (0 to 80%) during 1989-1992 among the intravenous heroin users in the Northeastern state of Manipur, when the government banned the sale of hypodermic syringes and drug users resorted to sharing and reusing needles, highlights the disastrous consequences of bad policy.[28] The ban on sale was indefensible considering that the West had already demonstrated successful needle exchange programs to prevent spread of blood borne diseases amongst IDU.

The government continues to create bad policy and uphold outdated laws. For example, section 377 of Indian penal code declares sodomy as an unnatural act and legally punishable. This is a hangover from the British law and has still not been abolished, even though the government acknowledges that anal sex is common and carries a very high risk for spreading HIV, especially if it remains an underground activity.

Similarly, the legal status of prostitutes and of prostitution is far from clear. The Prevention of Immoral Traffic Act (PITA), which was previously known as Suppression of Immoral Traffic ACT (SITA), is mainly concerned with the induction of new persons into the trade and the circumstances leading to prostitution. It was clearly written with only girls in mind and the status of boys in sex trade has yet to be clarified. The implementation of the Act has been poor for it has failed to prevent children 10 years and even younger from being coerced into sex work.[29] For an adult the profession, itself, is neither legal nor illegal. Under Indian law soliciting and promoting trade is illegal. This ambiguity has left the sex workers vulnerable to extortion and violence by pimps and police alike. It is common for a sex worker (and their madams) to pay up to 80% or more of their intake to pimps, local gangsters, and the police. The final cost is pushed down to the sex worker, often leaving them with so little that they cannot afford condoms. Many times they are coerced to have sex without condom or will opt to do so if the client is willing to pay more. The net result is that sex workers remain vulnerable and major vectors for transmission of STIs.

The policy changes mentioned above (section 377 of the Indian penal code, clarifying the rights of sex-workers, needle exchange programs) will be monumental steps but minor and easy to implement compared to confronting the widespread corruption and extortion practiced by members of both government and non-government organizations. It will be almost impossible for India to control any health crisis that involves marginalized communities as the ones predominately affected and which are significant vectors for transmission unless it can develop transparency and accountability at all levels of governance. Today, alcohol and drug addiction and trafficking, HIV/AIDS, TB, Hepatitis B, Hepatitis C, and other STIs constitute such a mutually reinforcing and growing crisis.

Fortunately, all three serious infections — HIV/AIDS, Hepatitis B and Hepatitis C — are blood borne and sexually transmitted and are not spread by casual contact, so a common comprehensive prevention policy on containing HIV will reduce the risk for all three and all other STIs. Obvious as this connection is, nevertheless, it should be highlighted in public forums since many doctors feel that an equivalent allocation of resources for controlling the spread of Hepatitis would have a significantly bigger impact on reducing the burden of both

Hepatitis B and C infections as compared to HIV. People who cannot afford anti-retroviral treatment for HIV will also not be able to afford interferon plus Ribavarin treatment for Hepatitis C and similarly for Hepatitis B, so the focus must be on a common prevention strategy of education, awareness, and empowerment and better monitoring of blood, blood products, needles, and surgical instruments. Advocates of Hepatitis control should lobby for vaccinations against Hepatitis B and it should be made a part of mandatory childhood immunizations and coverage should be extended to all people.

Given the very large number of people with Hepatitis B and/or C infections and of alcoholics, it should not come as a surprise that hospitals in India are already seeing a significant number of cases of people (mostly men) in their late thirties and early forties dying of liver failure. (This anecdotal information is based on conversations with doctors from a number of hospitals and cries out for a proper epidemiological study.) This combined burden of viral Hepatitis and alcoholism has not been studied adequately nor publicized even though it is potentially as severe as HIV/AIDS due to the much higher transmissibility of Hepatitis B during sexual intercourse and the much higher prevalence figures for both Hepatitis B and C.[i] Vaccinations against Hepatitis B are not yet part of the childhood immunization program. Only on June 8, 2002 did Prime Minister Shri A. B. Vajpayee launch the first pilot program to provide Hepatitis B vaccinations to two million infants over the next 5 years as part of their childhood immunizations[30]. Note that this program will reach a very small fraction of the roughly 25 million children born each year and was initiated only when funding was secured from abroad. So the real reason for not starting such a program so far has been the high cost of the vaccine and not the debate within sections of the medical community on whether a universal Hepatitis B program is necessary. The cost of the three required doses had, in 2002, come down to between Rs. 600-800 depending on the manufacturer and has dropped even further since then. The fact that even this cost is considered too high demonstrates the inadequate investment in health care by the government. Similarly, cost, not effectiveness, underlies the reluctance of the government to provide anti-retroviral treatment to AIDS patients, both for their welfare and as a means to controlling HIV. While cost should be a very important factor in developing policy, not allocating enough resources to even cover necessary childhood immunizations demonstrates that health is not a national priority. In short, the current policy of meager indigenous investment in health care makes it very uncertain if any public health program will be sustained if foreign aid is withdrawn.

Poor Implementation

Poor implementation is the crux of the problem. Government creates policy and allocates resources. Since intervention involves being able to talk freely on issues of sex and addictions and to deal with marginalized populations, bureaucrats and other government officials have not been able to lead the campaigns. They are relying on the medical community and the NGOs to do the groundwork. Most doctors do not have the time to counsel patients due to the work load, nor is there is a culture of counseling, especially on issues of sex. Worse, most doctors have still not been able to shed their irrational fear of HIV/AIDS and have, therefore, not been very effective in even providing care and treatment to those infected. By and large the medical community has yet to engage in fighting the pandemic. To fill this vacuum hundreds of NGOs have sprung up in the health and development sectors, especially as the influx of funds from international donors became evident. Very few of these NGOs had any real understanding of the socio-political factors fueling the spread of STIs or of the difficulties in dealing with marginalized populations. Most are trying to learn on the fly. This lack of training and experience of even the good NGOS to deal with taboo and stigmatized issues, coupled with the misfortune that many NGOs see spreading awareness on HIV/AIDS a good way to make money (after all how hard can it

[i] Even though the primary route of transmission of Hepatitis C is through contact with infected blood, a concern for India should be the very high incidence and prevalence figures for bacterial and viral STIs, bacterial vaginosis, and pelvic inflammation disease. Lesions and bleeding resulting from these infections can give rise to significant transmission through sexual intercourse.

be to stand on a street corner and distribute pamphlets that say what HIV and AIDS are, how HIV spreads, advocate safe sex, and promote the use of condoms!), has given NGOs, in general, a bad reputation.

The three sectors could have pooled together their strengths to create a very effective program. Unfortunately, the common mode of interaction between the central and state government AIDS control agencies, doctors and hospitals, and the NGOs, is one of mistrust rather than one of cooperation. This mistrust is, to a large part, a reflection of the endemic corruption, but lack of organizational and operational skills that traditionally foster interagency cooperation have also played an important part. The hospitals and their medical staff consider other government and non-government organizations as run by charlatans and ineffective since these organizations, very often, do not have staff with certified medical credentials. The NGOs consider the state agencies as corrupt, obstructive, inefficient, bureaucratic, and decoupled from realities on the ground. They regard the doctors as unapproachable and only interested in making money. Furthermore, most NGOs are reluctant to, or unable to, seek the help of qualified doctors as they are not able to provide adequate working conditions in the field which, from their point of view, are unrealistic and demanding. The state agencies consider the NGOs they fund as part of their fiefdom or as self proclaimed do-gooders entitled to unlimited funds. These perceptions come on top of a pervasive environment of mistrust and cynicism in the proper functioning of any organization, which makes it easy for various sectors to conspire, to justify their narrow focus, and to use the funds to serve their own private agendas. The net result is that whatever meager resources are available are used very ineffectively. The capacity and patience to resolve core tensions between the different players, learning to respect each others strengths, and staying focused on the common goal of controlling the spread of STIs and addictions are still in very early stages of development.

Today, of the seven states in which the pandemic is most severe — Maharashtra, Goa, Karnataka, Tamil Nadu, Andhra Pradesh, Manipur and Nagaland — the first five southern states have the best standards in terms of delivery of health care, literacy, and gender equity. On the other hand states like Bihar, Jharkhand, Orissa, Madhya Pradesh, Chittisgarh, Uttar Pradesh, and Rajasthan, that have been labeled “bimaru” (sick), pose the greatest challenge for the present and the future because they have the highest population growth, illiteracy and poverty, gender inequity, highest cultural and social barriers to change, and contribute the largest numbers of migrant workers. They also have the weakest infrastructure for health care and education and ineffective governments. The current low numbers of HIV positive people reported from these states should be taken with a grain of salt as they are most likely due to poor surveillance. Even if the pandemic is less developed in these regions, one should be extremely concerned as the conditions for fast spread are ripe. The government should act on a war footing in all of India, rather than assuming that the need is urgent in certain regions and within some high risk groups only. As discussed further in Section VIII, the window of opportunity for targeted intervention as the principal focus of national intervention policy has passed because the epidemic has spread to the general public in all parts of the country.

III A. RISKY SEX

Most middle class Indians would like to believe that pre-marital and extra-marital sex does not exist, and if it does, it exists in very few families. Thus, society has been slow to appreciate that, with respect to STIs, any sex outside of marriage or a one-to-one relationship, especially without the use of condoms, is risky. Also, sex within marriage becomes risky when one or both partners have extra-marital sexual relationships. Today, when pressed, most Indians will admit to the prevalence of risky sex in the poorer classes — a consequence of their desperate existence. Unfortunately, risky sex is very common and indulged in by a very significant fraction of people of all socio-economic classes. This section describes some common high-risk practices that make the general public vulnerable to STIs.

Sex Work

India has a very long tradition of sex workers. From giving respect to royal concubines to the glorification of sex in the Kama Sutra, Indians have long recognized that sex plays a large part in the lives of people and that people stray. The organization, Coalition Against Trafficking in Women (CATW at http://www.catw-ap.org/), estimates that there are currently about 2.3 million sex workers in India.[31] In a different estimate that includes both full time and casual sex workers CATW quotes the number 8 million. A common working number is 3 million. Clearly, the number and survival of sex workers depends on demand, and to sustain even 3 million sex workers means that a significant fraction of the Indian population has sex with prostitutes. Given such a large demand, and the extreme poverty that many women and men who sell sex are born into or find themselves in, it is unlikely that prostitution can be eliminated or a legal ban will be successful.[32] In addition, urbanization, globalization, mobility, and communication technology have made sex glamorous and a very easy way of making fast money. Both desperation and easy access have fueled an increase in the sex trade and the lack of concomitant awareness and education on reproductive health has lead to pandemics in all STIs. Many who suffer are not aware of the consequences of risky sex for mental, emotional and physical health and many others are making wrong choices in spite of knowing the risks. The result is a growing national crisis.

Sex Industry: There is a huge sex industry involving both men and women in India, nevertheless welfare of sex workers and the factors leading to sex work play no role in national planning. Sex workers are marginalized and ostracized by the middle and higher classes, the policy makers, and the law and order systems. The laws on prostitution are ambiguous and, as a result, sex workers are exploited by even the police and rarely have fair access to law and justice. Most female sex workers live under the control of brutal and exploitative pimps, local gangsters and mafias. The government, rather than acting to provide sex workers with the same fundamental rights guaranteed by the constitution to all, is hoping that sex workers and HIV somehow stay hidden in a closet and can be ignored. Most sex workers, even today, have little ability to afford condoms or negotiate, much less demand, that all their clients use condoms. They, thus, continue to be highly vulnerable to all STIs. To reduce infections among sex workers and the subsequent transmission of STIs from sex workers to the general public, the laws need to be changed and sex workers need to be empowered to seek decent working conditions and provided access to health care and education. In addition, society has to be willing to grant them and their families all the basic human rights so that they can live with self-respect and dignity. Only through education and empowerment will sex workers become less prone to communicable diseases and the demand for commercial sex reduce over time.

The poor gamble with their health every hour of the day, so a disease with fatal consequences five years down the line is not foremost in their list of priorities. Day to day survival by any means is their only priority

and, for many, sex work is the only means of earning a meal. Improving the economic conditions of the poor is crucial if we are to reduce their dependence on sex work as the means of survival.

It is useful to give a brief overview of the different types of sex workers (both women and men) so that one can appreciate the variations in vulnerabilities, risks, perceptions, and practices.

Brothel Based Workers: These are perhaps the lowest class of sex workers and essentially all female. They live in extremely unhygienic and crowded establishments ("cages") under ruthless and violent conditions imposed by both pimps and madams, and are victims of police brutality and extortion.[33] Estimates of this class of sex workers are about one million. About 10% have been trafficked illegally from Nepal and Bangladesh and about a quarter are under the legal age of eighteen.[34] The red light areas of Delhi, Kolkata, and Mumbai are well-publicized examples of this class.[35] These prostitutes typically charge between Rs. 20 - 100 and must have five or more customers every night to earn a livelihood as they get only a quarter or third of the take. The rest goes to the madams, the pimps, and the police.

Many of these sex workers start very young, often as young as 10-12 years. They have usually been bought, or abducted, or coerced, or hoodwinked into the sex trade under fake promises of job or marriage by a very well organized Mafia. Many are street children or children of sex workers or of women deserted by their husbands.[35] The Mafia has not been interested in the long-term welfare of these people as their mean life in the trade is 10-15 years. Preventing any compromise of their ruthless control has been the Mafia's highest priority. Consequently, the use of condoms is low, abuse of alcohol by both the sex workers and clients is very high, and the incidence and prevalence of STIs is high. In addition to lacking empowerment to demand the use of condoms from all their customers, they are also too poor to buy them and supply them to their clients since the cost of condoms is a significant fraction of their daily earning.[36] Unless supplied free by intervention workers or brought along by the customer, few brothel based sex workers use condoms regularly (with clients or their partners) if they have to buy them. This number is growing, albeit slowly, due to the work of many outstanding NGOs and community based organizations (CBOs).

The plight of this group of sex workers is very well documented and known.[37] The politicians and bureaucrats, therefore, cannot feign ignorance of the magnitude and severity of the problem. Nevertheless, they have chosen to ignore the issue and to allow extortion and violence by the police to continue. Some key reasons for why they can get away with inaction are: (i) society, at large, does not attach any value to the lives of sex workers, (ii) the sex workers, in practice, have no legal or social voice; (iii) many influential policy makers want sex-workers to be rescued and rehabilitated and sex-work outlawed instead of adopting a harm reduction approach that empowers sex-workers to seek better working and living conditions, and (iv) because many powerful people in all walks of life profit from the sex trade and oppose any attempt to bring about change.

The lone highly publicized example of a significant change in the rights of brothel based sex-workers, which occurred in response to the spread of HIV, is the Sonagachi project in Kolkata.[38] In 1992 Dr. S. Jana opened a medical clinic in the red-light district to treat the prostitutes and their children, and to spread awareness about sexually transmitted diseases and safer-sex practices.[39] Today, there is a co-operative of about 60,000 female and male sex workers, their children, and their clients that wields significant power in demanding good working conditions, mandatory use of condoms, health care, and education for their children.[40] This example has not yet been replicated elsewhere in India for reasons that are discussed in Section VI. The government, while paying lip service to the example of Sonagachi, has not facilitated the transition in other areas by clearly defining the rights of sex-workers and creating the appropriate law and order situation to protect sex-workers from abuse. The government works indirectly at best; it funds NGOs and CBOs to work with marginalized communities and to accomplish the task of educating them, decreasing the risk of STIs, and raising social awareness.[41] Even

today, in spite of its rhetoric of full commitment to curbing the spread of HIV, the government, in practice, wants to do this while maintaining its distance and without providing clear and enabling laws and appropriate legal and police support.

Intervention work amongst brothel based sex workers is at least facilitated by the fact that they are localized and easily identifiable. As discussed below, the majority of sex workers in India are not brothel based and reaching them will be much harder for both, government agencies and NGOs, if the equivocal legal status of prostitution and social stigma keeps sex workers ostracized and underground.

Street Workers: These sex workers do not have a fixed place of operation. They hang out on the streets, often near bus, taxi, truck and train stations, and solicit clients. They are usually picked up by clients and go to a place of either the clients choosing or to a hotel. Few have a rented room where they take clients. They usually have a loose association with other sex workers and pimps. The most vulnerable to abuse and STIs are the street children as sexual exploitation and coercion into the sex trade starts as early as age seven. Estimates of this class also range from 1-2 million and their numbers are growing.[42]

Housewives and Casual Sex Workers: These are people who have multiple identities and do not identify themselves as sex workers. They resort to sex work when in need of money, and also, in the case of women, to supplement the money given to them by their husbands for running the household or to buy vanity items. In most cases they solicit sex without the knowledge of their families. However, it is not uncommon for husbands to bring clients home, a practice that is common among the poor and the slum dwellers. Sometimes, these men and women will also seek sex for pleasure with different partners, especially when their spouse has lost interest, is an alcoholic or very abusive or violent. In the last couple of years, soliciting by street and casual sex workers has been greatly facilitated by the proliferation of cell phones. Essentially overnight, thousands of pimps in towns and cities have started operating via cell phones, and today a client can have a sex-worker of the desired gender, age, and socio-economic class waiting for them at a designated place within an hour.[43]

Call Girls and Boys: These are the so-called high-class prostitutes. Their services are obtained through escort services that are supposed to verify the credentials of both the sex worker and the clients. They can be housewives, students, professionals or full time sex-workers.[44] Their better socio-economic status lulls people into associating a negligible risk of infection through them — for most people the perception of risk is associated more with socio-economic status rather than with behavior.

Sex in Exchange for Favors: Sex in exchange for favors is probably as old as the barter system and perhaps even older than prostitution. It is a rare occasion when, during a get together with school/college friends in India, the topic of who is sleeping with whom does not come up. Jobs, promotions, transfer to highly desired locations or departments are "sold" in exchange for bribes, or if the two persons involved are of opposite sex, for sex, or both. These stories involve the highest level positions in the Indian bureaucracy and government,[45] to business houses, to medical colleges, to struggling graduate students looking for research topics. Even highly publicized cases that have resulted in murder [46] have failed to drive home the point that such liaisons are now common in India. When such practices are common, one or both partners are prone to having multiple sexual partners. The risk for transmission of STIs in such clandestine encounters is high because people often do not take adequate precautions — taking risks is part of the thrill.

Sex in exchange for favors is very common in rural India and in slums where it is driven by poverty and desperation, in addition to a host of other social and individual reasons. For a few kilograms of grain, or sugar, or for the right to cut grass for their buffalos, women will offer in exchange the only “renewable” commodity

they have — sex. Needless to say, there are many men who want risky sex and are ever ready to exploit the vulnerabilities of the poor and the marginalized, especially for such a low fee.

Men Having Sex with Men (MSM)

Homosexuality exists in people of all cultures, races and ethnic groups. Ever since the studies carried out by Kinsey, it has been reasonable to assume that about 5% of the males in all cultures and regions have strong homosexual orientation.[47] India is no exception, and many sociologists believe that the numbers could be even higher due to the segregation of the sexes.[48] Assuming an estimate of 5% implies about 15-20 million sexually active MSM. Culturally and socially, homosexuality, while common, is considered unnatural and immoral. Indian society looks down on homosexuals, and there is tremendous stigma associated with being a homosexual and homosexual behavior remains an underground activity. The accepted norm is heterosexuality, marriage, monogamy, overwhelming desire for male progeny to maintain family lineage and to perform religious and social rites, patrimony, and patriarchy. As a result, homosexual contacts are not acknowledged, and 95% of men who are predominantly homosexual marry under pressure from parents and to avoid censure by society.[49] After marriage, many of them continue to have sex with other men without the knowledge of their wives. To preserve anonymity, many of these contacts are with strangers and no condoms are used because of their hurried and casual nature. Many men do not consider anal sex as sex and therefore do not recognize the need for using condoms during extra-marital anal sex or later when having sex with their wives. Even when there is awareness, the need for secrecy wins over safety as reflected in the incidence rates of STIs which continue to be very high among MSM.[13]

In addition to the cultural and social taboos and stigma, section 377 of the Indian penal code declares sodomy (not homosexuality per se) as an unnatural act and a legally punishable offense.[50] This law has been an impediment to spreading awareness on STIs within this community and continues to keep homosexual behavior a high-risk underground activity.

Hijras and Transsexuals: India has a very large community of transgender men who cross dress and have sex with other men. They can be emancipated (ritually castrated), waiting emancipation, or prefer to stay whole. Many of them belong to guilds that are very secretive. Estimates of their numbers are as high as 1.2 million.[51] They are most often seen as wandering minstrels and have a knack for showing up, uninvited, at marriages and births. Their presence at these ceremonies is considered auspicious by some, but mostly people pay them off to avoid the commotion created by their singing and dancing and to not have to deal with them. Many hijras make additional money as sex-workers.

Migrant Workers and Slum Dwellers

India has about 200 million migrant laborers, with the majority in the agricultural sector. The majority of these are men. Most migrants lead lonely lives because they stay away from their families for months at a time, and work long hard hours. Their lifestyle creates a demand for both male and female sex workers. Many migrants visit brothel-based sex workers, but there is also a large group of sex workers that travel within this migrant community. Often husbands are accepting and supportive of their wives earning money through sex work and act as facilitators. These sex workers are hard to identify and reach as they have no fixed location of work and are mostly loners.

Another practice that carries high risk for STIs in villages, slums and colonies inhabited by migrant workers is trans-generation sex. In these circumstances, most attention has been paid to sex between adult males

and adolescent girls and boys. On the other hand sex between adolescent boys and "aunties" — adult women of the neighborhood — during the day when the husbands are out at work is a hidden but common phenomenon. The boys need no encouragement as they get sex for free and often even get gifts from the women. For the women it offers a chance to have sex for pleasure during which they can indulge their fantasies and over which they can exercise control through favors and gifts. That women seek such an outlet to satisfy themselves is not surprising since many husbands are alcoholics and violent towards them or are closet homosexuals. Thus, an adult male that becomes infected with any STI poses a risk not only to his wife but also to the young boys and girls he seduces. The wife too, if promiscuous, spreads STIs further to other young boys. Unfortunately, these practices are far more common than what most policy makers are willing to admit.

Child Labor and Work Gangs

Child labor is very common in all parts of India, especially in economically depressed areas and following droughts, famines, cyclones, floods and other natural disasters when parents feel compelled to send their children up to hundreds of miles away with a contractor for a period of a few weeks to a few months. The youngest of these child-gangs consist of 9-12 years old boys and girls. (Children are preferred as laborers as they are paid about a third of what an adult gets, cannot complain about hours and conditions of work, and are easier to manipulate.) These children work long hard hours and are routinely exploited by the contractor and his cronies as they have no family support or other recourse to help. The parents are aware that most of these children get sexually abused but the lure of money is too great. They put their trust in fate and take solace in the fact that the girls will not get pregnant as they are too young. The only solution to prevent such trans-generation sexual exploitation is to stop this practice. From the children's perspective stopping this practice requires that someone pay parents a comparable amount to compensate for lost earnings, and creating incentives to keep them in school, i.e., one has to simultaneously ensure that the schools function well and there are economic safety nets for families facing financial hardships.

III B. Social Norms and Practices, and Reproductive Health in India

Risky sex is not new to India. What has changed is the scale in an era of explosive growth in the prevalence figures of all STIs, especially the rising specter of HIV/AIDS. A general lack of access to health care and especially to reproductive health care has resulted in a poor medical response. Also missing are social and political capital and institutions that can respond quickly. Since education and awareness on issues of reproductive health has been lacking society has been caught unprepared to deal with the consequences of risky sex. Some of these issues and their consequences, and the social and political climate in which they persist are discussed here.

Religion and Culture: Religion and culture play a very large and important role in the lives of most Indians. Religious leaders and charitable/humanitarian organizations that draw their inspiration and motivation from religion have, in some cases, shown the capacity to care for the inflicted. They have not, however, been forthcoming in accepting addiction and STIs as diseases that can be treated and are not spread by casual contact. They continue to concentrate on moral failure as the root cause of these problems, so their solution is to exhort their followers to return to a moral virtuous life. Many see these diseases as a result of corruption of moral values caused by Western influence, and lay the blame for their spread on the West and the United States in particular. It is in this debate on health, morality, attribution, and responsibility that the Prime Minister has the largest role to play. He/she has to make very clear and consistent statements that challenge the public to find solutions and not scapegoats. Only he/she has enough authority to separate health concerns from value systems, and resolve the debate between deeply rooted and highly emotional religious, cultural, and moral values on one side and sex, sexuality, and gender inequalities on the other. He/she has to remove the stigma associated with diseases like HIV/AIDS by shifting the focus from risk groups to risky behavior. He/she has to make health and well being of all citizens a priority. This has not happened so far. Instead, the Prime Minister and the Health Minister are making lame excuses for inaction saying, on one hand, that HIV/AIDS is the most serious health threat to India and on the other hand absolving the government of responsibility by saying that it is willing and ready to tackle the problem if the international community provides resources.

Private Sector: Major business and industrial houses have just begun to recognize the specter of HIV/AIDS and other health crises, but have not, as yet, started promoting a proactive program of harm reduction and behavior change for their employees. Even the most forward looking industries are assuming that an occasional lecture on HIV/AIDS will generate sufficient awareness in their employees and change behavior. Few, if any, have implemented condom distribution programs or the development and empowerment of peer educators or facilitate regular discussion groups on reproductive health. Without big business showing the way, small and medium scale industry has so far failed to implement even awareness programs for their workers.

School and College Students: The sexual revolution that swept the United States in the 60's reached India in the 1990's. What did not accompany the desire and freedom to experiment with sex was an understanding and use of modern birth and disease control methods. So, while youngsters want to have sex and are having sex, their parents and society at large do not want to talk about it. In particular birth and disease control methods and counseling is not available to teenagers even in major metropolitan areas. The number of eleventh graders in elite schools in Delhi suspected to be sexually active is around 30%, and the numbers in government schools are only slightly less at about 25%.[52] Similar percentages are suspected for students experimenting with drugs. Health counselors in some of the best schools suspect that these behaviors are highly correlated. Even so, 30% is a very high number for kids who need serious help and counseling with respect to both sex and drugs and have no one to turn to! Teenage sex in the middle and upper socio-economic classes is

mostly amongst students, but even in this closed age group the risk for sexually transmitted diseases is growing rapidly as many are having multiple partners, some of whom are much older.

Many high school and college students want to enjoy a life of glamour — parties, expensive restaurants, fancy clothes, jewelry, and cars — but have no obvious way to pay for such a life style.[44] They discover very quickly that there is a huge market for sex, and college boys and girls are on the top of the list, in terms of desirability, of those seeking sex. In response, escort services have sprung up even in towns of a few hundred thousand inhabitants. In cities, on any given day, many men can be seen cruising around women's colleges looking for a pick up. Needless to say, for many students such a quest for money and thrills leads to trouble — there are many criminals lurking around who are only too willing to throw lavish parties and lay out the red carpet at the first encounter. Thereafter, they slowly take over the student's life through blackmail and getting them hooked on alcohol and drugs. The most susceptible to this are girls from villages or small towns whose first time away from a very restrictive home life and the first exposure to the fast city life all happen at once when they join college. Hostels and paying guest accommodations are the epicenters of risky behavior and many students succumb to the temptations through peer pressure, lack of supervision, and constant enticement by those desiring a fast life, the thrills of sex and drugs, and are willing to exploit the vulnerabilities in youth to get them.

Abortions: If so many youngsters are having sex and information on, availability of, and the use of birth and disease control methods is not widespread, it then follows that rates for unwanted pregnancies and abortions will be high as well. The official figures are about 0.6 million abortions every year, although estimates as high as 11 million with 6.7 million induced abortions per year are the commonly accepted numbers.[53] Thus, only about 10% of the abortions are done in government registered facilities. Unlicensed practitioners, operating without proper facilities or instruments, and often under unhygienic and unsafe conditions, do the rest, approximately 90%.[54] This is not because society condones abortions, but because people resort to it due to lack of information on modern methods of family planning, lack of access to contraceptives, and due to a general lack of access to health care.

Abortion was legalized in 1972 with the Medical Termination of Pregnancy (MTP) Act,[55] in no small part in an attempt to curb population growth. Nevertheless, as Khan et al. discuss, there is a chronic shortage of doctors trained to provide MTP and of centers with the required facilities, especially in rural India.[54] The result is that many abortions are done under unhygienic and unsafe conditions and by untrained persons. It is estimated that 12-20% of the roughly 600,000 maternal deaths per year are due to botched abortions.[54] Furthermore, abortions performed by unlicensed practitioners with inadequately sterilized instruments carry very high risk for blood borne infections like HIV/AIDS, Hepatitis B, and Hepatitis C because the prevalence rates for these infections are already very high.

Obstetricians, gynecologists, and doctors qualified to carry out MTP in private practice in four major cities in North India that I polled are performing 10-12 abortions per day. Of these, at least 2-3 are teenagers and another 2-3 are young newly married couples. Newly married couples often seek abortion because they want to enjoy life before having children and had not planned on getting pregnant so soon after marriage. (This is an issue separate from sex-selective abortions as in many such cases the sex is known to be male). These couples are perfectly content using abortion as a birth control method rather than using one of the modern contraceptive methods. Often, post abortion counseling on future use of birth control methods is unsuccessful as lifestyles are set by this time and behaviors are hard to change. As regards to teenage abortions, the consensus among doctors is that the number has been increasing steadily and younger and younger girls are showing up. Also, in many cases they suspect the father, or a close relative, or a friend of the family is the cause of the pregnancy.

Few women in India have property or movable assets in their names. As a result families often do not fear legal complications in case of death during abortion performed by unlicensed practitioners. Reliable statistics are few because families that do not go to licensed practitioners in the first place are also likely to accept complications like extreme infections and even death rather than face the stigma of a botched abortion and their complicity in the tragedy. Such families often do not seek medical help if the abortion process leads to a medical emergency. Gynecologists report cases of having to surgically extract objects inserted into the uterus to induce abortion and the use of larger than necessary doses of abortion inducing drugs by quacks. The perception that quacks promote is that such procedures, while producing discomfort, do not require emergency medical care in case of infections and complications and rarely mention possible long-term consequences like infertility.

The new combination drugs, mifepristone (RU 486) and misoprostol which can be self-administered safely by the patient up to 49 days from the last menstrual period, are now being marketed aggressively even though legally their use is authorized only under highly restrictive conditions. These drugs are reportedly bypassing trained gynecologists and being administered directly by Registered Medical Practitioners (RMPs) and quacks in rural India where the largest market for abortions is. The cost per dose to the provider is about Rs. 800 and they typically charge the patient Rs. 1500. Even a poor woman who wants an abortion will somehow find the money to pay what the "doctor" demands.

Sex selective abortions are rampant throughout India and not simply correlated with poverty and destitution. For example, the progressive and developed North Indian state of Punjab is the noxious leader. The highly skewed sex ratio of 793 girls to 1000 boys in the age group 0-5 in Punjab, exposed by the 2001 census, should raise many red flags.[32] To stop this practice the government passed the Pre-natal Diagnostics Techniques Act in 1994, however, its implementation is very poor as exposed by the 2001 census figures for the ratio of girl to boy children.[56] Most of these abortions are happening in rural India through the hands of quacks and RMPs, and constitute a hidden health crisis! It is not clear whether, in the near future, this skewed ratio will lead to empowerment of women or accelerate the violence against women and increase the demand for sex-workers.[57]

Obstetricians and gynecologists are also reporting a rapid increase in the number of couples in the age group 25-35 who are unable to have children. Their suspicion, in many cases, is that the infertility was caused either by sexually transmitted infections or by botched abortions.

The above discussion of abortions is meant to illustrate how ignorance, lack of access to reproductive health care, education, and poverty can create conditions that defy logic or humanity. Even life enhancing technology can be abused and even highly educated people succumb to the lure of money if there is a poor monitoring system. In short, the need for providing proper knowledge on reproductive health leading to safe behaviors during high school years, and subsequently access to modern methods of birth control and to reproductive health care in general is urgent if the correlated problems of STIs, unwanted pregnancies, and abortions are to be solved.

Rape: India, like any other country, has its burden of rape.[58] In addition to the many different common situations under which rape occurs worldwide, there are three that have high incidence in India – (i) rape of a wife by members of her husband's family who view her as communal property; (ii) of farm labor and tribal women by landlords, money lenders, and "officials"; and (iii) of the marginalized by the police.[59] All three practices carry high risk for STIs. In the first case it is not uncommon for one or more members of the family to be migrant workers or to be in military service, and thus exposed to risky sex and STIs while working in a city or while in service. In the latter two cases sex between the landlord (police) and labor (marginalized) facilitates

the spread of germs across socio-economic and age barriers.[60] Few rape cases ever make it to court and if a woman is bold enough to fight the case, she is thoroughly humiliated at every step of the judicial process. In most cases the jury has a strong gender bias and is convinced from the very start that the woman was the provocateur, so the final verdict indirectly lays the blame on her and rarely awards her any compensation.

It is also important to understand and appreciate why women do not leave relationships marred by violence, abuse, rape, addiction, and exploitation. While India has some of the most enlightened laws, constitutional rights, and quotas systems to protect and empower women, implementation is deplorable.[61] Most women have no marketable skills outside the house and are thus not equipped to survive on their own, will not be supported by their parents or siblings if they choose to strike out on their own or with their children, and there are essentially no social safety nets. Even poor women rightly perceive that to survive on their own they will have to resort to prostitution, so they choose to suffer the hellish life within the house and under the veil of marriage.

The combined threat to the health and wellbeing of women due to abuse, rape, abortions, and lack of opportunities continues to be a very serious and urgent problem. Relying on abortion as a means of birth control when so many safe and reliable contraceptive methods are available is a failure of the education system, both formal and home based. Having so many abortions under unhygienic and unsafe conditions, and by practitioners not licensed to do these procedures, is a failure of the health care system. Having such a high burden of abortions and STIs is a national tragedy.

Abuse of Children: A very important reason for early marriages of girl children in villages is the fear of rape and sexual abuse. Many village women's groups have grudgingly agreed that once a girl starts menstruating, they are eager to get her married as they are well aware of the high incidence of rape and abuse by family members, landlords, and others with power and money. A sexually abused girl becomes a liability and parents literally have to pay to get her married, often to someone who then views her as a commodity. This abuse does not vanish entirely after marriage. The factors contributing to exploitation after marriage include issues of insufficient dowry, wives being regarded as community property by the husband's extended family, domestic and communal violence, and coercion into sex-work. Girls and women wanting to flirt, and thinking that marriage will provide a convenient cover for unwanted results of their transgression like pregnancy, end up being used and abused. On the other hand, once married, they are at least saved from predatory men who seek sex with virgins for a variety of reasons including the belief that it will cure STDs!

Rape of boys is also common, but these cases are rarely reported or talked about. The most common villains are male uncles and older cousins. To save their pride and perceiving no long-term consequences like pregnancy, parents choose to maintain silence and do not seek professional help for the victim.

The vulnerabilities of poor working children pose perhaps the largest long term risks for communicable diseases. India has the largest numbers of child laborers of all countries — an estimated 100-150 million children between the ages of 5-14 are not in school, and of these 44 million are estimated to be employed in hazardous and non-hazardous occupations (brick workers, garbage pickers, syringe recyclers, shoe-shine boys, metal workers, cotton and leather workers, bidi (Indian hand-rolled cigarettes) makers, carpet and sari weavers, helper in food stalls and shops, menial workers, construction and agriculture laborers, etc.).[62] These children are routinely subjected to physical, psychological and sexual abuse, a key factor in the development of risky life-long behaviors. Since these children, and often their families, depend on this work for survival, it is not easy to put a stop to it without alternate means of livelihood, support, and appropriate educational opportunities. A comprehensive program to address the welfare of, and to support, poor children must be at the core of all development efforts in India, otherwise, these children will become a huge reservoir of diseases and the risky

behaviors they learn at an early age will undermine even the best efforts at development and at controlling STIs in the long run.

Incest: Incest and other sexual abuses of children are common, unfortunately, most victims suffer in silence.[63] When the perpetrator is not part of the extended family, most parents will stop the abuse once they find out. Rarely do they seek counseling afterwards. If the perpetrator is a family member, then their first reaction is to scold the kid for making vile accusations. Only when the abuse becomes obvious do they act, and in most cases their priority is to make sure no one else comes to know of it. Sadly, in many cases the abuse continues for a long time. Most assume that it is only girls that are victimized, mostly by male uncles and cousins and sometimes by neighbors or shopkeepers, yet boys are equally likely to be abused, but with boys the parents have even less incentive to seek help. Instead they treat the abuse simply as a physical injury that will heal in a short period of time. There is very little recognition of the extreme psychological trauma to the victim, the resulting low self-respect and self-confidence, which in time often leads to their inability to form healthy relationships but seeking satisfaction, reward, and affection through risky behaviors and associations.

Pre-Marital Sex And Sex Education: Surveys carried out to study sexual behaviors show steady increase in pre-marital sex, and roughly 60% of the young males who had pre-marital sex had their first sexual experience with a sex-worker, and another 25% with a domestic servant or farm laborer.[64] These are very high-risk experiments, nevertheless, common in a segregated society like India's because they offer anonymity, control, and easy access. In light of the very high prevalence of STIs, it is perplexing that risky sex is not addressed more openly and adolescents are not given proper education on reproductive health. Most parents are aware of the many risks, and yet, do not, and will not, discuss with their children, in any sensible way, issues of sex, reproductive health, sexually transmitted diseases, the various types of contraceptive methods, and how to make healthy and right choices. Sex and morality are very strongly linked in the minds of Indians, and the prevailing attitudes are:

- Children are not expected to be sexually active before marriage, so the parent's message is straightforward —do not think about it, do not talk about it, and do not do it.

- Parents do not talk about issues of sex in front of their children and abstinence on the part of children is supposed to happen simply because the parents and the society expect it.

- The ideal woman is modeled after goddess Sita — obedient, sacrificing, modest and chaste.

- Most schools do not teach human reproductive system or health outside of biology classes or discuss issues of sexuality. Unfortunately, there is no formal mandated health curriculum for schools. Even among the elite schools few take the initiative and teach these issues in any detail.

- Questions on sex are not encouraged by either parents or teachers, and if asked, the answers are vague, short, unsympathetic, and lacking in detail.

- Transgressions on the part of boys (men) are overlooked, ignored, or even accepted, whereas those by girls (women) are unacceptable and a matter of shame and dishonor for the family.

- Counseling on reproductive health, outside of fertility clinics and especially to adolescents, is not important.

So each successive generation is, by and large, on its own and must learn from its own experiments. Most children learn about sex from magazines, friends, movies (R, X, and pornographic), and often develop unhealthy expectations, fears, and complexes. As a rule, teenagers do not have access to modern methods of contraception, nor are they educated in their use or taught about relative advantages and disadvantages of the different methods. The results, as discussed previously, are a large number of STIs and unwanted pregnancies. People generally choose to hide these problems when they occur rather than prevent them by providing information that enables youth and adults to make healthy choices instead of learning from risky experiments.

If discussions on, and teaching of, sexuality, sex, STIs, and addictions are considered taboo then how does one proceed to confront the many health crises? The good news is that both parents and teachers, while themselves reluctant to teach these issues, are not opposed to these issues being taught by professionals at school as part of a preventive awareness program. Based on my work with villagers and over 100 schools in Rajasthan, Punjab, Delhi, Uttar Pradesh, and Karnataka, I was very surprised to find that even detailed information presented properly is well received. The problem is not the perceived violations of cultural sensitivities and moral principles, but of delivering the message taking these into account. The audience, which includes the school administration, teachers, parents and students, must have faith in the teacher, must trust the "outside" educator to provide medically and scientifically correct information, must believe that the educator's interest in their welfare is genuine, and must feel empowered to implement the solutions provided to them. The parents, the teachers, and the public must be convinced that the educator is not promoting sex or drugs, or making indulgence acceptable, or creating these vulnerabilities by bringing them to the attention of children, but is providing life skills that will allow people to make better and healthier decisions.

It is also important to understand and be sensitive to the perceived linkage between sex and addictions, immorality, and Western influence. Sex outside marriage and addictions are considered immoral but at the same time transgressions by men are tolerated. To deny this contradiction between basic beliefs and practices people resort to making excuses. The most convenient and reassuring excuse is that the prevalence of risky sex and addictions is a consequence of "outside" influence. Today, Western influence is the easiest and the most convenient scapegoat as one can point to movies showing physical contact, TV programs like Baywatch, magazines like Playboy, and the difference in expression of sexuality and affection by Western visitors. This linkage has unfortunately led many intellectuals to characterize the focus on HIV/AIDS and STIs as a Western (predominately USA) agenda. Designing a national policy on the basis of a harm reduction approach is also considered a Western agenda. Many people are concerned that spreading awareness on STIs through talk, open discussion, and easy availability of condoms will lead to further erosion of moral values and more risky experiments. The resulting insecurity leads them to accept the Darwinian solution for diseases they perceive are a result of immoral behavior, rather than create awareness that leads to prevention.

Intervention work that directly or indirectly succeeds in arousing fears of moral decline, therefore, produces a hostile reaction. On the other hand linking issues of sexuality, sex, and STIs to the many health and developmental crises; discussing their impact on the welfare of the individual, the family, and the country; providing a simple clinical description of the means of transmission; and suggesting ways of protecting oneself in different social contexts and different life styles is acceptable. When addressing a general audience, saying that "if you practice anal sex then take these precautions" rather than "our surveys have shown that anal sex is very prevalent in this community so you must take these precautions" makes a big difference. Carrying out surveys and studies to understand risky behaviors is considered a Western concept, and thrusting the results on an audience causes the whole message to be labeled Western. Surveys are effective when used to enlighten educators and policy makers, and should not be used to make people feel part of a "bad" system.

The bottom line is that frank talk is accepted provided the audience trusts you and believes that you care about their welfare and are there to help them, and not because you are getting paid to do it or have a quota to fill. The poor have been hurt too often by people claiming to have come to help, whereas the real motivations, which are easily discerned even by the illiterate, are mostly self-serving. In this regard good NGOs, of which there are many in India, having won the trust of the public over decades of implementing a holistic development program, provide an excellent opportunity for bringing about sexual behavior change if they are given help and shown how to add reproductive health and STI programs to their portfolios.

To summarize, risky sexual practices are common in all parts of India and in all socio-economic classes. The very high national figures for unwanted pregnancies, HIV/AIDS, Hepatitis B, Hepatitis C, and other sexually transmitted and blood borne diseases, show clearly that the current approach of silence is proving to be a recipe for disaster. To make a common person understand the risk, it is very important that awareness messages and educational programs clearly explain that even ordinary law abiding citizens, from time to time, indulge in high risk behaviors that make them vulnerable to STIs and addictions. The message should make explicit that risky sex is indulged by not only "deviants" but also by "normal" people. All leaders – political, religious, and communal – must display courage in resolving the disease versus morality debate. Inaction on these issues will continue to indicate that the seriousness of these health crises is grossly underestimated. Twenty two years after the discovery of HIV, the public, the policy makers, and the bureaucrats are continuing to indulge in wishful thinking that these problems will somehow go away on their own or through miraculous advances in technology.

INTERVIEW
A Taxi Driver in Delhi Talks about Risky Sex

I rented a taxi for the day in Gurgaon, a satellite town south of Delhi in the state of Haryana. By chance the type of car I had requested was not available and I was given a "luxury" car. The driver (whom I will call LTD) was in his early forties and had the demeanor of a chauffeur. Over the course of the day I asked him about his background, his family, and finally about risky sexual behavior practiced by the Delhi elite. The following are excerpts from our conversation.

RG: Where did you grow up?
LTD: I am originally from Kerala, but grew up in Orrisa since my father, who worked for the railways, was posted there. I moved to Delhi about 10 years ago and have been driving a taxi since then.

RG: How many languages do you speak?
LTD: I know Oriya and Hindi and some English. I can understand Punjabi.

RG: Do you speak Malyalam (the language spoken in the state of Kerala)?
LTD: No, I have never lived in Kerala.

RG: Do you have a family?
LTD: Yes, a wife and two boys. The older one is 12 and the younger is 6.

RG: Do the boys go to school?
LTD: Yes. We are trying very hard to transfer the older one to a better school but the school is asking a lot of money to admit him. We will also need money for private tuition. So I am working extra time to save enough money so that he can get a good education.[ii]

RG: How much do you earn?
LTD: I usually get paid Rs 100 a day. I make some extra money from tips and from overnight assignments.

RG: Do you work mostly with foreigners or with Indians?
LTD: Both. This is a luxury taxi, so the Indians I chauffeur are mostly businessmen, business executives or their families.

RG: Do you spend much time socializing with other taxi drivers?

[ii] School education for the poor and lower middle classes in India is in crisis. Private schools, in addition to an entrance examination, charge a large capitation fee to admit a child. The environment in most schools is oppressive for both the teachers and the students. Teachers, in general, are not respected by society, and there is little monitoring of their work so they have no incentive to teach well during school hours. Typical salaries range between Rs. 5000-9000 per month depending on the seniority of the teacher and the subject they teach — math and sciences commanding higher pay. To make additional money, most of the teachers give private tuition at home in the evenings. They typically run two one-hour sessions daily for 20-30 students, charging roughly the equivalent of the regular school tuition fee from each student. Since they can make 5-10 times their school salary giving tuitions, this practice has spread very rapidly over most of India and is now very deep-rooted. The students are coerced into joining evening classes by these teachers since they set the examination papers and control the grades. The parents and authorities are aware of this practice and have essentially given up fighting it. The parents have come to accept that they have little choice but to pay for the tuitions and hope that the combination of what is taught in school and in these tuitions provides adequate learning and leads to good jobs. The situation in government schools, the majority of schools in India, is much worse—the quality of teachers, the standard of teaching, and the commitment of the staff is poor. Tuitions, therefore, have become the only means for learning if someone attending government schools wants to compete with the well to do attending private English medium schools and get a good job. The government does not have the resources to raise the salaries of teachers, which are often better than those in private schools, or to monitor teaching to improve the quality of their schools, and has no effective strategy to curb the practice of tuitions.

LTD: No. I usually go home after my duty finishes.

RG: Do you and your associates know about HIV/AIDS? I ask this question because I am working on spreading awareness on this disease and try to warn people whenever and wherever I can.
LTD: Yes I have heard about it. I know it is spreading very fast.

RG: Do you know how it spreads?
LTD: Yes. Through sex with prostitutes and from injections in hospitals.

RG: Have you been taught how to protect yourself?
LTD: Yes, a social worker once came to our taxi stand. They asked us to use condoms for sex. I don't need to do that as I have a wife. They also told us to use disposable needles if and when we need to get injections.

RG: If everyone knows about HIV and how to protect themselves against it, then why is it spreading?
LTD: People do not listen.

RG: What do you mean?
LTD: They go to prostitutes.

RG: How do you know?
LTD: I sometimes drive them to "red light" areas.

RG: But this is a luxury taxi and you work with the rich. Why would they go to red light areas?
LTD: I do not know why, but they go.

RG: What sort of background do these people come from?
LTD: They are usually businessmen, but not the company types. Last week I was assigned to a trader from Gujarat who asked me to come back after dinner at 11 pm because he had to go somewhere. He was waiting for me at the hotel entrance at 11 pm and was already fairly drunk. Only after he got into the taxi did he tell me to drop him off at GB road. [iii]

RG: What did you do?
LTD: What could I do? I took him to GB road. Once there he asked me to go back. I told him I would wait, but he was firm and said I must to go back. I was not happy because part of my job is responsibility for the customer's safety, but he left me no choice.

RG: Does this happen often?
LTD: Not very often, maybe a couple of times a month.

RG: Are there other kinds of risky behavior you know about?
LTD: Yes. I know that some of the hotels, especially those on the outskirts of Delhi, specialize in conferences for the business people. There are agencies that, with the involvement of the hotel staff, arrange girls for the guests.

RG: But the hotel-owners must know about this illegal activity. Are they not scared of being raided by the police?
LTD: Of course they know. In fact they encourage it. Their business depends on it. Conferences are the biggest money earner for hotels that are far from city centers. To get the contract for these conferences the hotels offer

[iii] GB road is an internationally known red light district in Delhi. It mostly has very low class brothels, with "caged" prostitutes, and caters to blue collar workers like coolies, rickshaw pullers, and taxi and truck drivers. It also has a few traditional brothels ("gharanas"), where one can buy an evening of entertainment that includes music ("Quwali"), dance recital and sex with one of the dancing girls or sex workers. These institutions cater to those with more money.

entertainment, including contacts of sex workers. They have under the table deals with the pimps and get hefty kickbacks. Part of this money goes to the police to look the other way.

RG: I find it hard to believe that such arrangements are routine!
LTD: If you don't believe me, you can go to (he names a prominent hotel in Gurgoan) and check for yourself.

RG: OK. You have told me about businessmen, what about other people like students and office workers?
LTD: They do other things. There are many hotels with discos or clubs where you can find the younger crowd. (He names a couple.)

RG: Discos were very popular when I was in college 30 years ago. I remember going dancing and having a good time, but there was no sex or sex workers hanging around.
LTD: Times have changed. These kids are not going to these places for just dancing. For example, there is this club where you cannot enter without being a couple. You will always see girls with lots of makeup and tight clothes standing outside the door. Each one has her price. If a boy does not have a date and wants entertainment, he has to pay the girl's asking price, their admission fee, and the charges for all the food and drink they consume.

RG: This is hard to believe. You make it sound like a simple business transaction like buying a toy.
LTD: It is like that. Last year I took three girls to their hostel from a club. They had had quite a lot to drink. On the way back they were talking in English about what they had done that evening. I pretended not to understand. They were telling each other how much they got and how they got the boys to pay extra. One of them described how she did not even have to have sex with her client because she started rubbing his genitals on the dance floor and under the table and his fountain burst. They were so happy and excited and having a roaring time sharing details. I was so ashamed, but I don't think they even cared if I understood what they were saying. This is India today!

RG: Did you say you took them to a hostel?
LTD: Yes. (He named one of the best colleges for women in Delhi which is partially residential.)

RG: This is crazy. Are they not scared of getting HIV/AIDS and other sexually transmitted diseases?
LTD: Sahib, the world has changed. Today these young college students are doing things that even prostitutes do not do.

RG: I wonder what they will do after college and when they are married?
LTD: Same thing.

RG: What do you mean? How can they go out like this once they have a job and a family?
LTD: They run away for the night.

RG: Can you please explain what you mean by "run away for the night"?
LTD: All I know is how it works. The taxi stand will get a call at about 9 or 10 pm for a one way fare. We pick them up from their house and take them to a hotel and drop them off.

RG: There is nothing wrong with that.
LTD: It is not so innocent and straightforward. The way they are dressed and behave, you get a feeling of what they are up to. When we offer to wait and take them home afterwards, they decline.[iv]

RG: How do you know they are not going to attend a marriage ceremony or a party? (LTD starts laughing)

[iv] Waiting time in India is very inexpensive. Also, the chances of finding another customer wanting to go to his home base, a remote area, late at night are negligible. Thus, most times in such situations, the taxi driver will waive the charges for waiting a few hours because it ensures double fare as opposed to driving back empty.

LTD: The same person going alone to the same hotel a couple of times a month! And staying there the whole night?

(It took me a few seconds to digest the significance of these remarks. Gurgaon is about 25 kilometers from the hotel mentioned. It would be very hard to find any taxi driver to take a person home from a hotel in Delhi to Gurgaon after midnight. A taxi registered with the hotel would charge a fortune. Also, no responsible female would dare take an unknown taxi that late in the night, especially alone, and go to a destination so far out of the city when it involves traveling on deserted streets. Little wonder that LTD was convinced of the purpose of such journeys.)

INTERVIEW
Sex Workers in Chennai talk about their trade[v]

Two female sex workers were interviewed at the premises of Social Welfare Association for Men (SWAM), an NGO that works with MSM, transvestites and sex workers (both male and female). Since these sex workers (SW) have spent considerable time with HIV/AIDS intervention workers, they should be considered among the most enlightened group of street sex workers. One of the SW could, more-or-less, understand English and was the one that did most of the talking. The two-way translation between Tamil and English was done by one of the intervention workers.

RG: Hello, my name is Rajan and is it OK if I ask you some questions for an article I am writing?
SW: Yes.

RG: How do you earn money?
SW: We are street workers and satisfy men looking for sex.

RG: What times of the day do you go out and look for customers?
SW: Mostly between 8.30pm and 11.30pm but sometimes during the day also.

RG: How many customers, on average, do you have sex with in a typical day?
SW: Our goal is to earn about Rs. 250.00 per night. With new customers we start by asking Rs 500.00. Bargaining usually brings the price down to between Rs. 150 - 200. On average we have one or two customers per night.

RG: Do you like this work?
SW: Yes. We usually earn more than Rs. 250 every day. This is so much better than 8-10 hours of hard work for Rs. 50 per day. We don't mind it.

RG: What do you do the rest of the day?
SW: We take care of ourselves and help some of our friends and family.

RG: Do you have children?
SW: No. [Note that in general most sex workers have children and are married. Their husbands accept sex work as a legitimate way of earning money and some even support their wife's work by finding them customers and preventing violence.]

RG: Do you work for a pimp?
SW: No. Pimps are too much trouble. They demand money, free sex, free food and alcohol, and are very often violent towards us. So we work by ourselves.

RG: Don't the pimps force you to work for them?
SW: They used to, but now we know how to take care of ourselves.

RG: Are there times when you still work with pimps?
SW: Sometimes a pimp brings us business and we accept. There are times when a pimp will make a certain deal with the customer, introduce the customer to us, but disappear before paying us and without telling us what was agreed

[v] Chennai, capital of the southern state of Tamil Nadu, is the city in which the first case of HIV/AIDS in India was identified in 1986. It is also the city which, along with Mumbai, has received maximum attention by NGOs and international agencies to stop the spread of HIV among truck drivers and sex workers. (Truck drivers have been designated a very high-risk group and associated with spreading STIs all over the country due to their mobility and high incidence of risky sex with sex workers along transportation routes.) For example, United States Agency for International Development has a major ongoing program targeting sex-workers and truckers in Tamil Nadu.

upon. He will usually do this when we think there is only one customer, whereas there are ten. We find this out only when we reach the hotel room. Such arrangements lead to very bad experiences, so we avoid working with pimps.

RG: What happens if you refuse to have sex with more than one?
SW: Very often we get beaten up and forced to have sex with all. The chances of violence are larger if the customers are drunk. Therefore, the smarter and more mature among us have learned to distinguish between "good" and "bad" customers. We try to stay away from drunks and those known to be violent.

RG: Do such bad experiences happen often?
SW: Not very often. Sometimes we get into these situations.

RG: Where do you find most of your clients?
SW: Our best chances are at the bus station. However we have to be careful as that is also where the police hang out and where the pimps lurk. Other places are truck stops, taxi stands and certain cruising areas like the beaches.

RG: What happens if the police catch you?
SW: Nothing much. We have to bribe them and/or let them have sex for free.

RG: What kind of customers do you get?
SW: All kinds — students, first timers, business people, taxi and truck drivers. They all come to us.

RG: Do you use condoms?
SW: Yes. Always. 100%.

RG: What do you do if the customer refuses to use a condom?
SW: We tell them it is for their own good. If they do not listen then we tell them we have AIDS and give them a condom to use. At this point they agree readily.

RG: What! They are willing to have sex with you even when you tell them you have AIDS?
SW: Yes. The sober ones are willing to use condoms without us making up stories. The drunks don't care and will resist using condoms. So we tell them it is safe to have sex with us if they use a condom and they agree. Very often they are so drunk that we have to put it on them.

RG: I thought you did not entertain clients that were drunk.
SW: We do not. Sometimes we do not know or they start drinking after they have picked us up.

RG: Do you get beaten up if you refuse to have sex without a condom?
SW: Sometimes. It usually happens if the client is drunk.

RG: What is the most likely situation in which you get beaten up?
SW: Mostly when we agree to one customer and find ten waiting in the room. When we protest or refuse to have sex with all, then they get violent.

RG: What do you do then? Is there some form of help or support group?
SW: (They shrug their shoulders) Sometimes we raise the alarm or try to run. Other times we get subdued, beaten, and used. When we are cornered we try to negotiate a better price.

RG: Do you always carry a condom or do you rely on the man to have one?
SW: We always carry one and give it to the man if he does not have one.

RG: Where do you keep it?
SW: (They indicate the cleft between their breasts and under the blouse) Here.

RG: What happens if you need more than one, or if one tears?
SW: We go and get more.

RG: Where do you get your supply of condoms?
SW: From the NGOs or we buy them.

RG: Who is your main competition in your kind of sex work?
SW: Our main competition is from housewives. They usually do not know what they are doing and are in a hurry to make some money. So they undercut our prices. It makes us very angry when they steal our regular customers.

RG: Why would housewives want to do sex work?
SW: They do it when they need money and have no where else to go for help. Many do it for fun and to earn extra money.

RG: I was under the impression that you found most of your customers at the bus stand and many were first timers.
SW: No, most of the time we go out with our regular customers. It is safer that way, but we have to charge them less. We look for new customers only when we do not have a regular client.

RG: How does a new person start earning as a street sex worker?
SW: We can usually spot a new one because they are so clumsy. They stand around staring at people and sometimes walk up to our customers and ask. Sometimes we offer to help them find customers or introduce them to a pimp. In return we get money from the pimp or he treats us to food and drink.

RG: I thought you did not like customers that drink? If you also drink then how are you in a position to refuse entertaining drunks?
SW: Most of us drink in small quantities, say 100-200 ml (usually of 60-80 proof country liquor or Indian whiskey), which keeps us OK. Some sex workers start drinking heavily and get into a lot of trouble. We avoid any contact or friendship with them.

RG: Where do you go to have sex?
SW: Here and there (they were not very forthcoming in telling me where, presumably for fear of police raids). Hotels, beaches, resorts, or wherever the clients take us in their cars.

RG: How long have you been a sex worker?
SW: Long time — for more than ten years.

RG: How have things changed during this time. Has awareness of AIDS made a difference in your business?
SW: Yes there has been a big change. There are fewer people looking for sex and the use of condoms has grown. We are more careful.

RG: Have you ever had a sexually transmitted disease?
SW: No, we use a condom.

RG: Have you ever been tested for HIV?
SW: No. There is no need because we are healthy and always use a condom.

RG: Do you ever think about doing some other work? If so what else would you like to do?
SW: Sometimes. Sex work is not hard and we earn good money to take care of our families.

RG: What advice would you give to someone who is just starting to work as a sex worker?
SW: Always use a condom. Do not work with pimps. Stay away from drugs and alcohol.

My overall impression, partly evident from the above interview, is that there is good awareness of HIV/AIDS in sex workers that are in contact with NGOs. They understand, in principle, how to protect themselves from STIs, however, in practice they very often have unprotected sex. Also, abuse of alcohol by sex workers is very common. Most sex worker organizations I have interacted with estimate that eighty percent or more of the sex workers drink regularly and in significant quantities. There are financial and business incentives for sex workers to sell alcohol to clients and encourage their clients to drink. In most cases it increases their earnings, creates a more relaxed atmosphere, and provides a more fulfilling experience which, in turn, generates return customers. Unfortunately, on any given day a significant fraction of sex workers get intoxicated to the point that they become careless, and over time many become alcoholics. There is also a big difference between what they would like to believe and portray regarding their work and lives and reality. This is evident from all my conversations and even during this interview it was obvious that the statements of these two SW did not always add up, but I did not press them on these points as it was clear that self-respect is very important to them. It was also very evident that the two sex-workers wanted both the intervention workers and me to think well of them. They knew that getting such respect required professing 100% use of condoms, having fewer unknown customers, and not getting drunk. The reality is that very few sex workers use condoms 100 percent of the time and there is a very high correlation between risky sex and alcohol and drug abuse. It is worth emphasizing that these impressions have been validated by many other NGOs and health officials working with sex workers.

IV. ALCOHOL AND DRUG ABUSE

Over the last 25 years there has been a very significant increase in the use and abuse of alcohol and drugs. Today in all parts of India there is scarcely a family that is not affected by addiction to alcohol or drugs. Rural India is particularly vulnerable and in many parts of India abuse has already reached a state of crisis. As per 1994 data at least 15% of males and 2.1% of females over the age of 15 have a serious problem with alcohol abuse.[65] This translates to about 53 million men! Addictions in women are far less studied, but it is estimated that about 8 million women also have a problem with alcohol abuse. In short, in over 20% of the families alcohol and/or drugs are accounting for a significant fraction of the family income and depriving the children of food, health care, and education. By and large the government has not even begun to come to grips with the magnitude of this problem and there are few medical professionals trained to treat and rehabilitate alcohol or drug addicts. The inability to deal with alcohol and drug abuse begins with the educational system not providing the information, knowledge, or the life skills for making healthy choices regarding alcohol and drugs, so most people learn from risky experiments. In the case of alcohol abuse, the government is, de facto, promoting consumption, because taxes on liquor sales are a very significant source of much needed revenue.

The mutually reinforcing menace of alcohol addiction and risky sex is most evident, if one is willing to explore and confront reality, in rural India, in the slums, and among the street people. As more and more men, especially those without any land of their own and illiterate, are being deprived of livelihood due to the mechanization of agriculture and services, they are resorting to alcohol abuse, gambling, and risky sex to seek escape from their misery and despondency. This is driving their families further into poverty and deprivation. The women, in order to survive and feed their children, are then compelled, if not coerced, to sell sex.

Background on alcohol abuse

Alcohol is, by far, the most common drug of abuse in both urban and rural India.[66] While there are regional variations in the quality and type of liquor being consumed in India, those addicted consume the equivalent of anywhere from 100 - 500 ml of absolute alcohol per day. In 1997, legal alcohol production was over 1.5 million metric tons, and the average rate of growth of this industry since 1997 has been 20%. Consumption has exceeded Ruppees 750 billion,[67] roughly five times the total expenditure by Indians on health care, and a significant fraction of the GDP of India, which in 2001 was Rs. 20 trillion. In addition to legal production, the illicit production and consumption is estimated to be as large if not larger.

Today, as a result of globalization, one can buy just about any brand of liquor in India. In fact many multinationals have set up distilleries in India and market the product both locally and globally. Whiskey, preferably single malt Scotch, is the drink of choice of the elite. A bottle of single malt scotch costs between Rs. 1000-5000. The middle class is more likely to drink rum or gin, or an Indian brand of whiskey (these are classified as Indian Made Foreign Liquor and cost between Rs 100-500 per liter). Most of the lower middle class and blue collar workers in urban and rural India drink country liquor — distilled alcohol that is usually labeled by the fruit flavoring used and is between 50-60 proof — called tharrah. The price for a 750 ml bottle ranges between Rs. 50-90 due to the large differences in state and excise taxes. Tharrah is produced under government license, nevertheless there continue to be deaths from drinking it as supervision during production is not always good and black marketers and retailers often adulterate it with methanol or other toxic chemicals. The poor in rural India also drink home brews. These are of two kinds — fermented and distilled. The fermented drinks are made from the common local staple — rice (chang), or grain, or coconut palms (toddy), or sugarcane depending on the region. This is typically 8-16 proof if not stronger (often their potency is enhanced by adding toxic chemicals or pharmaceutical drugs), produced illegally and very often under poor sanitary

conditions. Distilled drinks like “arrack” from coconut palms, molasses and jaggery in south India or “mahua” from the flower/seed of the mahua tree, especially in and around Rajasthan, are much stronger. For example, the first distillate of mahua may contain over 60% alcohol, and subsequent distillates are often fortified with urea (available as fertilizer) or even the fluid from lead acid batteries! Regular drinkers, for the most part, do not even pretend that drinking is a part of social activity. They drink to get drunk and poor people seek the strongest brew, and drink anything they can afford or find. A farm laborer or menial worker on daily wages earns about Rs. 70 (Rs. 50 for women) per day worked, on which he/she and the rest of the family have to survive. Unfortunately, many men spend up to 80% of the family income on alcohol. It should, therefore, come as no surprise that the majority of the poor are constantly fighting for their survival and for the survival of their children. Alcohol abuse should be characterized as one of the most serious impediments to public health and development.

Liquor sales, both legal and illegal, are promoted and carried out even in the remotest of villages. The local distributor ("thekedar" in Hindi) obtains the license for selling liquor by submitting a winning bid at the yearly auction, which might be as high as Rs. 10 million per year, and by bribing the authorities. This cost is easily recovered and hefty profits are made through legal and illegal sales. To promote illegal sales a thekedar recruits and supplies a number of families in each village and gives them a commission for each bottle they sell. The incentive for these recruits to get as many people to drink is very high and in many villages across India, upwards of 70% of the adult males drink on average one quarter to one full bottle a day. This system of secondary sale is illegal, however, it is overlooked by authorities as they get a share of the profits.

There does not seem to be any effective program to remove the well-entrenched distribution and promotion systems and the huge lure of intoxicants. Meanwhile, some of the disastrous consequences of such widespread abuse of alcohol are:

- Families with an alcoholic father have more children.
- Alcoholic households are constantly in a state of poverty and deprivation. As a result many children are not able to go to school, suffer from malnutrition, and do not access health care.
- Many children are starting to drink at a very early age — 12 years or even younger.
- The incidence of domestic and communal violence is very common and increasing.
- Families do not accumulate savings and, in time of crisis, have to take loans at exorbitant rates or women are compelled to sell sex. Entire families often end up as bonded laborers and are forced to sell all their belongings and eventually even their children when they are not able to pay back their loans.
- It is very difficult for NGOs and CBOs to sustain rural development schemes and spread awareness on safe sex when such a large percentage of men are alcoholics.

Failures at Control

Overall, the government response to the growth in the consumption of alcohol has been poor and unsuccessful. Even though the Indian Constitution declares that "The States shall endeavor to bring about prohibition of intoxicating drinks", there is no cohesive national policy. Policy on the sale of alcohol (taxes, minimum age, and prohibition) come under the legislative power of individual states and there is considerable

variations between states on these. For example, while the legal age is 21 in most states, it varies between 18, 21, and 25 years.[65] There are five main factors preventing the evolution of any clear consensus on how to tackle this problem:

1. Liquor sales provide a very large proportion of the tax revenue;

2. Poorly conceived attempts at prohibition have failed in the past;

3. A corrupt system that does not adequately monitor the quality of alcohol nor can control illicit production and trafficking;

4. A lack of appreciation of the full range of health, developmental, and security consequences of addiction to both the individual and the society; and

5. A belief that addiction is a result of moral weakness rather than a disease, and addicts do not deserve much sympathy.

Both the central and the state governments are strapped for funds due to a small tax base — only about 10 million out of approximately 150 million households file tax returns, and of these the majority are in very low tax brackets. This problem is further acerbated by poor collection of taxes and because a large fraction of business transactions are not recorded nor reported — the black economy in India is estimated at 40% of its GDP.[68] Governments facing bankruptcy have little incentive to kill a cash cow even if it has negative societal consequences.

Recent attempts at prohibition were failures. The lone exception is the state of Gujarat that has successfully maintained prohibition, at least on paper and in the court of law, since 1949. The result of unsuccessful attempts at prohibition is widespread cynicism and a lack of hope for an effective policy. For example, in the mid-1990s the states of Haryana and Andhra Pradesh were declared dry. In Haryana, the result of prohibition was the rise of widespread trafficking from the neighboring states of Punjab, Rajasthan, Uttar Pradesh, and from the union territories of Delhi and Chandigarh. Trafficking became a very lucrative business overnight. It took many forms, and some with disastrous consequences for the couriers ("mules") of bootlegged alcohol. For example, many people laden with 10-15 750ml bottles of alcohol died trying to swim across rivers and canals. The premium on each bottle of "country liquor" was about Rs 10, so they needed to carry at least 10-15 bottles to make it worthwhile. In addition, homebrew became a cottage industry, and many people died as a result of drinking contaminated liquor. Likewise, in Andhra Pradesh, prohibition did not result in curbing illegal production, trafficking, sale, or consumption, and had a major negative impact on tax revenues, so the policy has now been withdrawn in both states.[69] The prevailing view among Indian policymakers is that the loss of revenue coupled with the futility of past policies will prevent any sensible future action by the state governments for some time. By default, the responsibility for control now rests with individual communities and the NGOs working with them!

States in which prohibition was attempted and failed also faced the problem of consumption of harmful chemicals. Since January 2002, the state of Tamil Nadu (one of the more enlightened states in terms of health, education and investment climate) has lifted prohibition and sells Indian Made Foreign Liquor at discounted rates (typically Rs. 15 for a pouch of 100ml of 60 - 100 proof).[70] This came in response to statewide agitation in the wake of numerous cases of death, blindness, and hospitalization due to drinking contaminated alcohol or outright toxic chemicals like methanol mixed with water. The government had lost control over monitoring homebrew, illegal distilleries, and illegal sales of chemicals labeled as alcohol — these practices grew very

significantly during the period 1971-2001, especially during the many periods when prohibition was imposed in Tamil Nadu. Lifting prohibition and selling liquor at very reasonable prices was done to curb both bootlegging and the public health impact of people drinking contaminated liquor. Unfortunately, none of these attempts have had any significant impact on the growth in consumption of alcohol.

Help for the addicted is virtually non-existent because the general understanding of addictions is very low in India. Most people, including intellectuals, consider addiction a character flaw, a moral weakness. The prevalent view is that anyone with strong willpower can overcome alcoholism on their own or else they are not trying hard enough. In addition, there is much confusion between detoxification and rehabilitation. Most people believe that an addict is cured after detoxification. There are few medical centers with expertise in detoxification and even fewer that have developed a credible program of long-term therapy needed for rehabilitation. Even medical professionals promote the notion that addiction can be overcome in a short period of time if the patient is cooperative and can be kept under supervision. Treatment mostly involves the prescription of detoxification agents, isolation to prevent access to alcohol/drugs, and frightening messages of what will happen if the habit is continued. Very little attention is paid to investigating the underlying causes, and based on these slowly rebuilding the person. Relapse rates are very high in almost all centers.

The public is, unfortunately, caught between claims of easy fix by the medical community (and especially by quacks and religious leaders) and reality that few addicts successfully overcome their addictions without a great deal of professional help. Most families dealing with a loved one caught in the web of drug or alcohol addiction seek to cure them by visiting quacks, religious gurus, or by undertaking strenuous pilgrimages on behalf of the addict rather than seeking good professional help.

Outside of major metropolitan areas, there are few, if any, support groups. Meetings like those sponsored by Alcoholics Anonymous in the United States are rare. Since society looks down upon an addict, rarely does one find an ex-addict or one under rehabilitation working as a drug counselor or educator. Schools and other educational institutions, that sponsor lectures on alcohol, tobacco or drug abuse, almost always ask doctors to speak, partly because doctors are considered the "real" authority, partly to maintain an image of "cleanness", and partly because they are afraid to endorse any information other than a scary message from a doctor in case the message is perceived as encouraging further use. There are some NGOs that work with addicts within the marginalized communities, and in these settings one does find peer-educators that are ex-addicts or addicts in therapy.

Addictions in women are much less studied, acknowledged, or understood in India. One reason is the gender bias in both detoxification and rehabilitation centers. Most professionals are male and there is reluctance on the part of women to consult them. The other is that women are not expected to drink or take drugs and the social stigma on discovery is extreme. So women do not disclose their vulnerabilities.

Trafficking Of Illegal Drugs and Unregulated Sales of Pharmaceutical Drugs

Hashish (cannabis resin), marijuana, and opium have been used in India since the very beginning of Indian civilization and grow abundantly in large parts of the country. Today, one can buy any drug one wants in any of the major cities, and the most commonly used drugs are hashish, marijuana, opium, brown sugar (heroin 3) and heroin 4. In addition, there is a huge underground market in pharmaceutical drugs. Cannabis plant is cultivated and grows wild in many parts of India. Thus, hashish and marijuana are widely available. Marijuana (ganja and bhang) is sold openly in certain states. A significant amount of hashish also makes it way into Indian markets from Afghanistan through Pakistan and is sought after as it is considered to be of better quality.

India is officially authorized by the World Health Organization to cultivate opium for pharmaceutical purposes. Unfortunately, in addition to this legal production, there is a huge illegal market. India is sandwiched between the golden crescent (Afghanistan and Pakistan) and the golden triangle (Myanmar, Thailand, Laos, and South China). These areas produce 95% of the world's illicit opium and heroin and a significant fraction of these are trafficked through India.[71] It should not come as a surprise that, a large fraction of the total amount trafficked gets consumed in India. Brown sugar is more common in western India, in areas bordering Pakistan, whereas heroin 4 is common in the eastern states of Manipur, Tripura, and Nagaland that adjoin Myanmar. In these eastern states intravenous use of heroin has given rise to a very serious HIV/AIDS epidemic due to needle sharing.

Cocaine is a relative newcomer, mostly smuggled from South America into India through Nigeria by the Nigerian Mafia. The cover story "Coke Tales" in the 10 September 2001 issue of India Today[72] chronicles the much-publicized bust of a cocaine ring in New Delhi. The peddlers were an Afghan national (Naqibullah, alias Ali) and two Nigerian couriers who were smuggling cocaine from South America via Nigeria. The reason this case gained notoriety was because many prominent people in the fashion, entertainment, and hotel businesses were implicated as addicts, and the investigators revealed many juicy episodes of sex and drugs. The reports failed to highlight the connection between drugs, risky sex, and the growing incidence of STIs, including HIV/AIDS, Hepatitis B and Hepatitis C, in the highest socio-economic circles. The concern, from the start, was much more with the possible connection of the masterminds and traffickers to terrorism, and the growing health problem was given much less attention. This sensationalized exposure is just the tip of the iceberg with respect to drug abuse and risky sex, and it is unfortunate that, already, this case is considered an exception and mostly forgotten.

Both LSD and ecstasy are available for between Rs. 300-500 a trip/pill. The main users of these, along with cocaine, are the young urban professionals in the age group 21-30 years and the rich party crowd. A large fraction of the ecstasy marketed in India is locally produced — not surprising, since India has a very large pharmaceutical industry and the precursor chemicals are produced and distributed in large quantities to many manufacturers of licit drugs. So a small company that produces two or three products legally, or processes ingredients for the larger companies, can easily manufacture and market illicit drugs on the side or sell a fraction of their quota of precursor chemicals on the black market.

Sales of amphetamines without verifiable prescriptions are illegal. Nevertheless, they continue to be sold without prescriptions through many chemist shops in all three forms: amphetamine ($C_9H_{13}N$), or one of its derivatives dextroamphetamine ($(C_9H_{13}N)_2\ H_2SO_4$) (commonly called dexedrine) and methamphetamine ($C_{10}H_{15}N$) (also called methedrine. The crystalline hydrochloride form of methamphetamine, "ice", is not common yet). There are three reasons for the abuse of these drugs — the high, *i.e.,* the effect they have on the central nervous system, as pick me ups, and as appetite suppressants. The latter reason for use is most common in females wanting to diet. From a regional perspective one should not ignore the methamphetamine epidemic sweeping Thailand. Manufactured in Myanmar and Northern Thailand, and called Ya-Ba (Thai for “crazy medicine”), it has become the fastest growing scourge in South-East Asia and a significant fraction of it is also being trafficked to Western USA.[73]

Sleeping pills (Methaqualone) are used extensively by school and college students and blue-collar workers like rickshaw drivers and laborers. These are generally known as "Mandy", which is short for "Mandrax", one of the first brand names. India is a major producer of methaqualone for illegal sale in South-East Asia.

Along with heroin, the drugs taken most often via intravenous injections are the painkiller proxyvon and parvon (paracetamol), and cocktails of painkillers and sedatives like CAT, PAT, and of Fortvin and Phenegran.[74] The three pharmaceutical drugs in CAT are Compose (an analogue of valium), Avil (an antihistamine and a sedative), and Tidigesic (a synthetic opiate), whereas PAT has Phenergan (Promethazine Hydrochloride I.P. in 2 ml vial which is medically prescribed for fits and seizures) or Pethidine (Meperidine) instead of Compose. These are all controlled substances that can, nevertheless, be bought from many chemist shops without a prescription.

The gateway drug for many students, after cigarettes, alcohol and hashish, is cough syrup. These are abused because of the alcohol and codine in them, because they don't leave a lingering smell of alcohol, and because their taste is more palatable to the unaccustomed. Officially, the use of codine in cough syrup is banned, however, in practice there is a flourishing black market. One extreme example, told to me by a counselor, involved a high school boy who was drinking thirty 50ml bottles at a total cost of Rs. 1000 per day when his parents finally took him in for treatment and therapy!

Some commonly abused drugs amongst the poor are far more lethal, and it is hard to convince the general public of their widespread abuse. Inhalants are very common but what really depressed me is the practice of eating "iodex", a muscle relaxing cream. The claim is that kids spread it like marmalade over bread and eat it. If this practice was not enough to sicken me, I later learned that the poorer kids are eating shoe polish. I was not aware that these substances contain active psychotropic ingredients and little is known or understood about the high these substances produce when eaten or their long term physical, psychological, and emotional effects. What I have seen are the devastating effects of both inhalants and possibly these substances. Many shoe shine boys and street urchins have blank vacant looks and almost lifeless bodies. The public sees these 9-12 year old boys, shakes their heads, murmurs "what a pity the boy is intoxicated", and moves on. Little do they realize how common these cheap highs have become in slums and schools, especially in the government run high schools that cater to the poor and lower middle classes.

I would like to illustrate the two-edged role of marketing, the insidious nature of addictions, and government inaction on issues of public health using the example of chewing tobacco.[75] This example also highlights the very fast pace at which changes are taking place due to modern technology, i.e., how, within ten years, a legal substance like chewing tobacco and socially accepted practice like chewing betel nut (Areca nut most often eaten combined with other ingredients and wrapped in betel leaf called "paan") can create a major national public health problem. The chewing of tobacco and betel nut is a very common, socially accepted practice in large parts of India, notably in the states of Maharashtra, Gujarat, Rajasthan, Madhya Pradesh, Uttar Pradesh, and Bihar. What changed, starting in about 1990, was the selling of chewing tobacco in small pouches labeled "guthka" (or "gutka"). Some very clever marketing strategies lead to an exponential increase in consumption and widespread addiction, starting in children as young as 10 years.

- Tobacco is mixed with other ingredients like molasses, white lime (magnesium carbonate) and Areca nut, which can cause sub-mucous fibrosis, into a sweet combination called guthka. It is designed to be very palatable to children.

- A one time dose is sold in small vacuum sealed packages that preserve flavor.

- The cost of these pouches ranges from Rs. 0.50 to Rs. 2.50, an amount that even poor children have access to multiple times a day.

- The pouches are very colorful and shiny and shopkeepers display them in a way that makes them very attractive to children and adults.

- Any shop can sell these pouches as there are no messy or loose ingredients to manage. On the other hand "paan" and cigarettes were traditionally sold in small specialty shops. Thus modern packaging has very significantly increased the access to guthka by children and adults alike.

- Shopkeepers are giving packets of guthka in lieu of small change (which is in chronic short supply). Previously they used to give lozenges.

- These pouches can be carried easily in one's pocket, so people have ready access to them at all times.

- There is no social barrier to their consumption in the workplace or at home.

The result is a very sharp increase in the number of people with oral cancers. Oncologists are seeing highly advanced cancers in youth of 18-20 years.[76] They estimate that there were 70,000 cases of oral cancer in year 2000 and the numbers are growing fast.[77] Most of these cancers are proving fatal unless people can afford the highly radical and disfiguring surgery that costs Rs. 50,000 and higher. The government is belatedly waking up to this menace, trying to overcome the lure of tax revenues, and trying to take action by banning the manufacture and sale of guthka.[78] So far the sales are still growing!

In late 2001 the government also took a significant step forward in dealing with the trafficking and use of illegal drugs by amending the Narcotics Drugs and Psychotropic Substances (NDPS) Act of 1985. By creating a tiered system of punishment depending on the amount and type of narcotic, clarifying the processes for application of bail, and closing several loopholes, the new law removes obstacles to search, seizure, interdiction, and finally prosecution. The issue is now one of implementation. The two agencies that have the primary responsibility, Central Bureau of Narcotics (CBN) and the Narcotics Control Bureau (NCB), are both extremely under financed and short handed. For example, in 2001 NCB had a total of five inspectors for the state of Punjab, which has a population of 25 million, a very high prevalence of opium and heroin abuse, and is the major route for trafficking of these substances from Afghanistan/Pakistan to the rest of India. Also, these two organizations carry a legacy of conflicting responsibilities and jurisdictions rather than a charter of co-operation. Finally, it remains to be seen who wins the power struggle between the combination of corrupt law and order agents and politicians working in cahoots with the criminals, and the diligent enforcement agents of which there are few.

The purpose of my discussion of alcohol and drug abuse was to highlight the magnitude of the problem in India, the lack of social and political strategy or will to confront it, a poor law and order situation that is failing to even prevent the manufacture and sale of illicit pharmaceutical drugs, the impact of addictions on development, and its connection to risky sex. Another concise overview of the drug situation in India and the government response that I have summarized is given in the International Narcotics Control Strategy Report-2001 within the section "Southwest Asia" (http://www.state.gov/g/inl/rls/nrcrpt/2001/rpt/). The following two interviews illustrate the menace from the perspective of common citizens.

INTERVIEW

Conversation with an Alcoholic

I have known PS since 1970. He was one of the more talented workers in my brother's machine tool factory and a leader already at age seventeen. During summer vacations I tried to learn woodworking and machining of metal tools by hanging around the factory. PS was my guide and teacher, always concerned that I did not hurt myself. I lost contact with him in 1974, and after 28 years of having been away in the US, I was very happy to learn that PS was living in one of the side rooms in my mother's house. (She lives in Ludhiana, the largest city in Punjab with a population of about 5 million.) I was, however, not prepared for the disappointment when my mother told me that this is not the same PS. Apparently he had fallen in bad company and had become an alcoholic. He had fought with his family and separated from them, never married, and now ran a one-person shop fixing electric gadgets and trouble shooting problems with electric lines in the neighborhood. His life style had become erratic and, according to my mother, he returns home at around eleven at night, presumably drunk, and leaves by eight in the morning. He does not take good care of himself, saves no money for old age or for enlarging his business, and does not talk much with anyone. Something in me felt good when, in spite of this dark side, my mother expressed trust in him and the feeling of safety having him stay next door.

I immediately felt a need to reach out to PS. I wanted to know what had caused him to become an addict, so I asked him to join me in a morning walk. Little did I know how much I would learn from PS. For the first fifteen minutes I had difficulty making conversation and I could sense his discomfort with my questions probing his lifestyle. Once I stopped trying to help him and shifted the conversation to understanding the general patterns of drug use, he opened up and enlightened me on the menace of addiction.

RG: What do you do these days?
PS: I have a repair shop for electric gadgets and I do odd jobs in people's homes repairing mechanical things.

RG: I had expected you would be a head foreman in a factory by now or you would have started your own manufacturing work. How did you get into doing repairs and odd jobs?
PS: Just like that. Times change.

RG: Do you have a wife and children?
PS: No, I never got married.

RG: It has been very long since we spent time together. After finishing school and college in India, I went to America and did my doctorate in Physics. I now work as a scientist in a National Laboratory. For the last three years I have been very involved with spreading awareness on HIV/AIDS and on the horrors of addiction.
PS: Ah ha.

RG: I am married and have two boys. Next time we come to India you will have to spend some time with them and teach them woodworking and about machine tools. They are like me — they put their fingers into everything.
PS: Yes.

RG: Do you remember those days when I would constantly be bothering you and making your work twice as difficult by wanting to help with calibrating the jigs and the machine settings?
PS: Yes.

RG: I remember those days with fondness and gratitude. You were like a nurturing brother to me.
PS: Yes.

RG: I would like to help you.
PS: I am doing fine. There is nothing to help.

RG: It does not seem that way. Alcohol changes people's behavior and emotional wellbeing. Alcoholism is a disease and not just a habit.
PS: I am fine.

RG: Stopping abuse of alcohol requires acknowledging that one has a problem and very often requires the help and support of a professional!
PS: Yes.

RG: Most people think it is a habit that one can break anytime if the person has strong will power. Unfortunately, alcoholism is a disease. Alcohol starts to control a person's life, and very few alcoholics can stop drinking on their own.
PS: Ah ha.

RG: I would like to help you.
PS: There is nothing to help.

RG: I still think of you as a brother and have very fond memories of our times together.
PS: Yes, I remember, too.

RG: Tell me honestly if you would like to stop drinking and whether I can be of help.
PS: No.

RG: OK. I will not bring up this subject again and we can talk about other things. Is that acceptable to you?
PS: Yes.

(The conversation so far had been very difficult for both of us, but at this stage I suddenly felt free and relaxed and sensed a similar change in PS. The garden where we went for the walk was full of morning walkers, many of whom I know. Typically I exchange greetings and make small talk as I pass them. For the remainder of that morning, and throughout the next morning's walk, PS and I talked and I remember little else.)

RG: Do you know about HIV/AIDS?
PS: Yes.

RG: How did you learn about it?
PS: People talk. There are stories about it in the newspapers.

RG: Do you know what it does to you?
PS: Kills you. There is no cure.

RG: How do you protect yourself?
PS: Those who go to prostitutes should use a condom.

RG: Do you know many people who go to prostitutes?
PS: They must be going.

RG: How do you know?
PS: They talk about it.

RG: Do they drink alcohol before going or are they sober when they go?
PS: Everyone drinks.

RG: What sort of alcohol do they drink?

PS: Country liquor and sometimes, when they get an opportunity, Western style whiskey.

RG: Do people drink a lot in villages around Ludhiana (the largest city in the state of Punjab)?
PS: Yes. In addition to licensed shops nearly every village has its bootleggers.

RG: Isn't bootlegging illegal?
PS: Who cares. Even if the police raid a house, people avoid punishment by paying a bribe.

RG: Don't the villagers care? Don't they worry about their children starting to drink at a very early age?
PS: Those who do not drink, care, but what can they do. The government says drink! Every month another fifty retail shops selling liquor open and there are advertisements everywhere of new foreign brands made locally and sold at affordable prices.

RG: But doesn't drinking affect their work? The villagers must have to work very hard in the fields.
PS: Punjabis with land don't need to work. All the laborious work is done by Bhaiyas and Biharis (migrant labor from Uttar Pradesh and Bihar). Anyone with 10 acres or more of land sits at home or comes to town to dabble in politics. Alcohol, women, and politics are their pastimes.

RG: But doesn't alcohol destroy them?
PS: Sure. Many families are ruined. Others grab their land. The cycle goes on.

RG: Has the amount of alcohol consumed by a person grown over the last ten years and are more people drinking?
PS: People drink a lot more.

RG: But are there no teachers that come around to explain what drinking does to you, and if you drink how to stop?
PS: Yes, they talk about it in the Gurdwaras (Sikh temples) and Mandirs. Unfortunately, even people who go to these religious institutions and attend satsangs (prayer meetings) drink once they are back in their houses.
(At this point we had returned home from the walk. I wanted to continue the conversation, but it was already late for PS, so I asked if we could go again the next day. PS agreed readily. Next morning he was up and waiting for me before the appointed time.)

RG: Yesterday you told me about how prevalent alcoholism was and how fast the consumption was growing. Is the use of drugs also growing?
PS: Yes, even faster.

RG: What drugs are people taking?
PS: Pills.

RG: What kind of pills?
PS: Mandrax and Dexadrine. (The first is a sleeping pill and the second a brand of amphetamine).

RG: Wow. These drugs were popular during my school and college days. I thought that their sale was now banned.
PS: They are available everywhere. You can buy them easily in the black market!

RG: From where?
PS: The chemists sell them (pharmacists are called chemists in India).

RG: Is it not illegal to sell banned drugs? Don't the pharmacists get caught and loose their license?
PS: Yes, it is illegal. If they get caught they pay a bribe. If an honest officer catches them and starts the prosecution, his term usually expires and he gets transferred to another town before anything is done to the chemist. There have been few times when a chemist has lost his license and even then these people are back in business within days under a different name and with the shop registered under his wife's or some fictitious person's name.

RG: Are there other drugs that people take.
PS: Yes, cough syrups and injections.

RG: What sort of injections?
PS: Morphine and other intoxicants.

RG: Who sells these?
PS: The same chemists.

RG: How much do these cost?
PS: About Rs 12— [PS was silent for a while and then added] the price varies between Rs 12 and Rs 25 per injection depending on the brand name. Good [pharmaceutical] labels cost more but they are also considered more reliable.

RG: Who takes these injections?
PS: Lost of people like the rickshaw pullers, daily wage earners, and even factory workers take them.

RG: How often do they take these injections?
PS: Depends on how much they earn. Some once a day and some are high all the time.

RG: How do they learn to give themselves these injections?
PS: They teach each other. If they do not know how to, the chemist or the "doctors" or the nurses in the roadside medical clinics (run by quacks and semi-quacks) will give it to them.

RG: That sounds crazy. Don't these doctors and nurses know that these drugs are very addictive and can even kill a person.
PS: They don't care. It gives them business, and for some this illegal activity is the major source of their earnings. They develop a clientele of 40-50 people who, once addicted, need to go to them every day. These quacks make their livelihood by charging a few Ruppees extra for giving the shot and a few Ruppees from the markup on the drug.

RG: I have heard that people are also using heroin or what is called "brown sugar" or smack.
PS: Yes.

RG: How do they take that?
PS: They put it on the foil that comes in cigarette packets, burn it and inhale the smoke.

RG: Is it freely available?
PS: It was until the terrorist war. Most of it comes from Pakistan. These days the border is patrolled much more carefully, so the supply has dried up. People use injections when they don't get heroin.

RG: So the use of injections has just started.
PS: No! It was there even when I was young. Those days we used to hear mostly about doctors taking these drugs. I think the time when it became very common among the working people was in 1984, after Prime Minister Indira Gandhi was assassinated and terrorism in Punjab was at its maximum.

RG: What happened then?
PS: Opium and heroin became difficult to get due to heightened security and the chemists starting selling injections called "billi" (Hindi word for CAT). They started by first introducing this "high" to those who were already coming to them for the intoxicating pills.

RG: What about in the villages?

PS: Many people are addicted to opium. They take it orally as small balls or drink the husk boiled in water as tea. Some use heroin also. Alcohol is, I think, the most common drug.

RG: Do school students from middle class and rich homes also use drugs?
PS: Sure. They also buy intoxicating drugs from these chemists.

RG: Don't their parents find out or keep control over their activities?
PS: These parents have no time for the children, and children in Ludhiana have access to loads of money. They have their own fancy cars and are always arranging dance and music parties where they openly serve alcohol and drugs.

RG: How do you know?
PS: Many times they hire me to fix their electric circuits or lay the wires in their gardens for the stereo equipment.

I was amazed by the clinical manner in which PS had described the problem and how familiar he was with the various drugs being used and how they were being marketed. Later that day I mentioned this to my mother (who is 82 years old and has a very definite puritanical outlook) and said how surprised I was by PS's detailed knowledge. She looked at me as only a mother can and said "PS roams all over the city and spends a lot of time in people's homes. He sees and knows everything". Still later in the day I asked a couple of the best doctors in the city how one should tackle this problem. They both shook their heads and said it is unlikely anything could be done. One of them added, with no uncertain pride, "there were two good things that happened during the decade of the Sikh insurgency (the 1980s). First, the filthy practice of dowry system almost came to an end in the villages, and second, the consumption of alcohol fell drastically. These practices were just not tolerated by the religious teachers and their militant followers." My reaction was one of disbelief. They, however, did not share my sense of horror that one could contemplate harsh measures enforced by extremists, under the guise of religious piety, as the only way of curing social ills.

I had very much wanted to explore this dark side of life in India. Unfortunately, I was only able to do this in a limited way – conversations with some other addicts and with two shopkeepers that are licensed to sell pharmaceutical drugs. All of them validated the information PS had provided and how a person can operate with impunity and sell psychotropic drugs without prescription at certain times of lax security and be very vigilant at other times when a good inspector is stationed in their area. Incidentally, during 2001-2002 I observed a huge growth in religious fervor, but this did not translate into any significant reduction in risky behaviors.

INTERVIEW

Conversation with a Taxi Driver in Delhi on drug abuse

I rented a taxi for the day at the Indira Gandhi International Airport in Delhi. The driver (whom I will call TD) was in his early thirties and had been driving a taxi for the past ten years, mostly between Delhi and the major cities of Punjab. Over the course of the day, while he ferried me from one place to another, we talked. He is one of four brothers, all of whom are married and have children. The extended family lives in their ancestral house and property in a village near the airport. I told him about my family in the US, my life as a scientist, and about my work with school students spreading awareness on HIV/AIDS and on addiction to alcohol, tobacco, and drugs. It was heartening to learn that TD was aware of HIV/AIDS, how the virus spreads (including the various common ways of transmission by blood and risky sex), and how to protect oneself. He did not show any particular interest in talking about HIV/AIDS except remarking that it was a problem and the government should do something about stopping the spread. Our conversation then drifted to the subject of drugs, and in this he was very interested. The reason, I soon learned, was that he and his family were being tormented by one of his older brothers who is addicted to "brown sugar". The following is my best recollection of the ensuing conversation.

RG: How long has your brother been using drugs?
TD: For the last fifteen or twenty years.

RG: How did he start?
TD: There was this smart looking kid that came from Delhi to live with his uncle in the village. He would hang around a tea shop frequented by the youth of the village and was in the habit of using "brown sugar". He was very friendly and befriended 4-5 youngsters between the ages of 16-18 years who had dropped out of school and were hanging around with nothing much to do. All of them started "chasing" heroin (cooking heroin on aluminum foil, typically the foil found in cigarette boxes, and inhaling the fumes). One of them was my brother.

RG: How did you first find out that your brother was using drugs?
TD: At first his behavior got erratic but my parents did not pay any particular attention. My father works 12 hours a day seven days a week, and my mother, in addition to the household work and looking after the children, does part time jobs. So they were not spending much time worrying about things, of which they had no experience, like drugs. They found out only when he started asking for large amounts of money almost daily, things started missing from the house, and he started getting into fights with them and other villagers.

RG: How does he support his habit?
TD: He usually gets the money from our mother who cannot bear to see him in this state. Some days when she has no money he gets very angry and even beats her. My father and I cannot stand to see my mother treated this way, so sometimes we give him some money. If we don't then he either steals from us, or from other villagers. This gets us into further trouble and we end up having to pay for the damages.

RG: What does he do the whole day?
TD: Nothing. He just hangs around with others like him, mostly drinking tea at their favorite teashop. They seem to drink a lot of tea. Maybe it has something to do with their addiction.

RG: How many people do you think are addicted to heroin in your village?
TD: Our village has a very large number of addicts — say between 20-25. Most of the surrounding villages have only 4-5. (These villages typically have between 1000-1500 inhabitants.)

RG: Why does your village have so many heroin addicts?
TD: I think it is because we are so close to the airport. Also, there is not enough work and it has become a fashion among many youngsters to not want to work. Some of the families have plenty of money so the kids get spoiled. These kids then spoil others. For example, the boy who got my brother and others started was very popular.

RG: What happened to this boy?
TD: Nothing. He still comes to the village sometimes but he has given up using "brown sugar". Now he comes just to say hello to his friends — friends like my brother whose life he has destroyed.

RG: How much do you think your brother spends on heroin every day?
TD: About one hundred Ruppees. (The conversion rate has varied between 1$ = Rs. 44-48 since 2000, and incorporating purchasing power parity 1$ is approximately equivalent to Rs. 10. One gram of heroin normally retails for Rs. 200-300 depending on the quality.)

RG: That is a lot of money. How does your family afford it?
TD: It is a large fraction of our earnings. This is one reason why I am not able to buy my own taxi for the last three years after my previous one got destroyed in a car accident. We also have to help support his family. He has a wife and four kids.

RG: Have you tried to help him break his habit?
TD: We try every day. We beg him, we scold him, we try to keep him at home, and his wife does her best at keeping him happy. Nothing has worked. I have twice taken him to a treatment center. One time he ran away after a week and the other time he became violent and broke one of the attendants' arm so they threw him out. Each of these attempts at cure cost us a lot of money and time. I was paying Rs. 1000 per day for the treatment. Now I have told him that we will help only if he is ready to change for there is no point wasting money if he is not interested. What can we do?

RG: It is very hard to help a person who has been addicted to heroin for so long. He has to have a very strong desire to change for his own welfare before there is much hope. Also, you will need to admit him in a very good treatment center or find a very good peer-educator to rehabilitate him. (The possibility of motivating the "boy" who was responsible for starting the problem to become a peer-educator crossed my mind, but I did not mention this possibility to TD.)
TD: We did, but it did not work. He does not want to change.

RG: Have you ever tried to tell him to go away and straighten out his life, or do what he wants but leave the family alone?
TD: All the time. He is not interested in our welfare or happiness. He comes home whenever he needs money or to sleep.

RG: I am amazed that heroin is always available in your village. Where does it come from?
TD: Mostly from Delhi. Sometimes it comes from Rajasthan and sometimes from Pakistan via Punjab. We wish the government would stop its availability. I think that our village is an especially bad place because we are so close to the airport.

RG: Why does having an airport near by affect the availability of heroin in your village?
TD: A lot of heroin is smuggled out of India from the airport. The people working in the airport get a commission and sometimes they steal some. My brother is very often at the airport. He makes some money by bothering people — forcing himself on travelers by offering to help carry their luggage on a trolley. In this way he has also come to know most of the airport staff and how and from whom to get some heroin.

RG: Do the police and the government know about this smuggling?
TD: Of course they know. My brother can tell you the names of all the officials who take a cut and how much. These people are so shameless that they brag about how much money the are making. So why will anybody put a stop to something that makes him rich?

RG: What happens when your brother cannot get heroin? Does he drink alcohol?
TD: He does not like alcohol. He takes injections.

RG: What sort of injections?
TD: I don't know but it is something sold by the chemists (pharmacists are called chemists in India).

RG: Is it a medicine or something illegal they sell?
TD: It is a medicine. I think it is a pain killer like morphine, but they mix it with some other drugs. They call it "billi" (Hindi word for CAT).

RG: Do only a few chemists sell these drugs or almost all?
TD: I don't know, but there are some whose total business is selling these drugs.

RG: If everyone knows this, then why doesn't the police raid the shop?
TD: Why should they bother? They get a cut of the profit.

RG: How often does your brother use these injections, and does he share the syringe and the needle with others?
TD: Mostly my brother will use injections only when heroin is not available. He prefers heroin. During the last six months, after the attack on America, the supply of heroin has decreased significantly and he has been taking these injections.

RG: Does he have his own syringe or do he and his friends share one?
TD: I don't know, but I think it depends. When they are together, they buy one syringe and share, and other times they use their own.

RG: Have you seen them boiling these syringes?
TD: No, I think they use disposable ones.

RG: But disposable syringes cost money (the cocktail typically costs between Rs. 10-25 and the syringe costs about Rs 5).
TD: I don't know, perhaps they use one a few times before throwing it away or selling it to scavengers.

RG: Does your brother know that he has a very high chance of getting HIV/AIDS if he shares needles?
TD: I think he does not care.

RG: Does he still have sexual relations with his wife?
TD: I don't know.

RG: How old is his youngest child?
TD: He is one year old.

RG: This means that in all likelihood your brother is still having sex with his wife. I don't know how you can do this, but you should tell him to use a condom when having sex so that he can protect his wife. You and your family need to protect your sister-in-law.
TD: OK

I sensed that this twist in the conversation was making TD uncomfortable so I stopped asking probing questions. He drove in silence, visibly downcast. Later, in between my errands, he once again asked how one cures addicts. I told him what little I knew and feeling sorry for him and his family did not pursue the dark side of this issue —that few long term addicts recover without rehabilitation that lasts years. This encounter, which may not be typical because TD lives and works in close proximity to Delhi, and to a major international airport, highlights how worldly wise taxi drivers are, how much they know about what is going on in society, how prevalent and widespread the menace of addiction is, and how devastating are its consequences. I am, however, left with two questions.

i) How is it possible that a pharmacist can sell huge quantities of drugs of abuse and little else without the implicit or explicit connivance of the whole pharmaceutical industry and its distribution network?

ii) If the knowledge of this abuse is so well known and accepted by the public, and the involvement of the law enforcement agencies is so blatant, then how does one stop it?

There is no question that the use of narcotics is on the rise and increasingly more and more potent drugs are readily available. Of greatest concern are heroin and other injectable drugs, inhalants, and the illegal sale and use of pharmaceutical drugs as narcotics. According to the United Nations Office for Drug Control and Crime Prevention heroine seizures in India in 1997 amounted to 1.3 metric tons and in 1999 to 0.825 tons. This amount is, at best, a few percent of the total trafficked through India.

The ready and uncontrolled availability of pharmaceutical drugs that are being used as narcotics undercuts most efforts to control the growth, production, and sale of illegal drugs. The precursor chemicals needed for the production of many synthetic drugs are produced in large quantities and a significant amount is diverted to manufacture illicit drugs as illegal sales yield much higher profit. Furthermore, as the Indian pharmaceutical industry gets stronger and the technology for producing narcotics becomes more readily available, the risks of massive abuse will grow if curbs on production, interdiction, and conviction continue to be hampered by the poor law and order situation and corruption.

V. PREVAILING REALITIES, BELIEFS, AND CHALLENGES

To understand the implications of the many health crises for the security and stability of India, the Indian population can be divided into four broad sectors:

1) *Elite:* The well-to-do who have access to health care, education, and jobs (the elite in this limited sense). These number about 250 million and consist of the politicians, the bureaucrats, industrialists, defense personnel, police, municipal workers, medical doctors, nurses, lawyers, teachers, land owners, businessmen, and organized labor in industry and in government services. This is the critical sector with respect to both development and security as it controls about 90% of the resources and provides most of the revenues and services.

2) *Middle-of-the-road:* Those in transition between the poor and the well-to-do. These also number about 250 million and most of them work in the construction and agriculture sectors.

3) *Poor:* Those who have little or no access to health care, formal education, jobs or modern sanitation. These number about 500 million and comprise of subsistence farmers, menial day laborers, and the destitute. The United Nations estimate for people below the poverty line in India is 36%.[79] The number 500 million includes those that are only marginally above the $1 a day (PPP) criteria and periodically relapse into poverty.

4) *Marginalized*: This group is defined with respect to the health crises due to STIs and addictions. It includes sex-workers, hijras, men having sex with men, intravenous and other drug users, alcoholics, street children and other highly vulnerable groups like rickshaw and truck drivers. It consists of about 100 million people and are a subset of the other three sectors. The key point is that risky behaviors are not confined to the "poor" sector but are prevalent in all three. High risk groups are defined by life-styles, behaviors, and sexual orientation and not by socio-economic class. It is unfortunate that by marginalizing those labeled as members of high-risk groups and associating incidence of STIs with poor members of these communities the elite section of the population has been led to believe that they are not at high risk.

India is overwhelmed by numerous challenges – public health, education, economic development, environmental degradation, ethnic violence, national security, etc. – that compete for the attention of policy makers and national resources. To understand the response of the government and the lack of political will to confront the health crises discussed here, one must understand the perspective of a policy maker faced with the following realities:

- The state and central governments are in financial crises. Most state governments are running in deficit and need to be constantly bailed out by the central government. There is little or no new money to start major intervention or development programs. The HIV/AIDS program in India is funded entirely by the central government, which in turn has relied on loans and grants from international agencies and foundations for about 85% of the budget.

- There are a number of urgent and growing health crises (including TB, malaria, HIV/AIDS, Hepatitis B and C, alcoholism, drug trafficking and abuse) but there are other equally serious and more basic problems like nutrition for children, childhood immunizations, formal education, sanitation, potable water and jobs.[80] In a country with limited resources an important question being raised by many is

whether the priority should be to provide opportunities for the youth or to improve the welfare of adults with risky behaviors?

- The central government has many other serious issues to deal with. Should not the conflict with Pakistan over Kashmir, terrorism, religious riots, faltering economy, and consequences of international financial down turns take precedence over health issues?

- The evolution of the political system from governance by a single party that was dominated by the Nehru family, the Congress party between 1947-1996, to multi-party coalition governments is still in progress, and a very significant part of all politicians time is spent in coming to power and protecting it, often at the expense of the country's welfare.

- Widespread corruption and an inadequate law and order system make implementation and monitoring of programs very difficult. As a result funds that are allocated get used very inefficiently, or not at all, or government officials use them to finance other pet projects.

- The health crises in question are behavior related. While their solution requires a robust national health care and education system, control over their spread at an individual's level is in the hands of the individual. So the failing cannot be attributed directly to society or to the government. On the other hand, society has the responsibility to spread awareness, prevent further infections, and to take care of the infected. Unfortunately, with respect to STIs and addictions, society is still struggling with some key questions that challenge its moral, religious, ethical, and cultural cores. What constitutes awareness — delivering the message once, ten times, a million times, or till the problem is solved? How should the message be delivered? What is the scope of the message, how explicit, and at what age? And what constitutes the message when the issues impact moral and cultural values? How does one overcome the dearth of well prepared material and adequately trained human resource at the community, state, and national level? How does one develop policy when society and politicians are afraid to take bold steps and sustain their involvement in the face of difficult unresolved questions?

The most natural reaction of any policy maker faced with such a slew of interconnected and immense problems is to ask: How should priorities be assigned when there is intense competition for insufficient resources? Who in society is affected and at risk from each problem? How do these risks impact social and bureaucratic function? How do these problems affect decision making, development, and national security? These questions are even more relevant if the following prevalent beliefs hold true.

- India has a much larger and more significant infrastructure for both health care and education than Sub-Saharan Africa, and is much more developed. India is, therefore, capable of mounting a far more effective response and will not suffer the same plight as Africa at the hands of HIV/AIDS.

- The sexual practices in the two continents are very different, and in India there are many more social restrictions against men having multiple partners or visiting sex workers. Thus, India will not face the same level of spread seen in Sub-Saharan Africa.

- The critical sectors of the population are, by now, aware of the modes of transmission of HIV and are, therefore, at very low risk for infection.

- The armed forces are aware that soldiers are prone to, and practice, risky sex and have a high risk for alcohol addiction. In response, according to the AIDS control Organization of the Armed Forces, they have mobilized against the spread of STIs. The official word is that infections in the defense establishment have been controlled at well under the 1% level and these will not undermine the capacity of the rest to function as a well organized and disciplined force.

- Intravenous drug use is limited to a very small fraction of the population in the Northeastern states of Manipur and Nagaland,[28] and amongst the urban poor. It is not a significant threat to the country as a whole.

- Considerable progress has been made in controlling the spread through transfusion of infected blood and through improperly sterilized medical instruments. Thus the general public is not at significant risk from accidental exposure or negligence.

In short, the perception today is that STIs and drug addiction are, by and large, problems of the poor, fueled by the high-risk behavior of the marginalized. The critical sector has mobilized and is **not** at significant risk. The poor are facing many crises (lack of means of livelihood, food, water, formal education, and jobs) that have made their future uncertain independent of the health crises, and as this sector is not organized and contributes very little to the Gross Domestic Product, their living conditions and health do not impact security. In fact, modern technology, tools, and globalization have made the skills of this sector obsolete and for this reason this sector is, on balance, a liability. The most expedient and cost-effective way to help them is to gradually improve the overall system and over time incorporate them into the mainstream of productive labor with access to health care and education.

Although contentious, one could conclude that these beliefs are driving policy. In essence, even today, the government and the bureaucrats do not truly believe that STIs and addictions will affect the overall health, development, and security of the country because they will remain problems of the poor and the marginalized who contribute little to society and the future prosperity of India. So no major resources, outside of foreign aid and loans, are being allocated to fight these problems. From this perspective, health crises within the poor sector can only become a security issue and threaten stability if the poor and the marginalized:

- Agitate and create social and political unrest on a mass scale,

- Demand and draw significant resources for the containment of the growing crises and for the care of the afflicted,

- Become a significant contributor to the GDP of the country and/or to the capabilities of the defense establishment, or

- Spread infections into the other sectors — those in transition and especially those in the critical sectors (the elite).

Indian policymakers tacitly believe that none of these four possibilities have any significant probability of occurring in the near future. More pertinent, the common belief is that the chances of finding a cure and/or a vaccine by the international community are much more likely than the probability of occurrence of any of the above four possibilities. This belief, coupled with the lack of resources to make a significant impact, leads to a calculated, if tacit stance — the health crises are not a significant risk to the development, security, or stability

of India. The country, therefore, should not divert significant resources to fight specific health pandemics that are driven by risky behaviors but should continue with its long-term policy of investing in basic health and education infrastructure.

The tragedy is that even after 20 years of experiencing the social, economic, and political consequences of the spread of HIV and bearing witness to the devastation of Sub-Saharan Africa, governments are still, by and large, leaving it to chance to decide which scenario unfolds when there is the knowledge, understanding, and the means to stop the spread. What the global community lacks are easy solutions (a pill or a vaccine) and, in the absence of these, the social and political will to act decisively. Unfortunately, allowing nature to decide the outcome will be extremely devastating. In the countries of Sub-Saharan Africa we are witnessing economic, cultural, and social ruin; in Pakistan, India, China, and Russia, the consequences of inaction could be far worse due to existing serious security threats and large military capabilities, including weapons of mass destruction.

Diseases like addictions and STIs are insidious and diabolic; their scale and scope is large, hidden, and open-ended; the efficacy of many "solutions" is debatable; denial is a common reaction; and all solutions require multi-agency cooperation on a national scale. It will be hard to implement any sensible program on a large scale that requires sacrifice and commitment unless all people give the highest priority to understanding and accepting that corruption is a devastating addiction that must be controlled and stopped at all levels of society. Without a fundamental change in people's attitudes, that there is no such thing as small and large corruption, acceptable and unacceptable corruption, even the best plans and policies will fail.

The Sonagachi Project discussed next is an excellent example of why replication of even good working examples is hindered when, in addition to all the problems mentioned above, issues involve moral and social values.

VI. WHY HAS THE SONAGACHI PROJECT NOT BEEN REPLICATED?

The Sonagachi project in Kolkata is a highly successful model of empowerment of sex workers. The basic framework of the Sonagachi project is summed up by the three R's: Respect, Reliance, and Recognition. In short, to *respect* sex work and persons engaged in sex work, to *rely* on them to run the program, and to *recognize* their professional and human rights. No attempt is made to rescue or rehabilitate sex workers. The program was started in 1992 by Dr. Jana.[81] Surveys carried out by his team to determine the needs of the community showed that the highest priority of the sex workers was the need for medical help and information that would allow them to control STIs and HIV. Having established trust, Dr. Jana and his associates were able to teach them how to negotiate better conditions for sex work, develop a healthy relationship with the pimps and madams on the basis of mutual profit, and develop a group of peer-educators and implementers. These changes led to the creation of the self-empowering association, Durbar Mahila Samanwaya Committee (DMSC). Their successes, based on the 1999 evaluation, are: (i) decrease in rates of VDRL positivity (25.4 to 11.5) and genital ulcers (6.22 to 0.99) between the years 1992 and 1998. (ii) HIV rates have remained stable at 5% between 1995-1998, and (iii) condom usage has grown from 2.7% in 1992 to 80.5% in 1998.[81]

Many reasons are given for the success of the Sonagachi project while other similar attempts are facing much harder times: for example, the long tradition of labor unions and workers rights in West Bengal, the more socially oriented communist governments, large amount of funding and international support, and the vision and personality of Dr. Jana.[82] While all these factors played important roles, I believe there is another, much deeper, issue preventing replication — many influential people believe that Sonagachi is the wrong model.

Mrs. Rami Chhabra provides an alternate view.[83] This view states that:

- The current polices of "condom centric" HIV/AIDS intervention are leading to a "scenario of open breakdown of social and legal constraints to prostitution and promiscuity, including among the youth, with reliance on the efficacy of condom usage making it safe sex".

- Sex work is debasement of womanhood, and a condom centric approach is "to accept women as commodities and pleasure-slaves freely available to fulfill man's base whims".

- The claimed successes of the Sonagachi project are debatable. Her contention is that, in spite of tremendous international support, funding, and the sharing of expertise, the project has not achieved anything substantial in terms of its health objectives. On the other hand the touted successes have created a schism in the national public policy debate and led, de facto, to the condoning of promiscuity and the debasement of women.

- "Globally, there is increasing evidence of legalized prostitution backfiring with increased prostitution, trafficking and increase in organized crime".

- Intervention should be based on *rescue* and *rehabilitation.* "A far more discreet and conservative approach is required to protect the greater societal good while engaging those deviating from desirable norms".

To discuss the two points of view without explicit finger-pointing I will call people subscribing to the Sonagachi model, of which I am one, as the liberals, and those holding views articulated by Mrs. Chhabra as the

conservatives. I believe these dramatically different views need to be recognized and aired and an attempt should be made to reach a larger consensus. Only then will a much larger response to a very serious national health and development crisis be possible. I also believe that the issues are very complex and there are few simple answers. So, rather than attempting to provide "answers" I will pose as questions the key issues whose resolution, I believe, will demonstrate the required political and social will to confront the health and societal crises. I do state my views on these issues but only in parenthesis.

- According to the Indian Penal Code prostitution is not illegal but soliciting is a criminal offense. Is this arrangement working? [A ban on soliciting was designed to prevent enticement, to prevent someone from being swayed who would otherwise not voluntarily seek. By not banning prostitution law makers recognized the huge demand for sex, commercial sex as a means of survival under conditions of widespread poverty, and lack of effective ways to control it. Unfortunately, the law, its poor implementation and corruption have created a very ambiguous situation. Sex workers are exploited, abused, and victimized by criminals, madams, pimps, and by the police. They do not have access to education, health care, and decent living conditions. They are marginalized and the majority of the trade remains underground. In my opinion, the current system is not working and, in view of the fast spreading HIV and other STIs, the need for clear and enabling laws is urgent.]

- Is a fully mature (over the legal age) person who chooses to be a sex worker "deviating from desirable norms" or is the client? [The sex worker is openly providing a service, albeit of carnal pleasures. The client is the one who breaks social and family norms in seeking an anonymous and easy source of pleasure, and is in position of power and control. Children are a special case and anyone having sex with them, or exploiting them for purposes of sex, should be subject to severe criminal procedures.]

- Is a society that is not prepared to accept sex-work prepared to accept sex-workers and, furthermore, pay to rehabilitate the estimated 2.3-8 million of them in India alone? Will the demand cease automatically if all sex-workers stopped selling sex tomorrow? What alternate means of entertainment will the clients seek? [Rescue requires a person identifies with being a sex-worker and gives consent to seeking an alternate means of livelihood. Unfortunately, once people are labeled they will continue to be shunned by society. Jobs are not easy to come by even for those with education, so who will provide all the sex-workers with jobs that pay as much. Second, rescue without rehabilitation has little value. Rehabilitation requires, in addition to providing a job and a home, a rebuilding of self-respect and identity. This is a very difficult, costly, and long term proposition. Third, new workers will emerge at least as fast as the existing ones are rescued until demand deceases as a result of major changes in societal conditions. Hope lies in reducing demand through education and people learning to develop better and more meaningful relationships with their partner.]

- Will legalization or prohibition of sex-work be more effective in preventing (i) erosion of moral values, (ii) coerced and forced entry of women and children into the trade, (iii) exploitation of minors in the trade; and (iv), which policy will lead to better health and living conditions for the sex workers and their families? [Prohibition can work if we are prepared to enforce draconian punishments as in Saudi Arabia, but even there it has not succeeded in curbing demand, nor in stopping extra-marital sex and exploitation. Legalization will work if society is simultaneously prepared to provide sex-workers with equal human rights, legal protection from exploitation and violence, freedom to practice their profession without social censure and stigma, and education for the youth to develop a healthy attitude towards sex and thus reduce demand for risky sex. In either case the quality of governance, the reach of the education system, and the efficacy of law and order will drive the outcome.]

- If sex work is to be eliminated through legal action, should punishment be given to the sex workers, who are already living under brutal conditions, or to the customer who exercises choice and to the ruthless organizations behind trafficking and facilitation who are in positions of power and control? [The customers, the organizers, and the perpetrators should be held accountable and punishable, and the sex workers should be rehabilitated.]

- If sex work is to be legal, then should sex workers have the ability to organize in trade unions and ask for minimum wages and retirement benefits, health care, education, protection from police harassment, and decent living conditions? [Yes. These are a part of the fundamental rights of all citizens in a democratic society.]

- In a country very short on resources, what should be the priority with respect to resource allocation? "Can a country cutting back on food subsidies and midday meals for children subordinate these priorities to subsidize sex transactions [money spent on making commercial sex less risky through harm reduction programs like condom distribution] in violation of laws and family stability?" [Faced with a health crisis which can no longer be ignored and from which the general public is no longer immune, society is finally being forced to confront a long simmering health and human rights issue. This wakeup call is not equivalent to subsidizing sex transactions but a desperate cry to force the public to respond to the needs and rights of the marginalized. In short, the government and society should invest in both, and the collective failure to deal adequately with either should be cause for deep concern.]

- Does information on reproductive health, sexuality, sex, STIs, methods of contraception, and addiction to alcohol, tobacco, and drugs lead to more school students trying risky experiments or does it empower them to make healthier choices? [I believe that while such information may drive some students to experiment out of curiosity, it will empower many times more to make healthy choices lifelong and be much better human beings. Over time, implementing such a curriculum will also lead to improved relationships between the genders and in the development of a civil society.]

- What is a "discreet and conservative approach" to stemming a raging health crisis caused by sexually transmitted infections and addictions? [Historically, the discreet and conservative approach practiced in India has been to marginalize the "deviants from the norm" and the lesser born rather than to grant the same human and legal rights to all, independent of their conditions of birth, profession, socio-economic status, and sexual orientation. Today, the failure to guarantee the same human and legal rights to all have led to many disastrous consequences, like sex selective abortions, female infanticide, pandemics created by STIs, addictions to alcohol and drugs, racial riots, a deteriorating law and order situation, and rampant corruption. An enlightened and responsible system requires we invest in health care and education for all, and develop respect for human life and our natural environment in all its diversity. A transition to a civil society will happen if we set good examples for the coming generations and educate the youth on societal and health issues and empower them to make healthy and safe choices throughout their life.]

- Can one simultaneously satisfy both the liberals and the conservatives by building on the principle of five R's: Respect, Reliance, Recognition, Rescue and Rehabilitation? [For sex workers that are over the legal age of eighteen and are not forced into sex work, the first three Rs also constitute rescue and rehabilitation. Demanding all five or the latter two will create a power struggle with the pimps, madams, and traffickers and, in a country with a huge demand for sex workers and poor enforcement of the law,

sex work will remain an underground activity characterized by harassment, exploitation, violence, and disease. In the case of children and those coerced into sex work, rescue and rehabilitation is essential and this should be coupled with a very vigorous effort by law and order agencies to enforce stiff penalties on the organizers, perpetrators, and profiteers.]

- Should there be different laws and norms for male versus female sex workers? [Most of the discussion on sex workers in India assumes that the numbers of male sex workers are negligible. This is certainly false. Since the risk of spread of STIs through anal sex is higher, it is important to formulate a comprehensive policy that addresses the needs of both genders. Children, both boys and girls, should be rescued and rehabilitated, whereas adults should be allowed to practice the trade with Respect, Reliance, and Recognition.]

My overall recommendation is that a very serious and scholarly discussion on these issues should be carried out with the involvement of the senior politicians and bureaucrats, both at the state and central level, and the conservatives and the liberals should work together to create a clear policy that is realistic and can be implemented. Thereafter, the politicians, bureaucrats, judiciary, and law and order agencies should act cooperatively with CBOs and NGOs to address the crisis with a common sense of purpose and urgency.

The current situation in which there is no clear policy on prostitution and prostitutes (or in my opinion the more humane designations sex work and sex workers) is counterproductive if not outright harmful. Many bureaucrats and politicians do not believe that the conservative approach works, but are too afraid of a possible backlash because they are not convinced that any approach will work. Also, many do not see political profit in confronting a highly charged issue involving morality and culture. As a result they vacillate. The conservatives, on the other hand, are convinced of their course of action and believe that they are not succeeding because they are not adequately funded. Since almost all the funding for STI and HIV intervention is coming from the West, the already aroused passions, due to the implications of large prevalence figures for STIs for social and cultural norms, are being further ignited by the issues being labeled "a Western agenda".

VII. CREATING SOCIAL AND POLITICAL WILL

My contention is not that the government and the NGOs are not making an effort to stop the spread of the many communicable diseases, but that the effort is not enough and in many cases not effective.[84] It is, therefore, important to first state some of the systemic changes that are needed.

- Creating a consensus on the need for action and on the course of action.

- Maintaining a constant and regular awareness program using all forms of media. To remove the stigma and separate the health issues from morality, culture and religion it is essential that the Prime Minister personally lead the campaign.

- Implementing a curriculum on health, hygiene, reproductive health, sexual hygiene, sexuality, sex, STIs, modern methods of contraception, and addictions in schools. Information on these topics should be provided at an age prior to the start of risky experiments.

- Empowering women and providing them with the ability and skills to gain control over their lives, livelihood, welfare, and reproductive health.

- Developing harm reduction programs that include needle exchange for IV drug users and free condoms for those having risky sex.

- Developing peer-educators and empowering the marginalized to change their risky life styles and behavior by recognizing their right to choose their profession (sex workers) and sexual orientation (men having sex with men).

- Motivating the private sector industry to assume responsibility for the health of its workers and their families and to promote harm reduction programs.

- Help for those already infected — providing hope, care, and treatment rather than condemnation and ostracism.

- Involving people living with HIV/AIDS and recovered alcoholics and drug addicts in outreach programs and in developing policy.

Some of the major reasons why the current efforts in each of these areas are grossly insufficient are:

- There is a lack of political and social will. Social will is lacking due to the connection of STIs with morality, culture, and religion as discussed below. Political will is lacking because there is the mistaken belief among those in power that they and their families are immune, this is a disease of the poor and the immoral, the critical sectors will not be significantly affected, and because of the general shortage of financial resources.

- There is no consensus on how to spread awareness and what the message should be (see previous discussion of the Sonagachi Project). People are still not able to distinguish between the provision of life saving medical information that involves the reproductive systems versus talking about sex and promoting it, and between a harm reduction approach and a very conservative moralistic approach. This

indecision is de facto perpetuated by the tremendous shortage of trained teachers and outreach workers, and the lack of funds to train them. Also, the government is still not prepared to use media to its fullest, fearing political backlash. Even though media, by itself, is not the complete answer to facilitating behavior change, it has tremendous reach and not using it is a wasted opportunity.

- Changing behavior requires the ability of people to integrate information as it pertains to their life styles and means of livelihood. Behavior change mostly occurs in a non-threatening environment. Thus, to change behavior requires more than just awareness. It requires empowerment and a dialogue with someone who can answer questions honestly and with empathy, i.e., counselors. The best suited for this work, especially within the marginalized communities, are peer-educators. Little effort is being made to develop peer-educators and community leaders, furthermore, peer-educators and intervention workers are often harassed, or worse, treated as criminals and charged with promoting immoral behavior.[85]

- Providing testing, counseling, help, and treatment on a national scale for those infected requires an extensive and elaborate medical and social infrastructure, which is presently absent. To build this infrastructure requires enormous resources, both material and human. Nevertheless, these can be developed over time provided all people believe that stopping the spread of HIV/AIDS is a shared responsibility, that they have a vested interest in solving it, and that by investing time and money they will make a difference.

- Amongst the poor, the illiterate, and the marginalized, empowerment – the means and ability to change one's life – lies not just with the individual, but involves complicated interactions with the local power structure, the family, the community, the society, and the resources needed to survive. It is in this respect that HIV/AIDS or any other disease without cure or vaccine and involving behaviors and lifestyles cannot be dealt with in isolation, but requires, in essence, the transformation of the whole society. While some governments and funding agencies have realized the need for such a holistic approach, they quickly get overwhelmed by the magnitude of the task, are fearful of cultural, social, and political backlash and in the end resort to a simplistic approach by focusing on a small aspect of the larger problem.

- Corruption is very high in all walks of life including medical care.[10] A very small fraction of resources allocated by the government reach their proposed targets.

There are a number of reasons why the social will to implement effective response to the many problems of health and development has been lacking. Some of the important reasons are:

- The caste system legitimized the existence of a deprived and ostracized class. It created apathy in society and even today people are not shocked, upset, or troubled by seeing large numbers of very poor and sick people.

- The population has become increasingly cynical of the government's ability to deliver services and has lost faith in co-operative action. As a result more and more people are focusing on maximizing their own profit by legal and illegal means.

- The growth in resources and opportunities has not kept up with the rapid growth in population (it grew from 370 million in 1950 to one billion in 2000) and expectations of a good life. With 50% or more of the population living below or just above the poverty line the problems are huge and many. Most people

who try to help the poor quickly get overwhelmed by the enormity of the problems and resort to doing what little they can on their own. The cost, in terms of time and stress, of collaborating with others has been too high. As a result philanthropic organizations have not grown to sufficient size nor acted cooperatively to influence policy.

- Life is hard and stressful for even the elite. Most do not have the time or the energy to worry about the welfare of others outside a very close knit circle of family and friends.

- There is little tradition of contributing time and resources to community organizations that work with the poor and the marginalized. Most donations and volunteer work is channeled through religious organizations, and these organizations have not been able to adopt and promote harm reduction programs when dealing with problems of addictions and risky sex.

- Most religious organizations and leaders have not been able to address health issues that have implications for moral standards and cultural norms. They have, instead, often found profit in attributing the spread of STIs and addictions to the corrupting influence of Western societies and in promoting a return to religion as the solution.

Health care and formal education are two key determinants of a nation's development and welfare.[5] STIs and blood borne infections, especially HIV and Hepatitis B and C, and addictions sap the creative and productive skills of those infected, are debilitating, and ruin the lives of entire families. Thus, the failure to control them is, in itself, a lack of development. In addition, quite apart from humanitarian and moral considerations, my arguments against complacency and lack of coordinated and concentrated action are:

- The logic of not diverting from the path of overall development in the face of an epidemic is reasonable and sensible provided it is coupled with providing an immediate response to the containment of the pathogen, new or old. This has been the traditional strategy that has worked well for epidemics like the plague, Dengue, Ebola, polio, and cholera. Unfortunately, HIV and Hepatitis B and C are very different from these and present a new challenge for many reasons. First, these infections present no obvious symptoms and people can remain without symptoms for years after infection. So one cannot use the technique of cordoning and isolating off regions around well-defined epicenters or imposing quarantines on the movement of people to contain the spread. Second, because of the long latency period and the "hidden" nature of transmission of all STIs the true burden of the disease at any given time is not appreciated until years later, by which time the problem is already too big to be dealt with on the basis of short-term disaster mitigation. Third, for HIV, and to only a slightly lesser extent Hepatitis C, there are no prophylactic or curative medicines, so even in the United States, which has a very good medical, education and communication infrastructure, containment and eradication is expected to take decades instead of days or weeks. Fourth, we have seen from the example of Sub-Saharan countries that in the absence of total openness and commitment by the highest levels of the government, these infections spread fast and even 20-35% prevalence figures are not enough to deter people from risky behavior or to generate the required political and social will for mounting the required response. Lastly, we have no historical precedents demonstrating containment and finally elimination of such pandemics that can serve as guides to policy makers.

- The true scale and scope of the health crises (numbers infected, rate of new infections, and socio-economic profile of the infected) in India is still unknown and will remain very uncertain as long as the infected have no incentive to get tested. Without the removal of stigma against STIs, with continued

denouncement of marginalized communities, and without access to treatment, the infected will continue to choose to die incognito. Under these conditions the true magnitude of the crises will remain hidden and become apparent and obvious only when it will be too late to save a large fraction of the population as has happened in Sub-Saharan Africa. Similarly, the real loss in terms of productivity and development will remain unknown. Estimates based on very crude statistical models using the average worth of a person as given by the per capita GDP and the number of days/years lost due to sickness or premature death cannot capture the human, social, or political dimensions of the crisis.[86]

- These infections are not limited to the poor but have already spread to all sectors of society in India. Also, as I have argued, the marginalized are a large population (about 100 million) and distributed throughout society. If their risky behaviors remain stigmatized and they feel threatened they will remain underground, and infections will continue to grow in all socio-economic classes.

- Citing poverty and illiteracy as the factors responsible for the spread of HIV, as President Mbeke has done in South Africa, is to de facto associate the disease with the poor. My contention is that the profile of the HIV positive people in terms of their economic status is very similar to that of the general public. In the United States, Western Europe, and Australia it was the recognition that HIV is spread by risky behavior and the acceptance by the public that risky behavior is prevalent in all socio-economic sectors that generated the required response and led to control.

- Medical care for just those who are infected with HIV, or Hepatitis B or Hepatitis C, and belonging to the top 20% of the population in terms of socio-economic status, would overwhelm the already inadequate health care system.

- The resources invested in stopping the spread of HIV/AIDS will not be wasted even if a vaccine or cure is discovered in the next five years. A successful vaccine will have to be over 90% effective, safe and inexpensive and, similarly, the cure will have to be easy to administer, inexpensive, and have a low probability of developing drug resistance. Only then will it obviate the need for developing the infrastructure for prevention, testing, and counseling. Furthermore, the infrastructure developed to address HIV/AIDS will have long term use in addressing all blood borne and sexually transmitted infections and not just HIV/AIDS.

- Making progress on stopping the spread of HIV/AIDS requires addressing the long neglected issues of corruption and violations of human rights of the marginalized — especially the sex-workers, IV drug users, and the homosexuals — and of women in general.

- Alcohol and drug addictions are devastating not only for the individual but for the whole family. There is a close correlation between the number of alcohol and drug abusers, prevalence of risky sex, STIs, road accidents, domestic and communal violence, a breakdown of social norms, and a general lack of development. Addicts undermine social capital, and their burden on society is very high because it is very costly and time consuming to rehabilitate them. Policy makers need to recognize that alcohol abuse is very wide spread in both urban and rural India, has been a major impediment to development, and is undermining the hard work of many good NGOs.

- The poor, facing an uncertain future, can undermine the system and thwart development through constant demand for resources, agitation, and rebellion even without the emergence of a national scale

revolutionary movement. Charismatic demagogues can exploit the anger and desperation felt by the poor and channel it into widespread violence.

- The acts of terrorism and religious riots (in Kashmir, the Northeastern states, Punjab, and the latter recently in Gujarat) are not isolated or exceptional events but indicators of a restless, angry and frustrated population.

- Profit driven free markets have little or no incentive to provide basic services like health care, education, water, energy, or housing to those who cannot pay and will not, in the short-term, return profit on the investment. Delivery of these services requires a long-term public-private partnership that is not profit driven but viewed as long term investment in the country's human resource.

The most important reason for dwelling on these many related issues is that all the problems — poor health, pandemics, alcohol and drug addictions, falling water tables, pollution and environmental degradation, poverty, illiteracy, uneven development driven by the fast pace of change and globalization, religious tensions and violence, communal riots, security problems in Kashmir and North-East India, deteriorating law and order situation, and natural disasters like cyclones, earthquakes, floods and droughts — are all happening simultaneously and their impacts are mutually reinforcing. India (in fact all developing countries) is facing these highly coupled non-linear problems and does not have fiscal resilience nor have its people taken adequate or timely action or demonstrated the required social capital to take action. In such highly coupled non-linear problems the situation can spiral out of control very quickly — India does not have the luxury of time to slowly implement change, a lesson taught to us by the sudden collapse of the USSR! Counting just the number of HIV infected people (or any other one problem by itself) will not allow scientists to predict when the threshold for the onset of a highly non-linear instability is crossed. Also, if one thinks that there is no connection between a pandemic and communal/religious violence and targeting of marginalized communities, it is worthwhile to recall that the pogroms against the Jews in 1348 were triggered by the Black Death![87]

VIII. RECOMMENDATIONS FOR INTERVENTION STRATEGIES

Intervention strategies have to take into account two major factors. First, open and frank discussions of sexuality, sex, and addictions are, by and large, still rare and there is tremendous social stigma attached to STIs and addiction. Second, risky sex and/or the use of alcohol and drugs are the most common and easily accessible escape outlets for the over 500 million people that live in grinding poverty (360 million people that are officially below the poverty line and another 150 million that, while marginally above, relapse into poverty periodically). (The other two outlets are gambling and television.) There is essentially zero investment required to produce alcohol or to market drugs and sex. The final cost is driven by what people can afford to pay. Unfortunately, the poor sacrifice quality and safety in all aspects of their lives as cost (immediate survival) is by far the most important driver in their lives. Consequently, they pay a very heavy price with their health and welfare. To confront these issues requires, therefore, the simultaneous implementation of a school curriculum on health that promotes healthy behaviors, of harm reduction programs, and of economic development.

A successful policy on STI and HIV/AIDS control must recognize the need for, and put equal emphasis on, all four components – awareness and education; reduction of risk of STIs through use of condoms and microbicides, needle exchange programs and treatment for IV drug users, and control over blood borne diseases through improved health care system; voluntary, confidential, and anonymous testing and counseling; and care and treatment for those infected.[88] The simultaneous implementation of all four components and their mutual reinforcement will determine the overall success of the program.

My recommendations on these four components as applied to the population divided into three different segments – people who have not yet become sexually active (adolescents), the sexually active population, and those already infected – are as follows.

Health, Sex, and Life Skills Education: Adolescents, young adults and students present the best opportunity for education leading to the formation of healthy behaviors. The best time for this education is while they are in school, i.e., when they are impressionable, risky habits have not yet formed, and they are a captive audience. The following topics should be taught as part of the high school curriculum:

- Male and female reproductive systems,
- Sex, sexuality, conception, pregnancy, child birth, and abortion,
- Modern methods of contraception,
- Sexually transmitted infections,
- Addiction to alcohol, tobacco, drugs, gambling, and risky sex,
- A discussion on why cultural and social expectations on issues of sex and drugs are consistent with, or can be reconciled with, safe behaviors as opposed to risky experiments due to peer pressure. Also, a discussion on how these expectations are evolving in a modern rapidly changing knowledge society, and why, in spite of the many technological improvements, the need for safe behaviors is even more important today.

These topics should be taught **before** students become sexually active and/or start experimenting with alcohol, tobacco, and/or drugs.

The basic message should be designed to promote (i) delay in the onset of sexual activity; (ii) exercising judgment when selecting one's life-long sexual partner; (iii) an understanding about high risk groups and why sex with them has a much higher probability of acquiring STIs; and (iv) awareness on the lure of drugs, the process of addiction, the connection between drugs and other risky behaviors, and the harmful consequences associated with each "drug".

The curriculum should represent an expanding spiral. The basic ideas should be introduced early, the issues should be revisited periodically, and the scope and details should be enlarged each time. The age (grade) at which a topic is introduced should depend on local factors like whether it an urban or rural community, socio-economic development, exposure to media, peer behavior, opportunities for risky behavior, etc., however, in each case an assessment should be made to ensure that information is being provided before students start risky experiments, The challenge to designing and implementing such a curriculum in India has been that people cannot come to closure on what, how, and when to present the information. In addition, an even bigger challenge than designing the curriculum will be to train enough teachers to teach it well.

Public Health Campaigns: In addition to school based curriculum and spreading awareness through the written word and public lectures one has to design, in developing countries like India with high rates of poverty and illiteracy, awareness campaigns for people who are illiterate and children that drop out of school before the eighth grade. The approximate numbers of these in India are, respectively, 35% of the population and 70% of the children. Fortunately, today we have the method and means to deliver information to them. The method is information in visual format, and the means is computers and television. Digital material can be made available to the public through regional/national broadcasts and locally on television sets attached to CD-ROM players. The advantages of "education" using visual media in digital format (on CD-ROMs or DVDs) are:

- Visual information does not rely on literacy for assimilation;
- It has the highest bandwidth for absorption by most people;
- The same material can be used to educate a 12 year old as well as a 60 year old;
- It is very portable, inexpensive to replicate, and easy to modify and enhance;
- Of the various ways of communication, visual media is the least dependent on language, gender, cultural and social biases, and the views of the teacher and the student;
- The penetration of media into the remotest corners of the country is occurring faster than any other form of communication and much faster than school based education;
- Audio-visual media can be used to complement the strong oral traditions that have, historically, been the means of education in India.

It is important to stress that the dissemination of information on issues of health, hygiene, and day-to-day needs should be considered a supplement to formal education. These are mostly common-sense issues, and people can understand them without first going through twelve years of formal education. Developing this material using a predominately visual format addresses the need for informing the illiterate and those dropping out of school early. Reaching the illiterate directly is critical because we cannot compress the twelve years of

formal education into a few years, nor can we wait to first educate, for twelve years, all those who are illiterate. The solution of first educating all to a level where they can function as self-learners, and can thereby make healthy decisions on their own, will take a long time since the additional resources required are prohibitive.

Another problem that this approach — pursuing in parallel formal education and spreading awareness on common-sense issues through visual media — would address is the acute shortage of good teachers and counselors, the inability to develop them in time, and the rapid turnover in outreach workers faced by almost all NGOs. Fortunately, technology has provided us with a tool — visual learning — that can address the need for training teachers and out-reach workers fast, facilitating self-learning, and a way — electronically — to deliver it. In the short term, well prepared visual media can be used to accelerate the training of trainers. With the continued trend of decreasing prices of electronics even villagers will be able to access this information directly. What we need is the will and the resources to implement it.

A huge volume of excellent visual media on issues of health exists, but it is not easily available, is not collected and collated in a central repository, nor has it been organized for illiterate populations. What I am recommending is a centralized archive, like the one the World Health Organization has for medical information aimed at health care workers or a fairly sophisticated and educated public. The WHO and CDC have already shown that by making information available free, and by allowing anyone with an internet connection to access it, information is used widely. Initially, as long as the bandwidth of internet to remote areas is limited or non-existent, this "encyclopedia" of visual information should be made available, in the vernacular and free, on CD-ROMs through a distribution network to schools, NGOs, and educators. Funding agencies should fund innovators to produce new material that can be included in the central library and not give funds to NGOs for simply reinventing existing material, but rather for disseminating information effectively.

Harm Reduction Strategies: For people who are already sexually active, the prevention message should warn against risky sex and how and what precautions should be taken to reduce risk. Since it is not possible to ascertain, a priori, who in society is at risk, and who may from time to time indulge in risky sex (or risky behavior in general), this message should be delivered regularly to reach the full population through all forms of media — radio, newspapers, TV, advertisements, and internet. The message should explain various issues of reproductive health and the need to use condoms during all sex, including after marriage, except when wanting to conceive. Such a general message, while seemingly an overkill to some, will help protect couples in the event one or both are having clandestine extra-marital relationships, and the many women who do not have the power to protect themselves even when they know their husbands are having extra-marital sex routinely. It is my contention that, in the absence of the discovery of highly effective vaccines, if we wish to eradicate the many STIs the present and coming few generations will have to adopt the use of "condoms" (male and female condoms along with microbicides), in addition to their favorite birth control method, as a habit that lasts throughout their sexually active period.

With intravenous drug users, MSM, and sex-workers it is essential to foster the development and empowerment of self-help organizations and peer-groups. The national policy should be based on "harm reduction" programs like needle exchange programs for IDUs and free condoms and STI treatment for sex workers. These groups should not be victimized, ostracized, or punished if we want them to seek help, change behavior, and reduce risk. They should be educated on how to reduce risk to themselves and their clients and allowed to live with self-respect. This requires that the laws on sodomy and prostitution be changed and clarified so that they protect the marginalized and prevent exploitation. The law and order institutions should be sensitized to the needs and fears of marginalized populations and taught how to deal with them humanely to reduce criminality and the spread of diseases.

The desired goal of intervention is to facilitate a reduction in risky behavior, which, once a person is sexually active, requires counseling on sexuality, sex, reproductive health, STIs, and contraceptive methods on an individual basis. Making such counseling available requires huge financial and human resources. The capacity for such counseling, free of cost and with unrestricted, easy, and convenient access, should be developed. However, the "superiority" of this approach should not be used to impede, today, the delivery of awareness messages to the public based on the principle of harm reduction. An ideal education system that leads to the formation of lifelong safe and healthy behaviors will take a long time to develop and will be very expensive, laborious, and difficult to implement if not done as part of the school education system.

Advocating the use of condoms to those determined to have risky sex is not a condom centric approach, nor is it meant to give license to promiscuity. It simply reflects the reality that, today, condoms are the only cost-effective risk reduction tool for someone who is inclined to have risky sex.[89] This issue has an underlying financial twist that highlights the magnitude of the problem. The estimated 2.3 million sex workers in India alone would need over 3 billion condoms annually if each of them has 4-5 clients daily. At a cost of 10 cents per condom, which includes the cost of distribution and spreading awareness, India would need over $300 million condom annually to implement a program for sex workers alone. This number is larger than the current total budget for HIV/AIDS control! It should, therefore, come as no surprise that such an expense is considered a waste and an unjustified subsidy for immoral behavior by those advocating that sex work is demeaning, exploitative, and immoral and should not be allowed in the first place. The cost would be closer to $1 billion annually if we want all sexually active people in India to use condoms unless when wanting to conceive.

Voluntary Testing and Counseling: For people who practice risky behavior and may have reason to suspect being infected, important incentives to getting tested are:

- Free, anonymous, confidential, and easily available testing and counseling.

- Free, anonymous, confidential, and easily available treatment for all STIs, i.e., gonorrhea, chlamydia, trichomoniasis, syphilis, scabies, chancroid, herpes simplex, and human papilloma virus. In addition to spreading awareness and providing treatment for sexually transmitted infections the government should provide free vaccination to all children and adults against Hepatitis B.

- Free anti-retroviral therapy and care in case they are HIV positive.

Thus, centers and facilities for voluntary testing, counseling and treatment for STIs should be developed in all public and private hospitals.

Care and Treatment: People already infected should be empowered to live with dignity and respect. The public should be taught, by example, to understand and accept that ***HIV positive people cannot transmit the virus through casual contact***. HIV positive people should have access to care and anti-retroviral therapy so that they can extend their life, function as productive citizens, and take care of their children. For mothers and pregnant women who are infected, provisions for ARV therapy should be made the highest priority to prevent both mother-to-child transmission and the growing numbers of orphans due to early death of parents.

APPLYING THE STRATEGIES

Empowerment: In addition to a national program outlined above, intervention at the grass roots levels has to recognize additional requirements and needs. For example, to succeed with the rural populations and slum dwellers, intervention workers must provide information and develop awareness and also ***make sure that people feel empowered to act on this advice***. Empowerment, especially within the poor and marginalized, requires confronting a myriad of very difficult economic, social, cultural, and religious factors. Very often we misjudge the ability and capacity of the uneducated and the poor people to overcome centuries old prejudices and practices and to confront the existing power structure. Their failings due to poverty, despondency, and a lack of formal training, are, unfortunately, often taken as evidence for lack of motivation or even stupidity. We seem to forget that most of us teachers developed this capacity after 20 or more years of formal education. Why and how people can lack empowerment, even when awareness is present, was driven home by one of the women attending a talk I gave on the female reproductive system and common infections. I was explaining sexual hygiene and highlighting the importance of keeping one's genitals clean, especially before having sex, in order to prevent the very commonly occurring maladies like bacterial vaginitis. While most of the women lowered and veiled their faces to hide their discomfort and giggles evoked by my description, one looked up and asked, semi-mockingly, whether she should request her husband to go and wash himself when he was hot and excited! She, and the rest of the women, saw no possibility of asking this of their husbands (especially since many husbands come home drunk), much less of asking a husband to use a condom when suspected of infidelity or when STDs are manifest as many HIV/AIDS intervention workers assume they can do. My suggestion was that they should first maintain the required hygiene themselves, and second train their children in hygiene so that the next generation would be better prepared. In addition I offered to take on the challenge of explaining the need for sexual hygiene to their husbands in a subsequent session.

The women did accept the connection between dirt and germs entering their reproductive system and disease but could not foresee cleaning themselves every evening — it would take too much effort and they usually do not have the time. They were also extremely skeptical that their husbands would listen, and furthermore did not believe that they could teach these issues to their children. Only after some discussion were they finally convinced and willing to try to keep themselves clean and bring their teenage boys and girls to separate classes if I would come back to teach them.

In subsequent sessions the following transpired. The men listened and understood the connection between lack of cleanliness, germs, and disease, but it was clear from their responses that their keeping clean was irrelevant to their wellbeing. Bacterial vaginitis and other such infections were not their problem! The teenagers and young adults listened very carefully. The girls were at first disbelieving of the widespread prevalence of such infections, and that something like this would happen to them. They looked for reassurance from their mothers sitting on the side. The tragedy really hit home when the mothers indicated that, yes indeed, they repeatedly got genital infections but did not know how to change any practice that involved their men. I came across maybe one or two mothers in any given session with 40-60 women who felt confident that they could ask their husbands to maintain sexual hygiene. Their voices were unfortunately never loud enough to convey a sense of empowerment to the girls or to other women. The boys also listened carefully but, invariably, soon after my description of how germs enter the vagina, would start nudging each other in play and start joking about it. It was not clear to me whether having recognized the connection and understood the consequences they, after one lecture, felt any need to act on this new information and modify behavior leading to improved health and well being of both partners.

I am convinced that, in their own way, both men and women, irrespective of their social and economic status, want to change and want a better life. However, developing empowerment will require repeated positive interactions over a substantial period of time (one generation or more), working with all parties concerned, and with proper training of the coming generations.

Treatment: By treatment I imply a comprehensive health care system that monitors the patient's health and provides treatment and medicines for opportunistic infections and not simply the handing out of anti-retroviral drugs. Unfortunately, much of the discussion to date has been on ARV drugs and even in this limited context it is ironic that while India is the largest producer and exporter of generic anti-retroviral drugs, and has played a pivotal role in the decrease in the cost of these drugs by almost a factor of 20, few of its own HIV positive citizens have access to these drugs.[90] Today India has about 70,000 diagnosed cases of HIV/AIDS, many with sufficiently compromised immune system and needing these drugs. To start just an ARV program today at $300 per patient per year would require $15 million per year. Such an investment would go a long way in creating the conditions for controlling the spread of HIV in addition to helping the afflicted and reducing the burden of AIDS orphans. I fear that the policy makers are still not convinced that treatment is cost effective and will help stop further spread. In this context, the statements by the Union Health Minister, Shri S. Sinha, at the XIV International AIDS Conference, Barcelona 2002, and by the current Health Minister Mrs Sushma Swaraj, are very encouraging.[91] They have, as yet, only agreed to start pilot programs to reduce mother-to-child transmission by providing the drug nevirapine to infected mothers. On 30 November 2003 Mrs Swaraj announced that the government, starting April 2004, will provide treatment to HIV positive people in the six most affected states. The success of this program will depend on whether the government can allocate additional resources and whether international donors will provide significant funding to enhance the overall health care system and make HIV management part of it.

Targeted intervention: A central component of the second phase of India's HIV control program (1999-2004) is targeted intervention.[92] This strategy is being implemented both in terms of geographical regions (six states with the highest prevalence rates) and groups with high risk behaviors (sex workers, truck drivers, IDU, MSM, and migrant workers).[13] For example, the announcement in 2003 by the Health Minister Mrs. Sushma Swaraj, that the government would start providing treatment in the six states with the highest rates of infection, raises two questions – (i) does this decision imply that HIV positive people in other states do not deserve treatment, and (ii) should the other states wait until the number of HIV positive people become large before they will be helped to develop the infrastructure to provide treatment? Similar questions arise with NACO's policy of targeting high risk groups.

It is my contention that the window of opportunity for targeted intervention as a national policy has passed. For targeted intervention to be effective, the following conditions should hold.

- The targeted populations are small and well localized.
- The targeted populations are easy to identify.
- The targeted populations accept an identity associated with their risky behavior.
- The infections are still mostly contained within target populations.

In India none of these four conditions are true anymore. In addition to there already being over 5.1 million people infected, the risk groups are neither small nor well defined. For example:

- There are 2.3-8 million sex workers.
- There are about 15 million sexually active adult males who have sex with men if one assumes the Kinsey's analysis that 5% of the male population has strong homosexual orientation. Since sodomy is a criminal act punishable by law, this behavior remains underground.
- My estimate is that there are about 1 million injecting drug users. This number is much larger than what most bureaucrats and policy makers concede, however, based on conversations with doctors, drug addicts, and pharmacists my suspicion is that even this number may be an underestimate.

- There are about 40-50 million children not in school but living on the streets or involved in hard physical labor. These children are extremely vulnerable to sexual exploitation and addictions.
- There are about 5 million truck drivers and helpers/cleaners.
- Over 200 million people in the agricultural and industrial sector are migrant laborers.
- To these numbers we should also add clients (like coolies, rickshaw pullers, students), partners of sex workers, and people in other groups not included in the above categories. While no estimates for these are known, I doubt if they are less than 100 million.

These high risk groups are not localized and very often do not accept an identity associated with their risky behavior. For example, many men work in the trucking industry for a few years and then return to their family and work on their land. When no longer active in the trucking industry, they would not respond to the label of the high risk group "truckers" even though many of them were exposed to the virus during the years when they were truckers. Many sex workers are housewives. Most cities and villages have sex workers, but very few live and work in well defined areas or brothels. The dominant identity of sexually active or abused children is simply children. Finally, two hundred million migrant workers are not a small risk group but a significant fraction of India's population.

What I have attempted to highlight is that, today, over half of India's adult population belongs to high risk groups and each region has its own vulnerabilities. For example, Bihar contributes the largest numbers of migrant workers and has the least developed infrastructure for health care. So the obvious question is – do the current low numbers of HIV positive people in Bihar imply the epidemic is in very early stages or is it hidden? My basic contention is that with such large numbers of people falling under categories labeled as having high risk behavior, and the virus having spread in all socio-economic classes and geographical regions, the policy of targeted intervention is likely to lead to inadequate response, i.e., that window of opportunity for targeted intervention as a national policy has already passed.

Stigma and Discrimination: Even if one adopts a strategy (as distinct from policy) of targeted intervention, the question that a program designer should ask is – should one regard the high risk groups as radiators of disease (reservoirs and transmission vectors) and thus the cause of spread or the most vulnerable (those most susceptible to disease due to their risky sexual behaviors and addictions, or due to exploitation)? Based on my interactions I find that most people in India (including policy makers) regard the high risk groups as the cause of spread and want to "shut them down". This approach is problematic since all the high risk groups identified for targeted intervention have already been stigmatized and are discriminated against by society. Targeted intervention will not be effective if it does not, in a very fundamental way, have built into it reducing stigma and discrimination as one of its prime goals. If one regards the high risk groups as the most vulnerable, then one has no choice but to think in terms of creating the conditions that reduce risk to them and thus through them. The distinction between the two approaches may seem small, but it is huge in its implications for designing programs and in its impact on reducing stigma and discrimination. Helping marginalized communities requires creating an enabling environment of trust, concern, and empathy. This, in turn, requires, for example, the government to change the laws on prostitution and sodomy, to train law and order agencies to protect marginalized communities rather than exploit them, and to implement harm reduction programs at all levels.

Peer educators are the most efficient at helping overcome stigma and discrimination suffered by marginalized communities and changing their behavior. To facilitate their recruiting and training, both NACO and the NGOs should focus on educating and empowering them and should regard them as central players rather than as helpers. Once peer groups have been formed in one area, they should be encouraged to help

create other such groups around the country. Resources (money, information, condoms) should reach these self-help organizations and they should play a key role in deciding and implementing what health and education infrastructure will best serve their interests. Government and non-government organizations should regard themselves simply as motivators, facilitators and monitors, and not the long term implementers of programs. The Sonagachi project discussed in Section VI is a very good example of this self-empowerment approach.

Prohibition: Substances that can be produced or grown easily and marketed without any significant infrastructure are very difficult to control in an open democratic country. In my view, control over addiction to alcohol, or tobacco or narcotics, or gambling requires the following.

- An innovative education curriculum to reduce curiosity driven experiments that lead to the formation of risky habits. The youth should be informed of the process of addiction, the challenges of peer and social pressure, the effects on the human body and mind, and the consequences to the individual, the family, and to society before they start risky experiments.

- Awareness should be spread by sympathetic and knowledgeable educators who don't rely on moral sermons but provide empowering information in an honest and straightforward manner. Experience has shown that trained ex-addicts and HIV positive people make good educators.

- A working law and order system that denies access to illegal and controlled substances, and prevents illegal manufacture, distribution, and trafficking.

- A complete ban on tobacco and alcohol advertisements and promotions. Instead there should be media programs to help reduce demand. Government polices should not be driven by the lure of tax revenues but by considerations of the long-term societal harm, in particular the health and economic consequences of such addictions.

- Promotion of role models at all levels of society to demonstrate that life is fun and exciting without the need for using alcohol, or tobacco, or drugs.

- Healthy outlets for leisure time for both parents and their children.

- Treatment and rehabilitation centers to give hope and a second chance to those addicted.

The keys are education to counter the lure, healthy outlets (sports, hobbies, reading, etc.) for gainful use of leisure time, and hope for a decent and secure life to counterbalance stress, depression and despondency. Today, very little of this infrastructure and understanding exists. Politicians and policy makers need to prioritize wisely. Treatment and rehabilitation are extremely difficult, long, and costly processes, so it is prudent to invest in prevention and to address proactively the social and economic factors that create demand.

Monitoring: The overriding problem in India, today, is not so much policy as implementation. It is, therefore, very important to create an independent mechanism for monitoring programs and promoting transparency. My recommendation is that an independent group consisting of activists, leading figures from indigenous and international watch groups, and academics should monitor the programs and should provide regular reports directly to the Minister for Health and the Prime Minister. These reports should then be compared and contrasted with those from other official agencies. The goal should be to bring policy,

implementation, and delivery closer together and to make intervention and care more effective through dialogue and transparent decision making.

The role of donor nations, international and charitable organizations: The role they can and should play is far from clear. In additions to issues of national sovereignty, outside influence is considered suspect especially if it impinges on moral and cultural beliefs and is viewed as forcing policy.[93] Many questions remain. Should external agencies simply give money in the form of grants and endowments to governments and let them create and monitor programs or should they ask for partnerships? Should the rich nations invest very heavily in research to find cures and vaccines which are then made available globally or should they get involved in helping build the infrastructure for delivery of health care? Is money best utilized by organizations on the ground and an effort be made to identify them and directly support them, or should one comes to grip with the fact that the problem is so huge that there is no alternative to working with and through the government, helping it sort out its priorities, and allowing it to strengthen the overall infrastructure for delivery of health care and formal education? All these models, along with many variations and permutations, are being tried and each has its advantages and disadvantages. What is clear is that there exists, today, the technology and the resources to achieve major improvements within a few years provided a country has good governance and there is adequate political and social will. My recommendations are (i) the donors and the government should work cooperatively to evaluate, on the ground, the good and effective NGOs and fund these adequately. (ii) The proposal based grant application process should be complemented by evaluation of efficacy by an independent monitoring system for continued funding. (iii) A significant fraction of the resources should be spent in developing training schools for creating additional local leaders and [re]educating current ones.

Examples of decisive action: It is important to give two examples of the kind of political will it will take to control STIs and addictions in India. The first is the recent health issue on which the government took decisive action – air pollution levels in Delhi. They had risen to unbearable levels and the health hazards had become obvious to all.[94] Among the most affected were members of the parliament and legislative assemblies, supreme-court judges, senior bureaucrats and the diplomatic corps, all of whom live and work in the center of the city. The mandated solution was to switch all public transport vehicles (buses, taxis, three-wheelers) from using diesel as fuel to compressed natural gas (CNG). After a number of years of inaction, the government pursued its directives in spite of tremendous opposition and protests.[95] Fortunately, the financial incentives worked and the transition took place. Today, even the taxi and auto-rickshaw drivers recognize the health benefits. This is also the kind of decisive action required to stop the many pandemics. However, one must take into account the important caveats that made this example a "success". The solution was known and unequivocal (replace diesel fuel by CNG and retrofit engines of existing vehicles or replace them with new ones under favorable loan and incentive schemes); the decision makers and their families were directly, tangibly, and daily affected by the pollution (they could no longer deny that they were at risk); the general problem of pollution can be tackled in finite steps (one city and one source of pollution at a time), each solution is of finite time duration and with one time expenditure; the problem and the solution are quantifiable; and there is a simple and obvious justification for action that all stakeholders could see, understand, and accept.

The second example is the resolve and commitment shown by the government subsequent to the incursion in Kargil, Kashmir, by Pakistan backed forces in 1999 and the threat to national security. In addition to the coming together of the public and all political parties in response, the defense budget was increased by about Rs. 120 billion. This increase alone was roughly *nine times* the then total budget for health of the central government! These actions show that the government can act fast and decisively and generate resources if it genuinely believes in the seriousness of the problem. The current response to HIV/AIDS falls short of the two criteria I laid out — India should allocate at least $100 per HIV infected person per year and at least 51% of this budget should come from within India.

A third, not so complementary, example of the containment of the Beed and Surat plague of 1994 has important lessons for the current health crises and highlights the poor state of public health care in India.[96] Even though India overcame the plague outbreak, the public reaction (which included a mass exodus, lead by physicians, out of Surat) once it became aware that patients in local hospitals had been diagnosed with plague, the delay in government response, the poorly coordinated efforts of different sectors of health care, and the preoccupation of the media, the government, and the bureaucracy to muddle the facts and to spend considerable effort in denying that the deaths were caused by *Yersinia Pestis,* should not be considered as isolated events. They are the norm. Thus, it should not be surprising that the government response to the spread of HIV/AIDS, Hepatitis B and Hepatitis C has been very slow and continues to be inadequate. The tragedy is that, unlike the plague, these diseases cannot be controlled by isolation, cordon, antibiotics, and aerial spray of DDT. Experience from Africa teaches us that once they reach certain prevalence numbers the system looses control and the nation can easily be faced with a runaway situation.

Implementation of the broad multi-pronged approach outlined here requires political and social will and very significant long-term commitments by the highest levels of government. Generating this will and the necessary medical and educational infrastructure are the key determinants in our fight against these scourges. To implement this program requires enormous financial and human resources. These will have to come predominantly from within India, supported by international agencies and the developed nations. It is hard to imagine that the rich nations could or would step in to solve India's problems!

IX. IMPLICATIONS FOR STABILITY AND SECURITY OF INDIA

In this section two questions are addressed: (i) Why is India of strategic importance? And (ii) in what ways can health crises, caused by communicable diseases (especially HIV/AIDS) and addictions, destabilize India?

India is the second most populous country after China and the largest democracy. It is located in the middle of a highly unstable and volatile region. On its west sits Pakistan, a military dictatorship and a hotbed of radical Islam. It is a state with nuclear weapons, a failing economy, and highly inadequate health and education systems. India and Pakistan have fought three major wars in their 56 year history and the dispute over Kashmir continues to promote terrorism and raise the specter of a major confrontation between the two nuclear armed nations that could lead to an international crisis. To the north sits China, another nuclear armed nation, with whom India has fought one major war. The two countries dispute large chunks of territory along the border and continue to lock horns over their very different stances on the issue of the sovereignty of Tibet. Nepal, sandwiched between Tibet (China) and India, is a very poor and underdeveloped country. Its political and bureaucratic infrastructure is in shambles and it is facing a large Maoist insurgency. Bangladesh, towards the East, is again a very poor, highly overpopulated and underdeveloped nation that is struggling to keep afloat. To the East is Myanmar (Burma). It is ruled by an unscrupulous military Junta that has repeatedly violated human rights. Large parts of the country are effectively in the control of drug warlords who derive most of their resources and income from growing poppy, marketing heroin and methamphetamine, and trafficking in arms. A large part of these drugs are consumed in South-East Asia and a substantial fraction is trafficked to the USA and Europe. Finally, to the south lies Sri Lanka which has, for almost thirty years, endured a civil war between the Sinhalese and the Tamil Tigers that employ suicide bombers and target civilians. If India fails either politically or economically, there is an exceedingly high probability that anarchy would overtake the whole region.

Pakistan, India, and Bangladesh are home to about 400 million Muslims. The rise of radical Islam in Pakistan, the problem of terrorism and violence in Kashmir, the institutionalization of "jihad" as a political tool, the growing Hindu-Muslim tensions in different parts of India, and the large numbers of migrants and refugees created by the poverty in Bangladesh (and Nepal) are all impeding development of the region and contributing to an uncertain future. Given the many conflicts, widespread poverty, and poor governance, it is clear that the stability of South Asia, home to about 1.4 billion people, hinges on the stability of India. What should be equally clear is that the whole region is sufficiently fragile (the health crises discussed in this article are a measure of this fragility) that a failed Pakistan or Bangladesh could undermine India as both these countries have large populations, about 150 million each, and high rates of population increase, 2.7 and 2.2 percent per annum respectively.[97] On the other hand, India, by maintaining a secular democracy, can continue to demonstrate that Islam can thrive in a modern progressive society and provide a role model for development for its neighbors.

India and all other countries in South Asia are classified as low to lower middle income countries. India's GDP in 2003 was about $500 billion (or $2800 billion when adjusted for purchasing power parity), and only in the last decade has there been significant (over 6% annually) growth in its economy. This has been driven by the growth in software, cutting and polishing of semi-precious and precious stones, textiles and leather garments, chemicals, pharmaceutical drugs, engineering goods, and machine tools industry. Many of these industries are export driven. To sustain this growth India needs very significant amounts of direct foreign investment and connectivity to global markets. India also has enormous unrealized potential for a major tourism industry. All these require that India remains politically, socially, and economically stable, and keeps

the threat of communicable diseases low. Foreign investors will watch very carefully to see how India handles the HIV/AIDS and other health crises before investing large sums or entering into major industrial partnerships. Also, the continuing public-sector budget deficit, running at approximately 10% of GDP during 1997-2003 is a source of major concern. Without sustained growth of more than 6%, India will not be able to service its debts, build infrastructure, and overcome poverty and illiteracy in the coming decades. A consequence of the failure to do this will be continued population growth, especially in the weaker socio-economic sectors, and the spread of communicable diseases. A more serious consequence could be economic collapse.

India is the second largest producer, after the United States, of technically and scientifically educated people. A large fraction of this pool has migrated to all corners of the world and contributed in very significant ways to the global economy. In a knowledge society it is in every nation's interest to develop and nurture technical and scientific talent globally. India's educated elite is its biggest asset and the "commodity" that global markets value the most. Economic and/or political collapse of India would severely affect its ability to continue generating this pool as its education system, apart from about 10 percent of students enrolled in private K-12 schools, is almost entirely funded by the government.

The above arguments make a case for why India is of global strategic importance, and why the stability of the whole region is tied to its stability. Health has traditionally not been a significant variable in analyses of the stability and security of a country. This changed with HIV/AIDS. Before analyzing the security implications for India it is, therefore, important to review how and why HIV/AIDS changed the landscape.

HIV is a very fragile but diabolic virus. It spreads primarily through sexual contact (anal or vaginal) with an infected person, through sharing needles by IV drug users, and through the use of contaminated blood, needles and instruments in medical settings. The latter two activities are illegal, so violators have no reason to expose themselves. All these activities are considered deviations from a moral and virtuous life and frowned upon by society. Violators, if discovered, are discriminated against and stigmatized but cannot be prevented from repeating behavior that spreads HIV unless they are rehabilitated or forced not to indulge by a very effective law and order situation. So it is in the interest of those who indulge in these activities to keep them secret. The larger the stigma and discrimination associated with risky behaviors, the smaller is the incentive for people to get tested to ascertain their HIV status, to divulge their status, or to talk about the issues. In short, HIV/AIDS is also a social and a political problem and not just a medical one.

The problem of widespread prevalence of these risky and/or illegal activities is not new in India. HIV has just exposed them. So, if there is a rapid unchecked spread of HIV in a country, post 1995 when HAART became available, it is an indicator of inadequate medical and health care systems and the lack of political and social will to bring discussions of addictions, sex, and sexuality into the open. Changing social behavior is a slow and difficult process and unlikely to happen under a veil of silence. When politicians, bureaucrats, and society in general consider silence expedient, HIV thrives. Policy has been framed giving more value to the lives of the "elite" and to preserve a morality that is expected of all persons but usually out of reach of people until they rise into the middle class. For these reasons harm reduction strategies, like needle exchange programs for IV drug users and condoms for sex workers, are not implemented quickly or with priority. Also, when the law and order situation is poor, corruption is high, and the medical establishment cannot be monitored effectively, the government has no recourse but to play down the risk of infections from unethical medical practices to avoid panic. Under the prevailing attitudes and conditions, as discussed in earlier sections, control of HIV in India will, even under the best circumstances, take a long time in the absence of an inexpensive and very effective vaccine or cure.

People are getting infected with HIV for all three reasons. They are indulging in risky behavior because they know the consequences of their actions but do not have the empowerment to do otherwise because either day to day survival or their addiction dominates their behavior. Others know and can exercise choice but make the wrong choice because they do not give priority to not getting infected or infecting others. Unfortunately, many are getting infected because they are ignorant of how HIV spreads and its consequences or are being cheated when acting in good faith. As discussed in Sections V and VIII, people at risk constitute a very large fraction of India's population and are not just the poor. Even if the majority of the spread is only within the poor sector, should and will they remain silent? Can the government keep ignoring their welfare? How long will it be before the government has to admit that HIV is no longer mainly in the poor but the critical sectors are also heavily impacted? If the government waits to act until the numbers of infected are well beyond its resources to deal with, which according to the NIC report could be as early as 2010,[7] then the nation faces a very difficult uphill challenge to gain control over the spread and to keep these numbers and people invisible. At that point the public will be able to see tangible impacts of HIV/AIDS on the economy and health care system and many in the critical sectors (the elite as discussed in section V) will have experienced, first hand, the impact of HIV infection on a family.

If the scenario projected in the NIC report occurs, the government will be faced with very tough choices – to divert significant amounts of resources from all other sectors, and thus stall development and compromise security; or to ask for and accept foreign help, irrespective of the strings attached; or to try to continue pretending and denying the severity of the problem. The third option is least likely to succeed because, by then, even those Indian intellectuals who have so far shown no interest in health care for the poor and in STIs in general, will come to accept that they and their families are no longer immune. They will force the government to act under pressure and it is not clear whether the government will then have the strength to make the right choices or will continue with ineffective expediency measures and platitudes. Given India's history of political activism, mass mobilization and violence against the poor, the resulting public outcry could generate a violent reaction against the marginalized and high risk groups that have been labeled as prime reasons for the spread. This, in turn, could rapidly precipitate political instability.

Of the high risk groups (sex workers, migrant labor, IV drug users, and truckers) only the trucking industry is considered of economic and strategic value. Even within the trucking industry I do not foresee a shortage of drivers and cleaners/helpers in the short term as there is a sufficiently large pool of unemployed but capable people in waiting. What is more likely to happen if HIV continues to spread in this cohort is more infected truckers on the road trying to keep their infection hidden, indulging in risky sexual behavior, and working even when they are physically and mentally unfit to do so. This would fuel the spread of HIV and increase the risk of road accidents. Unfortunately, the numbers for accidents are already very high due to people driving while intoxicated and poor roads. So there will be no obvious warning bells even within the trucking industry, in spite of truckers being labeled high risk, due to the "hidden" nature of HIV infection. By the time the trucking industry understands the magnitude of the problem and its impact, overcomes the stigma, and raises the alarm the number of infected people in the general population will have reached estimates predicted by the NIC report and the impact on other critical sectors will be manifest.

An increase in the number of HIV positive people in the police force would not significantly degrade the performance of the force, nor be given much attention to, until the numbers cross 5%. Just as with the trucking industry, my concern is that the warning bells will ring too late. In that case those within the force who acquire the infection through risky behavior will continue infecting others unless there is an incentive to change behavior in the form of free treatment and preserving their job, pay, and benefits. Such a policy cannot be developed or implemented in secrecy and will surely give rise to societal response and further undermine the credibility of the police force and of the government.

The armed forces will continue to have a steady but contained number of infections. At the level of a thousand new infections a year, the capability of the forces will not degrade over the next decade, however, the mounting cost of providing treatment will force the government to either allocate more resources or discharge the infected. How long can the government justify diverting more resources to the military when increasing numbers of civilians are without health care? Of special concern is the risk to units that are sent on peace keeping missions at home and abroad. Are they being sufficiently well trained and sensitized to the added risks of HIV infection in war torn or unstable regions?

About 95% of the world's supply of heroin comes from the golden crescent (Afghanistan and Pakistan) and the Golden Triangle (Myanmar, Thailand, South China, and Laos), and India is sandwiched between these two areas. As discussed in Section IV, a significant amount of heroin makes its way into India for both global trafficking and internal consumption. To counter this threat requires an efficient and upright law and order system, an education system that helps create good and healthy habits at an early age, and an economy that creates decent jobs to counter poverty and despondency. A democratic country with a corrupt law and order system will not be able to control drug trafficking, illegal sale of pharmaceutical drugs, or terrorism. In addition to the impact on health, trafficking and abuse of drugs should be a major concern for India and an incentive for it to improve governance. It should also be of grave global concern as there is very high correlation between countries that grow, produce or traffic drugs and regions where terrorism, violence, or civil wars endure. The most notable examples are Columbia, Afghanistan, Pakistan, Myanmar (as part of the golden triangle), Nigeria, and Sierra Leone.

India has a much more severe and widespread alcohol problem than indicated by the 1999 WHO report http://www.who.int/substance_abuse/PDFfiles/global_alcohol_status_report/. This report did not highlight the rapid rate of growth and mainly comments on the situation in urban areas. Data from rural areas, where a very large fraction of the alcohol is illegally produced, is virtually non-existent. As I have tried to argue, alcohol is a very severe impediment to development in rural India and a major contributing factor in the very high incidence of domestic violence. This fast growing problem has clear implications for development, both at the level of the individual and for the nation. It also has security implications as alcohol abuse reduces social cohesion, and illegal manufacture and sales are indicative of high rates of corruption and a failing law and order system. Another major concern is whether, over time, alcohol will continue to keep the poor and despondent communities passive or will a charismatic demagogue channel the widespread and common occurrence of rage, expressed today in domestic violence and the many small religious and communal flare ups, into large scale social or communal violence. Needless to say alcohol abuse also plays a very important role in risky behavior and, in particular, in risky sex that then fuels the spread of HIV/AIDS and other STIs.

To summarize, the above analysis suggests that at least over the next decade no particular group of people in the critical sector, except perhaps those working in the trucking industry, is likely to be so severely affected by HIV/AIDS to directly impact the economic welfare of the country. This is both good and bad news. The good part is that the growth in India's economy is not under immediate threat from HIV/AIDS, giving the planners time to develop sensible policy and the infrastructure for implementation. The bad news is that the government will continue to have little or no sense of urgency, will not make health of its citizens a priority, nor demonstrate political will by committing additional resources and managing them well. The fact that up until today India has mostly depended on foreign loans and grants to check the spread of HIV/AIDS suggests that it, on its own, has not generated the will or the ability to stop the spread. If the number of HIV positive persons continue to grow and reach 20 million by 2010, as projected by the NIC report[7], the central government's entire health budget will be inadequate to provide treatment to even those in urgent need. Under that scenario either India will, even in principle, have little control over the spread without very significant foreign help or be

forced to divert significant resources from other sectors. Neither of these possibilities bodes well for its stability and for development, especially of its poor. A more worrisome scenario is that once it becomes evident to the public that the epidemic is out of control, the public will question the priorities of the government, loose faith in the government leading to a power vacuum, or bring to power a totalitarian government.

Current response suggests that the bad news scenario is a much more likely – the politicians will continually be compelled to act but only in response to political activism and international prodding and not because they believe that HIV can, in the long run, undermine India economically and politically, or poses a threat to its stability and security, or because the lives of the infected are of value. If this remains the dominant mindset then there will be little move towards better governance and corruption will remain high. With poor governance and widespread corruption the prospects of creating additional resources for health care and education are unlikely. In that case control over HIV, alcoholism, and illegal drug sales and trafficking are also unlikely and India's future development will remain in jeopardy.

With respect to the spread of HIV, the closest parallel in Africa to India is South Africa. It has similar levels of development and its population can also be divided into the four broad categories discussed in Section V – the elite, middle of the road, poor, and the marginalized – and with similar percentages. It's health and education infrastructure serves mainly the urban elite, nevertheless, it has a much higher literacy rate of about 85% compared to about 65% in India and only about 46% of its population is rural compared to 72% for India. On the other hand, it also has a severe and widespread problem of alcohol abuse and corruption and very inequitable distribution of resources (land, housing, health care, education, jobs, etc.), mostly the legacy of apartheid which, to first approximation, acted as an extreme form of India's caste system. Prostitution, especially around mining complexes in the case of South Africa and in cities in India, and migrant labor have been major factors in the spread of HIV in both countries. There are, I contend, enough similarities that India should heed South Africa's experience of a fast and uncontrolled spread of HIV, especially of the doubling time, that resulted in an increase from a few percent of the 15-49 year old population in 1990 to almost 20% by 2000.[2]

Turning to the rest of the countries in the region one is confronted by an even more worrying picture. The numbers of HIV positive people in Pakistan are highly uncertain. Even if one believes the very low figures put out by UNAIDS, 78,000 HIV positive people at the end of 2002 and revised to 100,000 at the beginning of 2004,[98] the conditions for rapid spread are extremely ripe. Estimates ranging from 1-3 million heroin users should be cause for grave concern as should the failed education system and rising poverty. Nepal is also facing a very rapid spread of HIV, in a large part due to the women and girls trafficked to brothels in India.[99] With a Maoist insurgency, an ineffective political structure, widespread poverty, no significant industry other than tourism that is currently in shambles, and a rapid rise in population, it is in a very unstable condition. Bangladesh continues to totter economically and face repeated cycles of floods and food shortages. The current military government of Myanmar (Burma) has kept the country isolated and is not investing in the infrastructure necessary for development. In short, it should be clear that the whole region is facing a very uncertain future and is at very high risk for an explosive growth in HIV rates.

Another trend that would compound the stability and security of the region is lack of food security. The reason is that food shortages typically lead to large scale migrations and displacement of people, rise in sex work to earn a living, and spread of all communicable diseases. Over the last 40 years, both Pakistan and India have relied on harvesting groundwater and their rivers to prevent food shortages. The prospects for the future, in face of continuing population growth, are not comforting for a number of reasons.[100] First, the National Intelligence Council report "Global trends 2015", based on the data by the Stockholm Environmental Institute, lists Pakistan and India as two additional nations that will face severe water shortages by 2015, i.e., less than

1000 cubic meters of freshwater resources per capita per year.[101] Second, extensive use of irrigation is resulting in soil salination and over farming is causing the soil to become nutrient poor.[100] Third, rivers, lakes, and groundwater are showing high levels of pesticides along with other human waste and industrial pollutants.[102] Fourth, while India has posted food surpluses over the past decade, 35 percent of its population is malnourished[103] because they do not have sufficient purchasing power[104] and go hungry,[105] or waste their earnings by abusing alcohol. Fifth, an important consequence of global warming is disruption of normal weather patterns and extreme storms.[106] [107] Such events would seriously undermine agriculture in the sub-continent as it is highly dependent on, and aligned with, the timely occurrence of monsoons and winter rains. The situation in Pakistan, Nepal, and Bangladesh with respect to all these issues is much more severe and the threat of loss of food security is much higher. (While Bangladesh does not have the problem of water shortage, it has widespread and severe contamination of its groundwater by arsenic, yearly floods, and extreme vulnerability to rise of ocean level as would result due to global warming.)

India's development, measured, for example, in terms of meeting the United Nations millennium development goals by 2015,[108] is predicated on its economy growing at a rate of over 6%. A lower growth rate would cause the government to lag behind in reducing poverty and providing basic services like health care, education, water, sanitation, communication infrastructure, and power. With each crisis in a fundamental sector like health care (HIV/AIDS, Hepatitis B and C) or water pollution and scarcity or food scarcity, the growth rate will have to be even higher to compensate for resources diverted to mitigate the crisis. In 2003, India, Bangladesh, and Pakistan were ranked 127, 139, and 144 respectively on the human development indicators and already found to be falling behind on a number of the Millennium goals.[109]

If the economic growth falters or is insufficient to overcome poverty, one option would be for the government to borrow more money. These borrowings, in addition to India's continuing public-sector budget deficit running at approximately 10% of GDP during 1997-2003, would increasingly burden the economy. Inability to service mounting debts could cause a financial crisis (as happened in Argentina and the former Soviet Union), or be forced to make structural changes and concessions to international agencies (like the first round of liberalization India undertook in 1991) which are seen to cause further marginalization of the poor. A second option would be for the country to tighten its belts, which would disproportionately affect the poor. A third option would be for the state to gradually withdraw from providing services and let the private sector take care of those who can afford to pay. A fourth option would be for existing resources to be used more effectively, which requires the government to confront corruption. A fifth option is to reallocate part of the defense budget to human development, which is unlikely given the many external and internal security threats. There is little evidence for realizing the fourth or fifth options any time soon, and mounting evidence that a combination of the first three is gradually happening. Unfortunately, the first three options will adversely impact the poor, and since the poor are the largest voting block their frustration and anger could, in the not so long term, undermine the political system and translate into frequent no confidence motions against the government. This scenario is particularly likely and of concern given the current fragile nature of multiparty coalition governments and the less than cooperative relationships between the central and state governments. The other possibility is that right wing nationalistic political parties, like the Bhartiya Janta Party (BJP), use the moral debate surrounding STIs and addictions to consolidate power and becomes authoritarian. Will a loss of faith in government lead, in turn, to a power vacuum or to the emergence of a totalitarian government? The bottom line is that neither of these two options is in the interest of global stability or security.

The four most critical, and of concern, countries in "Asia" are Russia, China, India, and Pakistan. All four are nuclear armed nations. A power vacuum or a failing economy in any one of the four will be of major global concern. The breakup of the former Soviet Union demonstrated that an economic collapse can precipitate a political collapse of even a superpower; and it was the arms race between the USSR and the USA that led to

the economic collapse of the USSR. This lesson should not be lost on Pakistan and India who are engaged in their own arms race and are spending a large fraction of their revenues on defense. India should not feel complacent that its larger economy can withstand the arms race longer and it will therefore win. A failed Pakistan will have a very significant negative impact on India's stability due to shared borders, religious tensions, terrorism, and possibly from weapons of mass destruction in irresponsible hands. In this regard, a failed Pakistan would be very different from the collapse of the USSR, which had little direct impact on the security of the USA or on its economy.

Russia, China, and India have been identified in the NIC report as the next wave countries for a rapid spread of HIV/AIDS.[7] (Based on comments and data on HIV/AIDS presented by Pakistani NGOs and doctors on various e-forums, my conclusion is that Pakistan should have been included in this list.) The impact of health on security in Russia, South Africa, and China, has recently been addressed in parallel monographs published by CBACI.[1] [2] [3] Just as in Russia and China, the question for India should not be whether the spread of HIV/AIDS can, by itself, destabilize India in the next ten or so years, but whether the combination of the various issues – which in India include HIV/AIDS and the many other health crises, regional military threats, deterioration of water and land resources and the ensuing lack of food security, the growing disparity between the rich and the poor, and the increasing numbers of poor, insufficiently educated, and landless people in an overpopulated country with deep-rooted poverty – can. These issues are very difficult to tackle and keep under control if there is poor governance and widespread corruption. All these issues are correlated and reinforce one another. If any one, or a combination of them, gets out of control, it will undermine the credibility and functioning of the government.

What one can see in many parts of India is that as the functioning of the state deteriorates, or it withdraws from providing services, entrepreneurial people, driven only by maximizing their profit, step in to fill the vacuum. They share the profits with the politicians and the bureaucrats, forming a mutually beneficial nexus, but rarely does this nexus have much interest in the welfare of the poor.[68] On the other hand, the politicians rely on the poor for votes which they effectively buy using the money extorted from business houses or stolen from the state. This is not a stable system for the anger and frustration of the poor is growing as they are increasingly becoming aware of the injustices and of their political power. Corruption has become so prevalent that, today, even if a caring government is elected, it would take a long time, at least on the order of a decade, and the cooperation of a bureaucracy and a private sector vested in the old corrupt system, to bring about change. In short, the future evolution of the political system remains an open question. On balance, on the positive side there are human resilience and the economic growth of the last decade, and on the negative side are the many problems mentioned here. Without sustained economic growth, which is dependent on how these problems are handled, the possibility of an economic and/or political collapse should be taken very seriously.

The transition from feudal agrarian societies to modern democratic societies of countries that did not develop effective law and order systems and good governance has been difficult. Many of these countries are effectively controlled by war lords (examples are Columbia, Afghanistan, Pakistan, Myanmar, Sierra Leone, Liberia, Ivory Coast, Congo) or despots (like Libya, Iraq, North Korea, Zimbabwe) or are functioning as kleptocracies (like Saudi Arabia, Indonesia, Philippines). Even in countries like Russia, China, and India one possible consequence of a power vacuum is the reemergence of "warlords" as the effectiveness and control of the government shrinks. It often begins with the distinction between politicians, feudal landlords, and warlords becoming blurred. Finally, governance becomes a façade. There already is evidence for such phenomena in the least developed states of India like Bihar, Uttar Pradesh, Madhya Pradesh, Orissa, and the North-Eastern states. These states constitute over a third of India's population, have the highest rates of population growth, contribute the largest numbers of migrant labor, and have the least developed infrastructure for health and education. Once again the open question is whether progress in other states will serve as a role model and help lift them up, or

will they continually need to be bailed out by the central government and their example of lawlessness and corruption will spread to other states?

The arguments in this section make the case that a developing India provides the best hope for the region due to its sheer size and also because it is an open and democratic society, has a very large infrastructure and industrial base, and has a very large pool of talented and highly educated people that can implement change quickly. On the other hand India faces very serious threats to it security from its neighbors, both military threats and indirect impacts of failing political and economic systems, and internal problems like a third of its population living in extreme poverty, health pandemics, deterioration of its land and water resources, and widespread corruption. My contention is that, if unchecked, the combination of these mutually reinforcing problems will gradually erode faith in the legitimacy of elected governments, leading to increasing lawlessness and finally to political and economic collapse. The stability of all nations in South and Central Asia is precariously balanced and the need for good governance, major policy changes, infrastructure improvement, and equitable distribution of resources and opportunities is time critical. The policies India adopts and implements over the next decade, and the help that developed nations and international organizations provide, will be crucial for the stability and security of the whole region.

X. SUMMARY

The spread of HIV/AIDS has caused all societies to examine their moral, social, and cultural values. It has exposed, once again, inadequate health care and education systems and poor governance in large parts of the developing world. The developed world, on the basis of its health care and education systems, has managed to contain the pandemic. Those being devastated are very often the least developed nations. Nations in the middle are, for a variety of reasons, still not able to mount adequate intervention. It is also clear that risky sex and addictions are behavior-related problems, and even if all intervention is left to chance and nature, a significant fraction of the global population will survive and people will eventually modify behavior. What is not clear or predictable is what instabilities and turmoil the suffering will create and what form these will take.

We are today at a crucial and critical cross-road. If nuclear armed countries like India, China, Pakistan, and Russia start to have infection rates and numbers comparable to Sub-Saharan Africa and face economic or political collapse, then the world we know today will cease to exist. No nation, developed or developing, will come out unscathed, and prosperity worldwide will diminish significantly. We have today the understanding, tools, and resources to make an impact and change the course of human history. We need the collective will to act. The problems are too big to be left to only the medical establishment, or scientists, or NGOs, or CBOs, or corporations, or governments, or international organizations. There is an urgent need for global ownership and responsibility to mount the necessary response in terms of both, material and human resources.

Charismatic demagogues will continue to attribute blame for the spread of behavior related diseases to the Western world. The Western world will be accused of promoting immoral and exploitative life styles and for withholding life saving drugs. By pointing to widespread human suffering and death, by dwelling on the moral issues, by highlighting the differences in the quality of life and the opportunities between the developed and developing world, demagogues may succeed in motivating some of the frustrated and angry youth to resort to violence, rebellion and terrorism, both against their own governments and against external powers that are blamed for exploiting them and keeping them poor.

The future stability and security of all nations in South and Central Asia is very unclear. It is a highly volatile region marred by violence and terrorism, corrupt governments, struggling economies and extreme poverty. The precariously balanced stability could very easily be undermined by the uncontrolled spread of HIV/AIDS (actually by the combination of sexually transmitted and blood borne diseases) and a large increase in the number of people addicted to alcohol and drugs. Of all the countries in this region India has the most developed infrastructure to confront these epidemics and to act as a role model and stabilize the region. If India fails to confront the many issues outlined in this article, and as a result its economy stops growing, this region of about 1.6 billion people would fail. Such a future would have very severe global consequences, especially given that India and Pakistan have nuclear weapons. Leaders of both India and the international community need to rise to the challenge and act with urgency to address the root causes – poverty and lack of education, health care, and jobs.

We must proceed and act having understood realities on both sides of the divide — the developed world cannot and will not directly get involved to solve the problems of the developing world, and the caring and dedicated people in the developing world do not have the resources and the infrastructure to do it by themselves. One way out is if a significant fraction of the global military budgets are redirected to development. But this requires global stability and security. There is, therefore, an urgent need to enhance mutual trust between nations and people, develop consensus on means and goals, and foster cooperation on an unprecedented scale. Whichever way one looks at it, the goal is nothing short of achieving a common minimum

standard of life for all humans, and respect for life and our environment in all its diversity. The bulk of the burden of providing role models and leaders for achieving this goal falls on the developed world, multinational corporations, international organizations, and NGOs.

What should a reader make of all the statistics on India that I have quoted? Does having 5.1 million HIV positive, 10-25 million with Hepatitis C, 35-60 million with Hepatitis B, and about 60 million alcoholics imply that there is a cohort of 60 million (about 10-12% of the over 16 population) risk prone citizens who are giving rise to all these statistics and are an acceptable and contained liability? Or does it imply that these diseases have already cast a shadow over the lives of over 500 million Indians (belonging to the poor and the marginalized sectors), and the rest are highly vulnerable? Also, what is the future of the over 100 million children not in school?

The most vulnerable and susceptible to diseases are the poor and the illiterate. Their future and survival is in jeopardy independent of any given health crisis. For them it is not enough to simply have information, they have to be shown how to incorporate it into their daily struggle for survival, and, furthermore, must be empowered to make even simple changes that reduce risk to their lives. Their horizon of concern is days and not years. Their numbers are overwhelming so they cannot be ignored even if they are perceived to contribute little to the global economy. They control governance in democracies through the power of the vote. It can be challenging and frustrating to work with them under existing extreme conditions of deprivation and bureaucratic bungling and malfeasance, nevertheless, fulfilling their hunger for information and watching the results of empowering then makes the effort worthwhile. Hope lies in the fact that they respond in amazing ways to small incremental provisions that help change their immediate lives and because they are more than willing to work patiently towards long term development if they perceive a genuine interest in their welfare.

The approach of the government, private sector, CBOs and NGOs has to be holistic, and they must provide unflinching support as marginalized communities face real and perceived threats daily. Stopping further spread of TB, HIV/AIDS, Hepatitis B and C, STIs, addictions, emotional, physical and sexual abuse, creating income generation schemes for men and women, and enhancing health care and education for children have to be part of a common agenda because the poor and the illiterate are, simultaneously and daily, subjected to all these threats.

One key question is – what will it take to stop the spread of HIV? The criteria I advocated in Section IIA are a budget of $100 per HIV infected person per year ($510 million for 2004) and at least 51% of this funding coming from within India. Based on these figures and current resource allocation India's efforts fall short by a factor of almost seven. Furthermore, whatever money is allocated must be used well, something that is not yet apparent. With regard to specifics of dealing with health problems associated with blood borne and sexually transmitted infections I would like to propose that India

- develop an integrated and comprehensive health care policy and implementation strategy against STDs, HIV/AIDS, TB, Hepatitis B and C, and alcohol, tobacco and drug addiction.

- Provide long term support for existing good NGOs and CBOs to work with the poor and the marginalized and invest heavily in training others.

- Develop and empower peer groups and self-help organizations to work within their marginalized communities.

- Modify the laws to empower the marginalized groups (sex workers, men having sex with men, and IDUs) to gain self-respect, enjoy basic human rights, and create a supportive environment of harm reduction programs in which they can change behavior and reduce risk.

- Involve people living with HIV/AIDS and recovered/recovering alcoholics in outreach programs and in developing policy at all levels.

- Develop voluntary testing and counseling centers to help people determine if they have been infected and how to deal with HIV/AIDS.

- Provide hope to the afflicted and engage doctors by providing free and easy access to treatment for all STIs, including HIV/AIDS.

- Provide all children the full complement of childhood immunizations (including against Hepatitis B), proper nutrition, basic health care, and K-12 education.

- Develop and implement a life-skills curriculum for K-12 grades that includes awareness on health, hygiene, reproductive health, modern methods of contraception, communicable diseases, and most common form of addictions like those to alcohol, tobacco, drugs, and gambling.

- Ban all advertisements of alcohol and tobacco products.

- Spread awareness on communicable diseases and addictions using all forms of media. The message should be designed to reach the poor and the illiterate directly, and not just through teachers, doctors and health workers.

- Hold open discussions on the issue of STIs and addictions so that the public understands and accepts these as diseases that cannot be spread by casual contact and which can be treated and overcome.

- Globally, resolve the issues of inexpensive generic drugs, patent laws, and access to life saving medications by the poor.

- Launch global action on the trafficking of drugs and people and on money laundering. The policies should be equitable and protect all nations and people.

These action items will have a wide-ranging impact; for example, they are precisely the steps needed to stop population growth and to confront terrorism. They constitute, in fact, the common agenda for development and stability at all levels — locally, regionally, and globally.

None of these recommendations are new or original. What is still missing is the will to act and the human and material resources to implement the many excellent pilot projects on national and international scale. The good news is India has sufficient resources if it can reduce corruption and generate the will.

The current situation continues to be that the developing nations are not being able to implement this agenda in time due to lack of resources and poor governance, and the developed nations are not willing to provide adequate help and support. The youth are crying out for a better life, hoping to overcome desperation, poverty, and despondency — circumstances bequeathed to them by conditions of their birth. Those in positions

of power and responsibility are failing to act, or choosing to ignore matters beyond the welfare of their own family, or have confined their energy to their narrowly defined jobs, or are exploiting the situation.

The problems of addictions and communicable diseases, especially within the poor sector, will not go away if nothing is done. Also, waiting for an easy fix — a pill for each problem or a vaccine for every communicable disease — will prove disastrous for all nations as these may not be available in time. Without overall systemic changes one may win local battles through the efforts of individuals and NGOs, but the war will be lost. All countries must mobilize to fight these scourges immediately, sensibly, and with the highest priority. Time is not on our side unless we are willing to accept nature's solution — watching the destruction of the lives of those who indulge in risky behavior, are ignorant of the dangers, are infected by chance or through negligence, or simply lack the empowerment to change their lives. The number of people at very high risk is well over 500 million in India alone and over three billion globally who live on less than $2 per day (PPP). Actions we take will be in our self-interest for among those lost there will, most certainly, be some very near and dear to us.

In the final analysis, the central theme of my arguments is that the steps we take to improve health care, control pandemics, and provide education and jobs are also the steps one would take to address the root causes of violence, terrorism, and civil wars. For those who believe that the majority of security threats in the twenty-first century will be from non-state actors – civil wars, terrorism, trafficking of drugs, weapons, and people, and the exploitation of natural and human resources – it should be clear that global development and stability and security are two sides of the same coin. It is, therefore, essential that a common agenda for addressing them is developed and adopted soon. Only if the global community acts cooperatively to improve the lives of all peoples will the threat to all be reduced. We have to hope that the resolution passed by the UN security Council,[6] the establishment of the Global Fund for HIV/AIDS, TB and Malaria,[110] and the commitment by President Bush[8] to help stop the spread of HIV/AIDS are three very significant first steps towards this goal.

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