

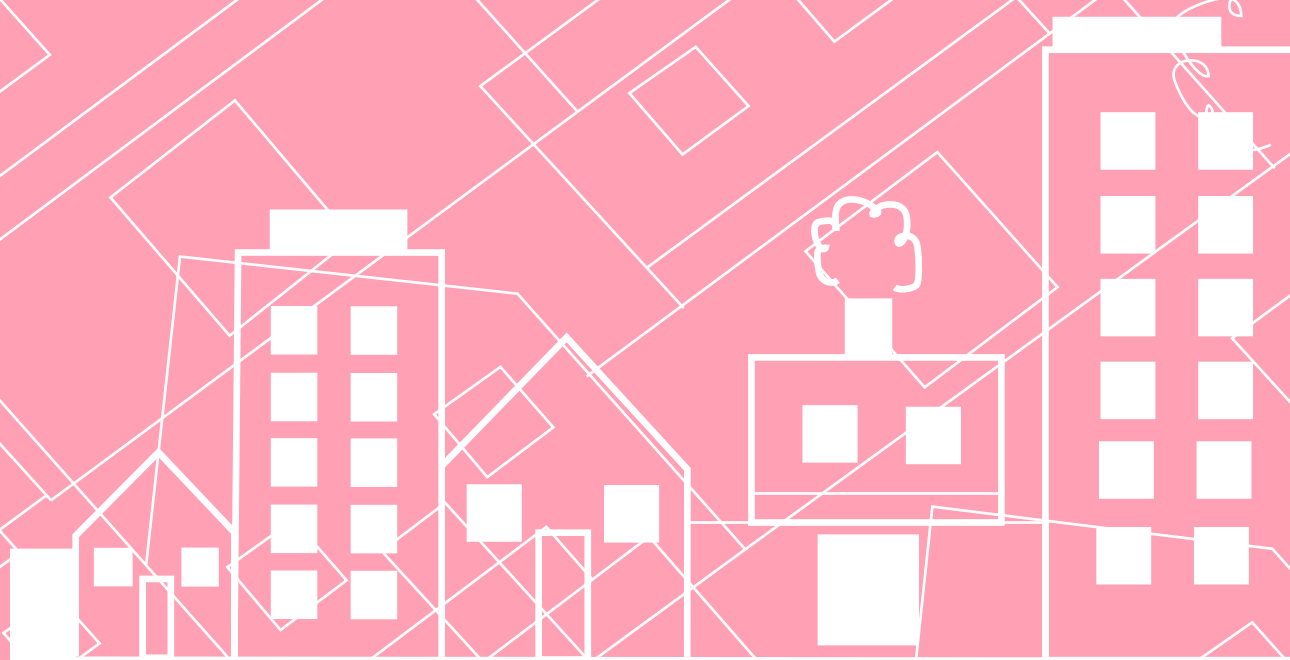
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All India Institute of Local Self-Government, Mumbai

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## **Regional Centre for Urban & Environmental Studies (RCUES), Mumbai** (Fully supported by Ministry of Urban Development, Government of India)

Established in 1926, the All India Institute of Local Self Government (AIILSG), India is a premier autonomous research and training institution in India. The Institute was recognized as an Educational Institution by Government of Maharashtra in the year 1971. The Institute offers several regular training courses in urban development management and municipal administration, which are recognized by the Government of India and several State Governments in India.

In the year 1968, the erstwhile Ministry of Health, Family Planning and Urban Development and (now known as Ministry of Urban Development), Government of India established the Regional Centre for Urban & Environmental Studies (RCUES) at AIILSG, Mumbai to undertake urban policy research, technical advisory services, and building work capabilities of senior and middle level municipal officials, and elected members from the States of Goa, Gujarat, Maharashtra, Rajasthan and UT's of Diu, Daman, Dadra & Nagar Haveli in western region and Assam and Tripura States in North East Region. The RCUES is fully supported by the Ministry of Urban Development, Government of India. The Ministry of Urban Development, Government of India has formed National Review and Monitoring Committee for RCUES under the chairmanship of the Secretary, Ministry of Urban Development, Government of India. The Principal Secretary, Urban Development Department of Government of Maharashtra is the ex-officio Chairman of the Advisory Committee of the RCUES, Mumbai, which is constituted by Ministry of Urban Development, Government of India.

In the year 1991, the RCUES was recognized by the Ministry of Urban Development, Government of India as a National Training Institute (NTI) to undertake capacity building of project functionary, municipal officials, and municipal elected members under the earlier urban poverty alleviation programme-UBSP. In the year 1997, the Ministry of Urban Affairs and Employment recognized RCUES of AIILSG as a NTI for capacity building under SJSRY, the centrally sponsored poverty alleviation programme in the States and UT's in the western region, Madhya Pradesh, and Chattisgarh.

In 2005, the Ministry of Urban Employment and Poverty Alleviation (MOUE&PA), Government of India and UNDP have set up the 'National Resource Centre on Urban Poverty' (NRCUP), which is anchored by Regional Centre for Urban and Environmental Studies (RCUES), All India Institute of Local Self Government (AIILSG), Mumbai under GOI – UNDP, project titled 'National Strategy for the Urban Poor'.

In 2009, the RCUES, AIILSG Mumbai was recognized as a 'Nodal Resource Centre' on SJSRY (NRCS) by Ministry of Housing and Urban Poverty Alleviation, Government of India.

Since 2000, the AIILSG, Mumbai houses the Solid Waste Management (SWM) Cell backed by the Government of Maharashtra for capacity building of municipal bodies and provide technical advisory services to ULBs in the State. In 2008 Mumbai Metropolitan Regional Development Authority (MMRDA) established Solid Waste Management Cell to provide technical advise for development of regional landfill sites and capacity enhancement in Solid Waste Management for urban local bodies in Mumbai Metropolitan Region (MMR).

On 13th January, 2010 Water Supply & Sanitation Department, Government of Maharashtra established Change Management Unit (CMU) in AIILSG, Mumbai which was supported by Government of Maharashtra. The CMU was anchored by AIILSG, Mumbai for Water Supply and Sanitation Department, Government of Maharashtra from 13th January, 2010 to 30th June, 2014.

In 2010, the AIILSG, Mumbai is selected as a Nodal Agency by Water Supply and Sanitation Department, Government of Maharashtra in preparation of City Sanitation Plans for 19 Municipal Corporations and 15 A Class Municipal Councils in Maharashtra State, under the assistance of Ministry of Urban Development, Government of India.

On 3rd September, 2011, Water Supply & Sanitation Department, Government of Maharashtra established Waste Management & Research Centre in AIILSG, Mumbai, which will be supported by Government of Maharashtra and MMRDA.

The RCUES, AIILSG, Mumbai is recognized in October 2011 as a Nodal Resource Centre (NRC) for RAY by Ministry of Housing and Urban Poverty Alleviation, Government of India.

The AIILSG, Mumbai is empanelled in November, 2011 as National Resource Institution for North, East, West and South Regions for 'Social Development & Community Mobilization by RAY Directorate, Ministry of Housing and Urban Poverty Alleviation, Government of India.

In August, 2013 the AIILSG, Mumbai is empanelled as Agency by Ministry of Urban Development, Government of India, for providing technical support to the Cities / Towns of States / Urban Local Bodies (ULBs) in the field of Water Supply and Sanitation, Sewerage and Drainage systems.

In July 2015, the RCUES & AIILSG, Mumbai is empanelled for Municipal Solid Waste Management project under Swachh Bharat Mission (SBM) programmes undertaken by the Ministry of Urban Development, Government of India.

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# RCUES Key Publications

1. Urban Development.
2. Urban Planning.
3. Solid Waste Management - Resource Material.
4. Hospital Medical Waste Management.
5. Planning for Urban Informal Sector in Highly Dense Cities.
6. Study of Municipal Schools with Special Focus on Drop-outs, Standard of Education and Remedies.
7. Rainwater Harvesting.
8. Institutionalisation of Citizen's Participation in Urban Governance.
9. Gender Budgeting.
10. Gender Equality in Local Government - Comparative Study of Four States in Western Region in India.
11. Mapping of Basic Services in Urban Slums.
12. Basic Services to the Urban Poor.
13. Health.
14. Security of Tenure.
15. Resettlement and Rehabilitation.
16. Mumbai Human Development Report, 2009.  
(UNDP / MOH & UPA, GOI / MCGM).
17. Resource Material on Urban Poverty Alleviation.
18. Laws of Meetings.
19. Resource Material on Preparation of City Sanitation Plan (CSP) & Capacity Building for Urban Local Bodies.
20. Implementation of 74th CAA, 1992 in Urban Local Bodies and Impact Assessment of Training of Women Elected Members.

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# Editorial

## Pilgrimages of the Future

Union Urban Development Minister M. Venkaiah Naidu bestowed rare honour on cities ranked high in a Centre for Science and Environment (CSE) study of India's cleanest cities. He called them "the pilgrimages of the future". Alappuzha in Kerala, Panaji in Goa and Mysuru in Karnataka were ranked at the top of the list.

Municipal Solid Waste is among the biggest challenge for our cities today. The sheer volume at over 50 million tonnes a year and its rapid growth calls for urgent action. And given the fact that our record of handling, treatment and disposal is more modest than robust, we would soon need landfill sites the size of large cities like Mumbai and Chennai to dispose of all the waste. We have argued in the past for greater focus on the 'supply' side of waste. In other words the solution lies not just in collecting, handling and disposing of waste efficiently but in curbing the generation of waste effectively. This effort must continue and be strengthened.

The municipal bodies in our cities are almost exclusively tasked with waste management. Given the capacity limitations of these bodies, we may be asking for too much. Effective waste management is one of the issues which require intensive community engagement, something which our local bodies are only just beginning to adopt with the new urban rejuvenation schemes. Therefore their efforts need to be supplemented by civil society, NGOs and the informal sector in order to achieve lasting success. The CSE report quotes the practice in Kerala where citizens segregate and compost the bio-degradable waste, while recyclers from the informal sector collect the non bio-dgradable waste and sell it. Apparently the role of municipalities is minimal. This seems a workable option wherein the citizens (generators of waste) take major responsibility for effective handling/disposal. A welcome spin-off benefit is the substantial savings that the municipalities will derive on transportation and disposal costs. It will do away with the need to carry garbage (with foul odour) across the city, dumping and so on. The municipal savings which would be substantial could be invested in subsidizing community composting systems and other infrastructure. This system may not be fully replicable in all situations, especially high density apartment locations, but is surely a direction to move in.

There are other benefits too. Limiting the access to dumping and landfill options will contribute to the environment in a big way. All these years, cities have used their backyards, namely city outskirts and neighbourhood villages as dumping yards for the city's waste. But the rural folks have started raising their voices and this practice cannot continue. On their part, citizens will start to adopt more sustainable lifestyles which generate less waste and ensure that all the waste is bio-degradable and composted in their own backyards / neighbourhoods and the remaining is recycled.

# Editorial

Municipalities will need to work not so much in actually collecting and managing waste but more on facilitating citizens and communities in overcoming the burdens of waste management. The authorities also need to put in place appropriate regulatory frameworks, including partnerships with the informal sector like rag-pickers, incentivizing recycling and levying fines on wrong-doers while setting up adequate infrastructure like curbside bins, PET crushing machines, incinerators, and so on. They could also work as incubators for new technologies in the areas of composting, incineration, recycling and reuse of waste.

We can then have many more pilgrimages in the future.



# Gender Budgeting for Urban Local Bodies to make our cities Gender Friendly

**Dr. Vibhuti Patel,**

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&

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*“Gender budgeting is essential so that the principles of man-women equality, eradication of gender-based discrimination and gender equality are reflected boldly in the planning of all departments of the state. This would help improve women's contribution in economy, make opportunities to earn available to them, capacity building of women, improve their educational and vocational eligibility, ensure better health for women and increase political participation and social status of women. Every department of the government will define programmes, draft policies, make schemes and make funds available for the schemes, implement and evaluate them, in order to improve women's social status and establish men-women equality in political, social, economical and cultured spheres. The responsibility of following up the gender budget and implementation of it should be given to the State Women Commission or equivalent institute.”- **Women's Policy, 2013, Women and Child Development Department, Government of Maharashtra.***

## **Guidelines for preparation of Gender Budgeting:**

The Gender Budget Initiative for the urban local self government bodies is a policy framework, methodology and set of tools to assist municipal councils and corporations to integrate a gender perspective into the budget as the main plan of public expenditure. The urban local bodies (ULBs) i.e. Panchayati Raj Institutions namely municipal

corporations and municipal councils need to integrate gender budgeting in Annual Financial Statement, Civil Budget Estimates, Budget Memorandum, Performance Budget (department wise), Annul Plan, Tribal Sub-Plan and Schedule Caste Plan and Budget in Brief. Budgeting in the broadest sense is not confined to the preparation of the budget document – but includes a series of actions and processes that precede the preparation of the budget as well as the events and processes that follow it. It is a continuing process and has a cycle of its own.

## **Definitions of Gender Budgeting (GB)**

GB requires looking at the Government budget from a gender perspective to assess how it addresses the needs of women in specific areas.

GB does not mean creation of a separate budget for women, but seeks affirmative action to address the specific needs of women.

GB is a tool for assessing the impact of Government revenue and expenditure on women.

## **Distinction between Budgeting and Budget**

Gender budgeting is a process that maintains a gender perspective at different stages such as policy review, assessment of needs, program formulation, resource allocation, implementation, assessment of impact, reprioritization of resources, etc. A gender sensitive budget is the result of this process.

## Tools of Gender Budgeting

1. Checklists for assessment
2. Performance audit
3. Preparation of gender-based profile of public expenditure
4. Beneficiary Needs Assessment
5. Impact analysis
6. Gender disaggregated public expenditure and revenue benefit incidence analysis
7. Participative budgeting
8. Spatial mapping – Micro level planning for micro level needs
9. Gender mainstreaming (defined as gender concerns in mainstream sectors)
  - ✓ A few examples of gender concerns in mainstream sectors are as follows:
  - ✓ Need for curbing diversion of kerosene oil from PDS, since women need clean cooking fuel on priority.
  - ✓ Keeping a gender perspective while rationalizing interest subsidy on account of small savings, especially postal savings like National Savings Scheme.
  - ✓ Conducting a gender sensitive review of the incidence of taxes,
  - ✓ trade-off between higher taxes or lowering of subsidies to cope up with impact of inflation
  - ✓ regulation of interest rates in micro-credit sector,
  - ✓ provision social security to women through insurance, SHGs, low interest credit facilities
  - ✓ Increasing participation of women in sports thro' scholarship, hostels, practicing facilities

- ✓ Ministry of Environment to guide department of New and Renewable Energy (DNES)
- ✓ Urban Employment and Poverty Alleviation, in availing CER credits (Carbon Emission Credits) so as to give a boost to clean cooking and lighting fuel.

## Visibility of Women in Statistics and Indicators:

It is important for ULBs to direct data gathering agencies to make **visibility of women in statistics and indicators**. This data-base must throw light on the gap between women and men in five critical areas like **economic participation, economic opportunity, political empowerment, educational attainment, and health and well-being**. These five categories identify concrete measures of the gender gap and provide an unambiguous framework for future policy-making and gender budgeting.

## Seven (7) tools for gender sensitive analysis of budgets -

- a) Gender aware policy appraisal
- b) Gender disaggregated beneficiary assessments
- c) Gender disaggregated public expenditure incidence analysis
- d) Gender disaggregated tax incidence analysis
- e) Gender disaggregated analysis of the impact of the budget on time-use
- f) Gender aware medium term economic policy framework
- g) Gender aware budget framework

## Composition of Gender Budget Cells (GBCs)

The Gender Budget Cell should comprise a cohesive group of senior/ middle level officers from the Plan, Policy, Coordination, Budget and Accounts Division of the ULBs. This group should be headed by an officer not below the rank of Joint

Commissioner. The functions and working of the GRB may be reviewed at least once a quarter at the level of Commissioner/Additional Commissioner.

### **Functions of Gender Budget Cells**

The GBC may set for itself, specific quarterly /half yearly/annual targets to be achieved in terms of the following suggested areas of work.

- (1) Identification of a minimum of 3 and maximum of 6 largest programmes (in terms of budget allocation) implementation by the ULB and the major Sub-Programmes there under, with a view to conducting an analysis of the gender issues addressed by them.
  - This is to be facilitated by describing the current situation with respect to the Sub-Programme (using disaggregated data in terms of beneficiaries as much as possible) and describing the activities for achieving the given output.
  - Output indicators may be identified for measurement against performance in the coming year.
  - Activities targeted at improving the situation of women under these programmes may be highlighted. In this regard, an assessment may be made of the extent to which sectoral policies address the situation of women, whether budget allocation are adequate to implement the gender responsive policy; monitoring whether the money was actually spent as planned, what was delivered and to whom; and whether the policy as implemented changed the situation described, in the direction of promoting/achieving greater gender equality.
  - Results of this analysis may be included as an annex titled “Gender Responsive Budgeting Initiative” in the ULB's Outcome/ Performance Budget for the year.
- GBCs of such departments which have identified programmes where 100% of the budgetary allocation for the scheme is earmarked to benefit women, may undertake a similar analysis as described above. Results of this analysis may also be included in the ULB Department's Outcome/Performance budget for the year.
- (2) Conducting/Commissioning Performance audit (at the field level wherever possible) for reviewing the actual physical/ financial targets of the programme, the constraints if any, in implementation, the need for strengthening delivery systems, infrastructure/ capacity building etc.
- (3) Organizing meetings/discussions/ consultations with GBCs of related departments within the ULB, elected women representatives (EWRs of ULBs) field level organization/ civil society groups/ NGOs working in the sector for exchanging ideas and getting feedback on the efficacy of sectoral policies and programmes.
- (4) Suggesting further policy interventions based on findings of the above.
- (5) Participating in and organizing Training/ Sensitization/ Capacity Building workshops for officials, concerned with formulation of policy/ programme implementation & budget and accounts at the ULB level and also in the implementing agencies/ attached/ subordinate offices and organizations under the administrative control of the ULB.
- (6) Apparently “gender neutral” programmes are not necessarily gender neutral in the impact they have, when seen through gender lens. Hence, in sectors like Urban Development, PWD, Power, Telecom, Communications, Transport and Industry, etc. GBCs may undertake an exercise to identify the possibility of undertaking initiatives/special measures to facilitate/improve access to services for

women and their active participation in the decision making process at various levels.

- (7) Disseminate best practices followed by those Divisions of the Department/ULB implementing schemes, which have done good work in analyzing the schemes/programmes from gender perspective which have brought about changes in policy/operational guidelines.
  - (8) Prepare a Chapter on Gender perspective related to the Sector/Service covered by the ULB and the impact of the existing policies/programmes and resources employed in meeting the specific needs of women for reflection in the ULB's Outcome/Performance Budget.
- Provide social security and social protection to women construction workers
  - Create ward-wise counseling centres and halfway homes/drop-in centres for senior citizen, women in slums, commercial sex workers, rag pickers, domestic helps, street children-girls
  - Safety of women in the city establish one-stop crisis prevention centres and shelter homes for women survivors of violence
  - Ensure adequate number of working women's hostels, public toilets, rest rooms at bus stations and railway stations
  - Enact a comprehensive Food Security Bill
  - Ensure universal PDS as a core component.
  - Allocate 6% of total outlay of the ULB for Health
  - Allocate 6% of total outlay of the ULB for Education
  - Make budgetary allocation to cover special schemes for women workers
  - Increase allocation for women farmers
  - Enhance resource allocation for tribal, dalit, and minority women

- Increase budgetary support for schemes to assist women-headed households and differently-abled women

### **Gender budgeting in Urban LSG Bodies**

Process of gender budgeting demands **special programmes targeting women based on** enumeration of differential impact of expenditures across all sectors and services-gender disaggregated impact on literacy, school drop outs, mortality, morbidity, malnutrition, illnesses, safety & security. Hence, they need to ensure the review of equal opportunity policies and opportunities in the public sector-jobs, school education, wages, health care, skills, technical training, and computer education.

### **Allocation and expenses of resources for women in ULBs Budgets:**

NIPFP has recommended the following classification of financial allocation on schemes and programmes for gender audit as well as gender budgeting.

- Women specific schemes where 100 % of the allocation is required to be spent on women targeted 100% to women by Ministry of women and Child Development (MWCD).
- Pro-women schemes where at least 30% of allocation and benefits flow to women. E.g. All anti-poverty programmes.
- Gender Neutral Schemes meant for community as a whole (Employment generation programmes, Jawaharlal Nehru National Urban Renewal Mission (JNNURM)
- Residual schemes for disaster management

All India Institute of Local Self Government, AILSG gives details of all schemes under these 4 categories through its publications, workshops and training programmes. Moreover, it also teaches the elected representatives the efficient ways of programme implementation through budgeting as below:-

### **Budgetary allocation for Protective and Welfare Services**

These are the schemes directly benefiting women for crisis management of situations arising out of economic and socio-cultural subordination and dehumanisation of women such as shelter homes, short stay homes, rehabilitation schemes for women survivors of violence, pensions for widows and destitute women.

### **Budgetary allocation for Social Services Expenditure for capacity building, reduction of domestic drudgery and better quality of life for girls and women**

- Education
- Health
- Crèche
- Working women's hostels
- Housing
- Nutrition
- Water supply
- Sanitation-toilets, drainage
- Fuel
- Waste management
- Transport

### **Budgetary allocation for Economic Services to provide economic opportunities to women**

- SHGs-credit, loans to self employed women
- Training programmes-Vocational training in Sunrise sectors. e.g. Biotechnology, IT, etc,
- Physical infrastructure-transport, energy
- Urban housing-10 % reserved flats/tenements for single women
- Marketing facilities for women entrepreneurs & self employed women- 10% of shops reserved for businesswomen, women vendors/traders in municipal markets, women's haats /bazaars

- Public Toilets for women without userfees
- Safe and efficient transport for working women and women vendors

### **Budgetary allocation for Regulatory Services to put in place institutional structures and mechanisms**

- State Commission for Women/ Municipal Commission for Women
- Women Development Cell in municipal bodies
- Budgetary allocation and space for ward-wise WDC for prevention of sexual harassment of women in the organised and unorganised sectors
- Women's cell at the police stations, LSG bodies' offices, municipal hospital & schools
- Awareness generation programmes

### **Relationship of Central Government and State Government with ULBs:**

State governments must devolve substantive powers, funds, functions and functionaries upon LSG bodies. The central government should strive for simplifications of programme guidelines by central ministries and departments regarding women specific schemes- Swadhar, working women's hostels, maternity benefits for BPL, etc. Moreover, centrally sponsored Schemes must be recast to empower municipal bodies. PRIs must get untied funds to formulate plans according to their needs and priorities. Structures and mechanisms for RTI Act must be put in place to sort out problems concerning utilisation of funds allocated for area development. To avoid urban unrest and guarantee socio-economic justice, at least 100 days of employment at minimum wages must be provided under EGS in all urban centres.

### **Financial Matters and ULBs:**

1. Built-in mechanisms to analyze the budgetary policies through gender lens in terms of Budget Estimates, Revised Estimates and Actual Outlays when audited figures become available.

2. Monitor the implementation of schemes targeted for women to control significant deviation between Budget Estimates and Revised Estimates.
3. Separate listing of women specific items and women's component and transparency in utilization of the allocated amount for women's programmes
4. Segregation and introduction of transparency in the budget to protect provisions earmarked for women in the composite programmes under health, education and rural development, by placing restrictions on their re-appropriation for other purposes.
5. Developing strategic gender tools like gender audits, gender impact assessments, gender analysis and gender budgeting to monitor implementation and impacts.
6. Output Monitoring through Benefit Incidence Analysis to analyze how the budgetary allocations have benefited the targeted beneficiaries. Conducting Selective primary surveys to develop the system of unit cost and units utilized.
7. Increase as well as prepare a new scheme for grant in aid support for women's resource centres – which provide a space for women, generating knowledge and awareness as well as capacity building.
8. Elected women in ULBs must be involved in the function of making the budgets so as to avoid disjunction between planning and budget that has on the one hand excluded women and on the other hand made the budget exercise totally centralized, with priorities and schemes that are not rooted in local government needs.
9. Increase women's participation in economic decision making by promulgating a percentage representation in all sectors where revenue and expenditure is being decided, including finance commissions and taxation reform commissions (women economists and women developmental experts who understand the impact of development on men and women must be part of this as well as a gender expert to be on these committees).
10. Strengthen the gender-disaggregated database within relevant Departments which enables an effective monitoring of targets and achievements across gender.

**An Important Challenge:**

The target of 30% gender allocations in all poverty alleviation and development oriented schemes and programmes have not yet been achieved as per the promise of women component plan (WCP) of Government of Maharashtra in 2005. This must be implemented immediately. There is need for gender audit and gender outcome appraisal of all departments at the central and state levels. Very often, resource allocations made under gender budgeting do not reach in time and they remain unspent. There should be proper monitoring and supervision of the allocated funds with greater transparency and accountability at all levels.



# Selling Costs and Bank Business

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## Abstract

Chamberlin talked of two types of advertisements – informative and manipulative. These together were called by him selling costs. The selling costs affect both the average revenue and the average cost curve. The selling cost curve, if it is a fixed percentage of sales will be U shaped. In case of Indian banks the selling costs are almost a fixed percentage of operating expenses. Indian banks seem to be living in a world described by E.H. Chamberlin.

As a part of customer relationship management an attempt has been made by the researcher, in this study to review the banking landscape in the second decade of 21st century, to find out how much do banks spend on advertisement and publicity and its impact on total business of banks which includes deposits and advances.

## Complexities of Selling Costs and Total Business of Brick and Click Marketing

### Introduction:

E.H. Chamberlin in his book *The Theory of Monopolistic Competition* (1933), talked of two types of advertisements – Informative and manipulative. These together are called by Chamberlin as 'Selling Costs'. The selling costs affect both the average revenue or demand curve and the average cost curve and therefore the average cost curve can be U shaped. For a firm under monopolistic competition the firm's average revenue curve will not be perfectly elastic but downward sloping, but it will be like demand curve under monopoly. The selling cost, if it is a fixed

percentage of sales / output will be U shaped but the distance between the average revenue curve and average cost curve will narrow. In case of banking the selling costs are almost a fixed percentage of operating expenses. The interest income, non interest income and operating expenses are affected by selling cost. Indian banks seem to be living in a world described by E.H. Chamberlin, although banking is a common service. Each bank tries to distinguish itself from other banks on the basis of the rate of interest, charges for some service and services facilities. In India, we have a network of nationalized banks, foreign banks, old private banks and new private banks.

### Objectives:

As a part of Customer Relationship Management (CRM) attempt has been made

- To review the Banking Landscape in the second decade of 21st Century
- To find out how much do the banks spend on advertisement and publicity.
- To find out the percentage of amount spend on advertisement and publicity of the total operating expenses of the bank
- To know what is its impact on the total business of the bank, which includes deposits and advances
- To explore the relationship between expenditure on advertisement and publicity and bank business.

## **Research Methodology:**

The study being analytical in nature is based on secondary data which is collected from the Annual Reports of 29 banks. Figures relating to advertisement and publicity expenditure are part of operating expenses in the profit and loss account, e.g. item no. IV of Schedule 16. The figures for four years 2008-09, 2009-10, 2013-14 and 2014-15 have been taken.

## **Hypothesis of the Study:**

The researcher formulated the following null and alternate hypothesis:

- H<sub>0</sub>: There is no relationship between advertisement and publicity expenditure by bank and total bank business
- H<sub>1</sub>: There is relationship between advertisement and publicity expenditure by bank and total bank business.

## **Banking Landscape in the Second Decade of**

### **21st Century:**

As the world has spun into the second decade of 21st Century, dramatic changes have occurred in the banking landscape. The pace of change is so rapid that the ability to change itself has now become a competitive advantage. According the authors Kotler and Armstrong four major developments have taken place in marketing landscape as well as strategy: the new digital age, rapid globalization, the call for more ethics and social responsibility and the growth of not-for-profit marketing. Banks exist for profits and therefore not-for-profit marketing has not been discussed.

### **The New Digital Age:**

The explosive growth in computers, telecommunication, communication, transportation and other technologies has a major impact on the ways banks conduct and compete for customers. Where it once took weeks to correspond with others in distant places, they are now only

moments away by mobile phone or internet. The banks now have core banking solutions for different products. The banks are now using National Electronic Fund Transfer (NEFT) and Real Time Gross Settlement System (RTGS) which have made money transfers astoundingly speedier and cheaper.

Internet usage has linked individuals and business of all types to each other and information all around the world. It is the technology behind the new economy. Worldwide internet has been used by billions of people and the traditional brick and mortar banks have now become 'Click-and Mortar' banks.

### **Rapid Globalization:**

In an increasingly smaller world many banks are now connected globally with their customers and other banks. Competition is cold and cruel and there is survival of the fittest. The questions which the banks ask are – should we go international? Which markets should we enter?, How to enter those markets?

The emphasis has further shifted away from deposits to capturing prime customers wanting credit facilities, raising funds from the market, offering more and more technology – oriented products, and even recruiting and retaining skilled personnel. Perhaps the most significant change is the pursuit of asset – led growth. The marketing of loans has become a major preoccupation of the senior management and at the more Junior levels, success as a loan officer has become an important route to promotion.

In the Indian market there exists a certain dichotomy of the urban and rural segments, where a high percentage of people live below the poverty line. Mass illiteracy, poor infrastructure and lack of basic amenities still exist. These factors sometimes lead to directed lending. Banks need to make special efforts to nurse the rural base and make it economically viable in the competitive environment.



## Building Up Brand Equity:

Brands are more than just names and symbols. Brands represent customers perceptions and feelings about a product/service and its performance – everything a product or service means to a customer. In short brands exist in the mind of the customers. The real value of a strong brands and its power to capture consumer preference and loyalty. Some brands like Coca-Cola become larger than life icons. A powerful brand has high brand equity. Customers don't mind paying more for the brand rather than going without it or choose a competing brand. Loyal Coke drinkers will pay a 50 per cent premium and Volvo users 40 per cent premium. The value of the brand is more important than the brick and mortar of their plants. Coca-Cola's brand was valued at \$6 7 bn, Microsoft \$61 bn.

High brand equity provides many competitive advantages. A powerful brand forms the basis for brand equity which is based on customer equity. A brand represents a profitable set of loyal customers. Bank of Baroda has recently adapted a new logo where the sun emits is raised. It has increased its business after it has adopted new logo.

## Ethics and Social Responsibility:

Corporate ethics and social responsibility have become the *signe-quo-non* of every business. Environmental movement has become stronger and stronger. Banks also view socially responsible actions as an opportunity to do well by doing good to the community around their locations. They seek

ways to profit by being more civic minded and caring.

## Changing Customer Profile and Building Relationships with the Customers in the 21st Century:

In the digital age the main objective of the bank should be customer delight, customer equity or brand equity. Banks should build up their logos. Some Indian banks such as Bank of Baroda have started building up their logos. Building up brand equity is expensive as Bank of Baroda has pointed out. The new logo has appealed to the old and new customers and enhanced its business. It is therefore clear customers do remember the logos and pay repeated visits to the branch of the Bank of Baroda they have been dealing with. The Bank has continued to perform old functions of accepting deposits and giving advances, but it now provides electronic products and also investment banking services.

Indian banks, with their limited maneuverability, has undertaken some market research activities (**Table 1**). The National Institute of Bank Management undertook one of the most important surveys, 'All India Savings Trends and Patterns', in 1986. The findings were brought out as monographs and did provide valuable insights into customer behavior. Some studies were also carried out in pre-nationalization days on effectiveness of bank advertising. In view of the severe limitations the thrust was on improving customer services.

**Table 1: Market Research Studies by Banks**

Name of Bank	Subject of Market Research	Remarks
Bank of Baroda	Marketing of deposits and allied services to NRI customers	Bank Management programme thesis
Allahabad Bank	Survey of customer services	No formal report
Canara Bank	Review of deposit schemes	Internal use
Punjab & Sind Bank	Customer turnover	Internal use

Source: Vasant C. Joshi & Joshi, Vinay V (2009). *Managing Indian Banks – The Challenges Ahead*. New Delhi: Sage Publications India Pvt. Ltd. pp 273.

Overtime, customer profile has changed significantly we were schooled in the tradition that if a customer, for reasons of convenience, had to maintain another account he would make the details of such an account available to the bank.

- Customers no longer have the kind of loyalty as was expected in the past
- They are more sophisticated, cost-or-price-conscious and are willing to shop around.
- Customer groups are changing because of longer life span urbanization and higher income amongst middle classes
- Altitude-wise, customers are less afraid of debts
- Customers expect a more consultative relationship. Customers often and quite equivocally express concerns regarding
  1. need for consistent, dependable performance;
  2. professionalism, skills and standards of performance;
  3. timeliness of service;
  4. cordiality and honesty;
  5. politeness and friendliness of the staff;
  6. safety, securing and confidentiality of transactions and
  7. effective and polite communication

The banks have a complex mix of customers and corporations whose needs are for complex services and at the other end they have to have inclusive policies encompassing the urban and rural poor. It is against this background that advertising plans have to be drawn up.

#### **Advertisement and Publicity Expenditure by Banks:**

**Table 2** outlines advertisement and publicity expenditure made by 29 banks during F.Y. 2009, 2010, 2014 and 2015. **Table 3** shows advertisement

and publicity expense as a percentage of operating expenses for four years. Table 3 shows that in F.Y. 2009, Union Bank of India spend nearly 6 percent of operating expenses on advertisement and publicity, next in the rank was IDBI Bank, which spend 3.62 percent of operating expenses. In F.Y. 2010, IDBI bank is number 1 in percentage terms, followed by ICICI Bank. In the F.Y. 2014 and 2015, ICICI bank is number 1 in percentage terms. Other banks following ICICI Bank are HDFC Bank, IDBI Bank and Union Bank of India. Punjab & Sind Bank has spent the lowest amount in terms of percentage of expenditure as well as in terms of amount of expenditure. It was a weak bank and completely owned and controlled by Government.

The broad conclusion that emerges from Table 3 is that looking at advertisement and publicity expenses as a percentage of operating expenses for the F.Y. 2014 and 2015, all the banks have spent less than 2 percent of operating expenses. Perhaps this may be due to worldwide recession, which has not spared Indian banks. This leads us to **Table 4** which analyses the ranks of the banks on the basis of total business. Although there are many factors which affect total business, advertisement and publicity has a definite impact on total business. Some bank branch managers whom the researcher interviewed agreed that if there is no advertisement, the bank business will suffer. Therefore, advertisement is a must to maintain competitive advantage.

#### **From Table 4 we can draw following conclusions:**

1. ICICI Bank which was no. 1 in 2008-09 was pushed to No. 8 in 2014-15, and its place was occupied by Indian Bank followed by State Bank of India (SBI).
2. Although the advertisement and publicity expenditure by SBI as a percentage of operating expenses constituted only 0.77 percent, ICICI Bank spend 1.77 percent of operating expenses on advertisement and publicity, but is far behind SBI with respect to total business.

**Table 2: Advertising and Publicity Expenditure by Banks (Year 2009, 2010, 2014 & 2015)****(Rs. In 000's)**

Sr. No.	Name of the Bank	Advertising & Publicity Expenses 31 Mar – 2009	Advertising & Publicity Expenses 31 Mar – 2010	Advertising & Publicity Expenses 31 Mar – 2014	Advertising & Publicity Expenses 31 Mar – 2015
	<b><u>SBI AND ITS ASSOCIATES</u></b>				
1	State Bank of India	336,76,05	33,77,66	278,25,69	284,63,61
2	State Bank of Bikaner & Jaipur	4,94,32	5,11,14	14,94,60	16,27,20
3	State Bank of Hyderabad	10,61,86	12,59,51	20,04,95	17,04,10
4	State Bank of Indore				
5	State Bank of Mysore	4,52,00	4,11,96		
6	State Bank of Patiala	4,61,91	6,37,13		
7	State Bank of Saurashtra				
8	State Bank of Travancore	3,99,25	8,59,95	11,83,17,00	8,74,33,00
	<b><u>NATIONALISED BANKS</u></b>				
9	Allahabad Bank	14,22,87	21,63,79	39,81,00	30,830,00
10	Andhra Bank	10,49,87	67,393	23,96,56	21,62,77
11	Bank of Baroda	39,96,92	44,46,22	81,58,05	84,51,80
12	Bank of India	22,43,54	47,47,42	-	-
13	Bank of Maharashtra	17,71,32	14,03,05	15,15,39	18,46,73
14	Canara Bank	23,82,59	19,85,97	66,34,40	44,27,52
15	Central Bank of India	15,33,22	17,21,55	-	-
16	Corporation Bank	16,47,87	18,25,47	18,15,60	3,68,81
17	Dena Bank	11,20,57	10,80,44	18,47,18	15,76,45
18	Indian Bank	8,86,22	10,63,15	-	-
19	Indian Overseas Bank	26,94,74	35,82,57	27,01,31	10,34,44
20	Oriental Bank of Commerce	13,86,70	11,73,39	30,86,12	26,18,10
21	Punjab & Sind Bank	37,50	53,65	21,709	22,381
22	Punjab National Bank	31,24,31	40,10,64	29,11,86	36,17,47
23	Syndicate Bank	22,52,10	17,37,03	26,01,97	27,69,95
24	Union Bank of India	1,32,62,98	38,98,42	55,29,08	63,18,63
25	United Bank of India	6,47,28	9,07,42	-	
26	United Commercial Bank	19,30,26	18,87,29	-	
27	Vijaya Bank	8,87,63	5,04,60	10,90,49	10,36,03
28	IDBI Bank	48,37,93	45,83,56	40,23,56	41,56,84
	<b><u>IMPORTANT PRIVATE BANKS</u></b>				
29	AXIS Bank	46,31,77	47,26,94	95,95,48	90,56,79
30	HDFC Bank	1,11,89,92	86,01,90	1,43,56,10	1,87,46,91
31	ICICI Bank	1,40,28,40	1,10,80,10	1,83,40,23	1,61,61,97

Source: Annual Reports of Banks for 2008-09, 2009-10, 2013-14, 2014-15.

**Table 3: Advertising and Publicity Expenditure as percentage of Total Operating Expenses by Banks (Year: 2009, 2010, 2014 & 2015)**

Sr. No.	Name of the Bank	(% Operating Expenses) 31 Mar - 2009	(% Operating Expenses) 31 Mar - 2010	(% Operating Expenses) 31 Mar - 2014	(% Operating Expenses) 31 Mar - 2015
	<b><u>SBI AND ITS ASSOCIATES</u></b>				
1	State Bank of India	1.26	.80	0.77	0.73
2	State Bank of Bikaner & Jaipur	.63	.57	0.74	0.92
3	State Bank of Hyderabad	1.14	1.28	0.88	0.60
4	State Bank of Indore				
5	State Bank of Mysore	.68	.57		
6	State Bank of Patiala	.58	.70		
7	State Bank of Saurashtra				
8	State Bank of Travancore	.50	.99	0.63	0.45
	<b><u>NATIONALISED BANKS</u></b>				
9	Allahabad Bank	1.02	1.37	1.02	0.73
10	Andhra Bank	.95	.50	0.79	0.56
11	Bank of Baroda	1.12	1.17	0.89	0.93
12	Bank of India	.72	1.29		
13	Bank of Maharashtra	1.84	1.31	0.63	0.73
14	Canara Bank	0.78	0.57	1.08	0.60
15	Central Bank of India	.82	.77		
16	Corporation Bank	1.65	1.45	0.74	0.14
17	Dena Bank	1.46	1.27	1.12	0.85
18	Indian Bank	.56	0.61		
19	Indian Overseas Bank	1.38	1.45	0.72	0.24
20	Oriental Bank of Commerce	.99	.70	1.05	0.87
21	Punjab & Sind Bank	.05	.07	0.17	0.16
22	Punjab National Bank	.74	.84	0.06	0.07
23	Syndicate Bank	1.25	.85	0.78	0.76
24	Union Bank of India	5.99	1.55	1.06	1.06
25	United Bank of India	.66	.84		
26	United Commercial Bank	1.31	1.91		
27	Vijaya Bank	.96	.47	0.64	0.54
28	IDBI Bank	3.62	2.50	1.21	1.03
	<b><u>IMPORTANT PRIVATE BANKS</u></b>				
29	AXIS Bank (UTI Bank)	1.62	1.27	1.19	1.00
30	HDFC Bank	1.98	1.46	1.19	1.34
31	ICICI Bank	2.71	1.94	1.77	1.40

Source: Annual Reports of Banks for 2008-09, 2009-10, 2013-14, 2014-15.

**Table 4: Total Business of Banks (Year 2009, 2010, 2014 & 2015)****(Rs. In crores)**

Sr. No.	Name of the Bank	2008 – 09 Deposits + Advances = Total Business	2009 – 10 Deposits + Advances = Total Business	2013 – 14 Deposits + Advances = Total Business	2014 –15 Deposits + Advances = Total Business
	<b><u>SBI AND ITS ASSOCIATES</u></b>				
1	State Bank of India	128457	143603	1240898	439221
2	State Bank of Bikaner & Jaipur	69075	81281	131031	291834
3	State Bank of Hyderabad	106128	126010	337433	450382
4	State Bank of Indore				
5	State Bank of Mysore	44293	68415	5111656.93	229131.89
6	State Bank of Patiala	103593	110899		
7	State Bank of Saurashtra				
8	State Bank of Travancore	74642	89344	16556001.87	318538
	<b><u>NATIONALISED BANKS</u></b>				
9	Allahabad Bank	143773	177660	637080	672095.57
10	Andhra Bank	103529	133801	471658	530574
11	Bank of Baroda	335648	416079	1767969	2049109
12	Bank of India	332617	398252	1518914	1790238
13	Bank of Maharashtra	86545	103618	375531	337684
14	Canara Bank	325111	403986	1319822	1525665
15	Central Bank of India	216755	267490	815358	613434
16	Corporation Bank	122496	155936	615201	495422
17	Dena Bank	71928	86806	350569	282451
18	Indian Bank	123978	150373	422118	5795726
19	Indian Overseas Bank	175926	191577	766363	821662
20	Oriental Bank of Commerce	166869	203746	637421	681839
21	Punjab & Sind Bank	59291	81794	264041	292554
22	Punjab National Bank	364463	435931	15465660.5	1682578
23	Syndicate Bank	197417	207432	719180	844365
24	Union Bank of India	235237	289355	998539	828618
25	United Bank of India	89929	110510	2256	252498
26	United Commercial Bank	169025	204920	-	
27	Vijaya Bank	90003	103453	372583	418839
28	IDBI Bank	215845	305868	856882	901158
	<b><u>IMPORTANT PRIVATE BANKS</u></b>				
29	AXIS Bank (UTI Bank)	198930	245643	1253478	119615
30	HDFC Bank	241694	293235	1206305	1516190
31	ICICI Bank	436658	383222	1253479	1119701

Source: Annual Reports of Banks for 2008-09, 2009-10, 2013-14, 2014-15.

3. The banks with respect to total business, which occupy the lower rung of the ladder are – State Bank of Bikaner and Jaipur, State Bank of Mysore, Punjab and Sind Bank, Dena Bank and United Bank of India.
4. While State Bank of India has reduced its advertising and publicity expenditure (percentage of operating expenses) from 2008-09 to 2014-15, but its total business has improved.
5. Out of 29 banks, nine banks are occupying rank below 10 in all the four years, in terms of total business. Perhaps in future, these nine banks may spend more on advertising to improve their business and their rank in the League of banks.

**Table 5: Correlation between Advertising & Publicity Expenditure and Total Business of Banks**

Year	Correlation Value (Rs.)	Significant Level
2009	0.268	0.008*
2010	0.168	0.169
2014	0.686	0.0001*
2015	0.131	0.28
TOTAL	0.600	0.0001*

\* Significant correlation

**Table 5** reveals that there is overall significant relationship between advertising and publicity expenditure by banks and bank business for 4 years average at 0.0001 significance level. Hence we accept alternate hypothesis ( $H_1$ ) and conclude that banks can increase their business by increasing their expenditure on advertising and publicity.

**Conclusion:**

According to Paul Samuelson “A characteristic feature of our era is advertising. With our daily news, T.V. westerns and Sunday pleasure rides, we are fed large classes of carefully selected descriptions of various products. A sizeable amount of the nation's creative talent and of its paper and vacuum tubes is devoted to sales promotion. Defenders of advertising claim many economic advantages of it. Useful information can be brought to the public; mass-markets are created and as a by-product of advertising expense we have a private press, a choice of many radio and television programs, and thick magazines. So the argument goes on. The other side, it is claimed that much

advertising is self-canceling and adds little to the consumer's valid information; that for each minute of symphonic music, there is half an hour of melodrama. The situation would be the more debatable were it not for the surprising fact, turned up the Gallup poll, that many people seem to like advertising. They do not believe all they hear, but they cannot help remembering it just the same”.

According to Joel Dean “Annual advertising expenditure during the inter-war period averaged roughly 3 percent of national income. The post war average is around 2 percent”. In 1950, the post war U.S. advertising volume passed a new high at \$ 5 billion. Indian banks spend less than 2 percent of its operating expenses at the micro-level. Few banks have a valid, theoretical or research basis for deciding upon the level of advertising expenditure: e.g. whether they should spend Rs. 100 crore or Rs. 200 crore per year. Almost every bank wrestles with the problem of planning its advertising budget over a period of years; deciding how this outlay should fluctuate from year to year with changes in business

conditions; and how each yearly total should be apportioned among products, territories and classes of prospects. Yet in making these critical decisions, most executives have to play by ear.

Measuring effects of advertising on business is a question of estimating business with and without the outlay, everything else remaining constant. Their diffused time lag in both the intended and actual fruition of advertising that is usually harder to judge for advertising than for changes in prices, income and other variables that can be included in the regression equation. Banks now have data under core banking solutions (CBS).

The information currently available under the CBS dispensation is not adequate to assess the customers' needs. Formerly the customers met and interacted with the branch staff. Now a systematic attempt is underway to draw the customers away from the geographical set up and bring him into a wider network. Around the world, bank staff has suggested that this is one great lacuna with the CBS solution.

The Indian Banks Association (IBA) can conduct advertising for some common products. This was suggested by many high ranking officials of the banks.

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# ICT4D Projects in India: Continuation\* of Dominant Paradigm...?!

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## **Abstract**

*Twenty first century has witnessed technological innovations leading to variety of socio-cultural and economic and ecological impacts never seen in the in human history. On one hand digital divides in the communication networks counters democratisation of information, on the other hand, extension of economy beyond nation/states faces challenge of 'clinging' to 'local identities'. Development issues in this context have emerged as one of the major site where issues of human security, environmental degradation, ecological imbalance and climate change, have been extended beyond geo-political boundaries. Development as a concept has become major concern as well as challenge in last few decades locally as well as globally.*

*The Millennium Declaration, signed by world's leaders of 189 countries in 2000, established 2015 as the deadline for achieving most of the Millennium Development Goals (MDG). The majority of MDG targets has a baseline of 1990, and is set to monitor achievements over the period 1990-2015. The eighth Millennium Development Goals (MDG) refers to “develop global partnership for development” encompass a target “in cooperation with the private sector, make available the benefits of new technologies-especially information and communications technologies” (<http://www.un.org>).*

*India stands 10th out of 16 countries in 'e-readiness' ranking in the Asia and Pacific region, and 53rd out of 68 countries of the world” (Ghosh*

*and Das, 2006). In spite of such status of e-readiness, India can boast of many initiatives of using Information and Communication Technology (ICT) for development.*

*This paper is based on the analysis of secondary sources of ICT projects/initiatives /experiments from India. The secondary sources chosen for the study are Bhatnagar and Schware (2000), Ghosh and Das (2006), Harris & Rajora (2006), and Agarwal (2007) covering close to 100 projects/initiatives/experiments of ICT4D. The reason for choosing them, being exclusive publications about Indian projects written predominantly by Indians.*

*Analysis of all the secondary sources reveals repetitive representation of certain ICT4D projects like WARANA wired village, TARahaat, Bhoomi, eChaupal. While Agarwal (2007) elaborated all government e-government projects in the context of the work, Harris & Rajora (2006) refers to ICT tele-centres mainly in rural India. Bhatnagar and Schware (2000) provide the wider applications of ICT4D. All the three secondary sources cautions the dangers in ICT applications and make references to ground realities in India.*

*The paper concludes that the structure and orientation of ICT policy initiatives, in a large measure are directed towards market-oriented demands of globalisation. Many projects are hardware driven and have little or no investment in training or capacity building prior to setting up of ICT infrastructure at the grassroots. The paradigm of development that majority of the ICT4D projects*

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*address, though offer successful models for Public Private Partnership, does not seem to be making people partners in bringing about change, whereby negating their roles of active agents in taking charge of their lives.*

## **Background**

Twenty first century has witnessed technological innovations leading to variety of socio-cultural and economic and ecological impacts never seen in the in human history. Advanced micro-electronics-based Information and Communication Technologies (ICTs) have been transforming economic and social domains of life, both in industrialised as well as many 'developing' countries. In last two decades global 'pressure' to harness benefits of ICTs for public good has faced mixed responses as their relevance and usage has been widely debated. On one hand digital divides in the communication networks counters democratisation of information, on the other, extension of economy beyond nation/states faces challenge of 'clinging' to 'local identities'.

Agrawal (2004) elaborates three positions with reference to the role of ICT. "The 'techno-positivism' view refers to the opinion of those engineers, scientists, and political leaders who believe that ICT helps political and emotional integration, thereby strengthening democracy and development process. The 'techno-negativism' endorses the views of those who think that ICT in plural civilisations having multiple languages and 'world view' imposes the views of a politically dominant minority over the majority and precludes the possibility of a uniform development. In the process, ICT tends to create emotional dissonance, increases control over information by few, and thereby weakens the democracy and development process. The 'techno-neutralism' represents views of those who believe that ICT by itself does not create any condition for weakening the democracy or development efforts rather the aims and goals of the communicators are directly responsible for

strengthening or weakening the democracy and development process".

Development as a concept has become major concern as well as challenge in last few decades. Development issues in this context have emerged as one of the major site where issues of human security, environmental degradation, ecological imbalance and climate change, have been extended beyond geo-political boundaries. The Millennium Declaration, signed by world's leaders of 189 countries in 2000, established 2015 as the deadline for achieving most of the Millennium Development Goals (MDG). The majority of MDG targets has a baseline of 1990, and is set to monitor achievements over the period 1990-2015. The eighth Millennium Development Goals (MDG) refers to "develop global partnership for development" encompass a target "in cooperation with the private sector, make available the benefits of new technologies— especially information and communications technologies" (<http://www.un.org/millenniumgoals/goals.html>).

Between 1995 and 1997, the United Commission on Science and Technology for Development (UNCSTD) investigated claims and counterclaims about the benefits and risks of ICTs. (Mansell & When, 1998: 1). Today ICTs for development also known as ICT4D, has become global reality. Many countries in the world, including India, have accepted the proposition that ICTs can be used for the betterment of their people.

In India, the path towards technology-induced development, especially associated with ICT, was given a vent in 1984 by the Congress Government under Rajiv Gandhi. He assumed power and adopted informatization of Indian society as an effective route to development, with massive programme of computerization launched in the public sectors as well in the commercial undertakings, and administrative departments. Department of Information Technology under the Ministry of Information Technology (IT),

Government of India (GOI) was established in 1999. It is the Central department responsible for all administrative functions relating to formulation, execution and implementation of IT policies in India. In the year 2000, Information Technology Act was passed. GOI declared 2001 as a 'year of e-governance'. Karwal (2007: 59) comments, "the Indian governments, at the national and state level, are keenly encouraging the development of IT as a strategy for responsive and transparent administration in all major domains. While initially, most e-governance efforts concentrated on data collection, data exhibition on web sites and facility for data downloading, there are almost negligible, if any, element of organizational transformation and change".

Harris & Rajora (2006) quotes Gartner estimate about India's spending of US\$ 1.008 billion on IT in 2002, making it the fourth largest vertical spender on IT after telecom, manufacturing and banking, and finance industries...The government accounted for 9 percent of the total IT expenditure in India for 2002. This figure is expected to increase to 15 percent by 2007. "India is home to one of the largest number of ICT4D projects in the world. Most of them are 'tele-centre' initiatives in rural contexts, based on public access to technology approach". (<http://www.eindia.net.in>).

GOI approved the National e-Governance Plan (NeGP), comprising of 27 Mission Mode Projects (MMPs) and 10 components, on May 18, 2006. NeGP as a part of its National Common Minimum Program has been aimed at improving the quality, accessibility and effectiveness of Government services with the help of ICT with total estimate cost of Rs. 5742 Cr. (approx. 1276 million US\$, 1 US\$= 45 Rs.), using Public Private Partnership model. The project suggests creation of Community Information Centres (CICs) to provide various kinds of community information required by common citizens, e.g. education, health, nutrition, sanitation, agriculture, wholesale prices of agricultural products, village industries,

weather, land records, utilities (such as, ration cards, driving licenses, birth certificates, death certificates, caste certificates, income certificates, etc.), and so on.

### **Defining ICT4D**

Before one gets to the '4D' domain in ICT4D, it is a challenge even to define ICT. ICT has been conceptualised mostly as a monolithic and homogeneous entity (<http://www.ict4d.org.uk/>). ICT as a technology "consists of hardware, software, networks, and media for collection, storage, processing, transmission, and presentation of information (voice, data, text, images)" as defined in the Information & Communication Technology Sector Strategy Paper of the World Bank Group (April 2002, <http://info.worldbank.org>).

Wikipedia defines Information Communications Technology - or Technologies (ICTs) as an umbrella term that includes all technologies for the communication of information. It encompasses: any medium to record information (whether paper, pen, magnetic disk/ tape, optical disks - CD/DVD, flash memory etc.); and also technology for broadcasting information (radio, television); any technology for communicating through voice and sound or images (microphone, camera, loudspeaker, telephone to cellular phones). At present, it is apparently culminating to information communication with the help of personal computers (PCs) networked through the Internet through information technology that can transfer information using satellite systems or intercontinental cables. (<http://en.wikipedia.org>).

ICTs can be used to seek, receive, create and impart information and ideas by anyone, at any time and for any purpose. This makes it possible for users to bypass traditional and official channels of information and communication. (<http://www.cprsouth.org>)

ICT4D gets defined by [eindia.net](http://www.eindia.net) as e-Gov (e-governance), digital LEARNING (online/open learning) eHEALTH, mServe (Mobile technologies), Tele-centre forum, e-Agriculture,

and municipal IT having multiple applications (<http://www.eindia.net.in>). The site expands the innovations in municipalities under three categories: one, role of IT in establishing contact with citizens, speeding up the work process, efficient handling of work, transparency in dealing with citizens, efficient transactional services, easy accessibility of services. Secondly, e-Governance services as envisaged under JNNURM (Jawaharlal Nehru National Urban Renewal Mission) like registration of births and deaths, public grievance redressal, property tax management, including records management, municipal accounting system, work management system, e-Procurement, personal information system, payment of property tax, utility bills, building plan approval. Thirdly, management of amenities that come under ULB (Urban Local Bodies) like urban water supply, sanitation, transport, and Geographical Information Systems (GIS).

Another way of categorizations for ICT4D projects can be funders, stage of implementation, sector or nature of participation. ICT4D projects can have Government, private corporations, multi-lateral agencies or philanthropic organizations and Non-Government Organisations (NGO) as funders. Most often these projects demand relatively larger investments and some sort of technical infrastructure because of which most projects are multi-party or multi-stakeholder projects. Some are experiments, some are on-going projects and some have been able to institutionalize themselves. Another kind of categorization that gets used for ICT4D projects is G2G, G2B, G2C, and B2C. G being Government, C is Citizen and B being private player. ICT4D projects can be sectoral like education, health, agriculture, governance, livelihood, employment generation, entertainment, environment, sustainable development, ICT literacy, business, commerce, and so on.

## Projects of ICT4D in India

Though it is not in the purview of this paper to provide exhaustive database of on-going projects of ICT4D in India, it attempts to bring in the overview by summarizing few of them and analysing the selected secondary sources at length to examine ICT4D projects in India.

Agarwal (2007: xiii) comments in the preface of his edited book, “even though there are a number of projects in different phases of implementation and many claim of significant successes, there is overall a lack of sharing of information of successes or failures of these projects (mainly in the context of Government funded ICT4D projects)...not much has been published and with transfers being such a part of government policy, the key persons (project champions) are transferred to other projects and activities, frequently resulting in knowledge base not being documented...there seems to be a major gap between documented claims and actual reality”.

Ghosh and Das (2006) consolidate community information initiatives in India in a tabular format as shown in **Table-1**. Swiftjyoti ([www.niitercs.com](http://www.niitercs.com)), Informationthela (<http://www.it.iitb.ac.in>), 'Telecentres on wheels' (<http://portal.unesco.org>), are some of other the initiatives apart from the ones examined from three secondary sources chosen for the study which are Bhatnagar and Schwere (2000), Harris & Rajora (2006), and Agarwal (2007) covering close to 100 projects/initiatives/experiments of ICT4D. The reason for choosing them, being exclusive publications about Indian projects written predominantly by Indians. Agrawal (2004) elaborates on Samarakshak: Integrated Information for Early Childhood Development (IIECD) and Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) Project which too have been briefly elaborated below to provide perspective about range of ICT4D projects in India.

Samarakshak: Integrated Information for Early Childhood Development (IIECD): In co-operation with the state governments of Andhra Pradesh and Karnataka, with the IT firm CoOptions Technologies Ltd., has initiated Sisu Samrakshak; a pilot project to harness ICT to accomplish the following:

- Provide access to rapid, accurate and up-to-date information on matters of human development, including child health, maternal care, HIV/AIDS, water supply and sanitation and other time-sensitive information to families and communities;
- Provide information and on the job training support to front line functionaries such as Anganwadis, ANMs, teachers and other workers; and
- Augment current programmes supported by the state governments and UNICEF (i.e. integrated border district health programme, integrated programming in health, children's development /nutrition and water supply-sanitation) to accelerate achievement of goals pertaining to children and women's development.

**Table 1: Community information initiatives from India**

<b>Name of the Project (with Web Address)</b>	<b>Coverage</b>	<b>Institutions Involved</b>	<b>Type of Participation</b>
Akhaya (www.akshaya.net)	1 State (Kerala) Kerala	State Information Technology Mission	G2C
Bhoomi (www.revdept-01.kar.nic.in)	1 State (Karnataka)	Revenue Department; National Informatics Centres	G2C
Community Information Centres (CIC) (www.cic.nic.in)	10 States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Jammu & Kashmir)	Ministry of Development of North Eastern Region (DONER); National Informatics Centres	G2C
Digital Gangetic Planet (www.iitk.ac.in/ mladgp)	1 State (Uttar Pradesh)	Media Lab Asia, IIT Kanpur	G2C
Drishtee (www.drishtee.com)	5 States (Haryana, Punjab, Madhya Pradesh, Rajasthan and Bihar)	Drishtee Ltd.	PPP

Name of the Project (with Web Address)	Coverage	Institutions Involved	Type of Participation
eChoupal (www.echoupal.com)	6 States (Madhya Pradesh, Karnataka, Andhra Pradesh, Uttar Pradesh, Maharashtra and Rajasthan); 31,000 villages	International Business Division of ITC Limited	PPP
Gyandoot (www.gyandoot.nic.in)	1 District (Dhar of Madhya Pradesh state)	Gyandoot Samiti & National Informatics Centres	G2C
Rural e-Seva (www.westgodavari.org)	1 District (West Godavari district of Andhra Pradesh state)	West Godavari District Administration	G2C
TARahaat (www.tarahaat.com)	4 States (Punjab, Haryana, Madhya Pradesh, Uttar Pradesh)	Development Alternatives	PPP
Village Knowledge Centres (VKC) (www.mission2007.org)	600,000 villages across India by the year 2007	National Alliance for Mission 2007, NGOs, Dept. of IT, Ministry of Panchayati Raj, Ministry of Agriculture, National Bank for Agriculture and Rural Development, etc.	G2C, PPP
(G2C = Government to Citizens, PPP= Public Private Partnership)			

(Source: Ghosh and Das, 2006: 6)

**Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) Project:** Currently TANUVAS tries to maintain contact with rural farmers and entrepreneurs through 14 University Training and Research Centres (UTRC), three Farmer Training Centres, and two Krishi Vigyan Kendras (KVK-Farm Science Centres) —all scattered in rural towns throughout Tamil Nadu. These outreach services are staffed with animal and agricultural specialists, most of whom hold post graduate degrees and professional level rank in TANUVAS. The primary means of contact with the rural constituents at the centers is through face-to-face contact, either individually or in training programmes and workshops. While strategically placed to serve rural communities, the breadth of

information services is largely limited to animal production issues. With the present system based heavily on labor-intensive personal contact, the centres do not reach a significant proportion of the population. Through a World Bank supported Human Resources Development Project, TANUVAS will connect each Rural Information and Communication Centres (RICC). The Centres would expand the resources in two ways: (1) by making available a range of information and communication technology to the public; and (2) by increasing the breadth of information and training resources available, thus including current market data, family health and nutrition information, literacy materials, and e-commerce facilities.

## Analysis of selected Secondary Sources

**Bhatnagar and Schware (2000)** compile 14 projects/programmes related to ICT4D. They use four categorizations to divide ICT4D projects-projects for decision support to public administrators in planning and monitoring of development programmes (1994 project of GOI and Apple computers providing electronic support to rural healthcare workers, and disaster management plan for Maharashtra), improving services to citizens and bringing in transparency (National Dairy Development Board, Mandal revenue office computerization in Andhra Pradesh, deeds and stamp duty registrations and rural postal system), empowering citizens through access to information and knowledge (Wired village-Warana experiment, Inmarsat experience in rural telephony, and honey bee multimedia database network of Gujarat ) and lastly, use of ICT for training in rural areas (Satcom for extension training, Satcom for barefoot managers, Same language subtitled for literacy, multipurpose electronics and computer centers and ICT by Blind people's association). The book makes a remark that there is considerable number of ICT applications found in India at the district level and has been implemented and well documented (applicable to multilateral agencies or private corporations projects) since the 1970s.

**Harris and Rajora (2006)** examine 18 development projects in India that make use of ICTs in the form of community tele-centre for the benefit of the poor. The objective was to evaluate them along key constructs relating to their potential for scaling up; these were Project Design, Community Participation, Project Outcomes, and their contextual Political Economy. 2,156 users of the tele-centre completed questionnaires and interviews were conducted with project stakeholders and personnel. Three-fourths of our survey respondents were male. Following is the

brief description of 18 projects covered under the study. The outline has been retained as a part of this paper considering the diversity of ICT4D projected through these 18 projects.

- 1. Akshaya – Mallappuram, Kerala [2001]:** A joint project between local bodies (gram Panchayat) in rural areas, municipalities in urban areas and private entrepreneurs in Mallappuram district of Kerala was started to bridge the digital divide by providing community access to computers and the Internet. Five hundred and sixty-five Community Technology Centres (CTCs) have been implemented in the district. Akshaya operates PPPs in establishing the CTC in remote villages.
- 2. Anand Milk Collection Centres – Anand, Gujarat [1996]:** The Anand Milk Union Limited (AMUL) with more than 578,000 members was the first cooperative dairy to be established in Gujarat. It was established in 1956, and now AMUL collects 0.8 million liters of milk from 1,003 milk societies every day. AMUL introduced an electronic automatic milk collection system in 691 milk collection centres, which reduced the time required for collecting the milk. The system weighs the milk and measures its fat content at the time of delivery to the centre, and this has enabled immediate payments to the farmer.
- 3. Bhoomi – Bangalore, Karnataka [2000]:** The Department of Revenue, Government of Karnataka, has computerized 20 million land ownership records of 6.7 million farmers in the state. Each record is available online from 177 taluka kiosks at a cost of Rs 15 per record. The project has been widely acclaimed as possibly the most successful ICT project for land records in the country.

4. **Computer-Aided Administration of Registration Department (CARD) – Hyderabad, Andhra Pradesh [1998]:** This project in 214 registration offices provides services such as encumbrance certificates, valuation certificates, market value search, etc., on user-charge bases. The time taken for registration of documents has been reduced from one day to 15 minutes. More than 4 million documents have been registered, and 2.16 million encumbrance certificates and 3.73 million registration check slips have been issued since 1999.
5. **Community Information Centres – Gantok, Sikkim [2001]:** This project was started by the Department of IT, GOI with the technical support of the National Informatics Centre (NIC). This pilot started in 30 blocks of seven North Eastern states presently covers all 487 blocks in 79 districts of the states, including Sikkim, having one tele-centre each. The kiosks provide e-governance, e-health, e-education and e-business opportunities.
6. **e-Choupal – Ujjain, Madhya Pradesh [2000]:** This web-based initiative of Indian Tobacco Company's international Business Division in Central India caters to Soya growers for information, products and services required in Soya farming. The kiosks facilitate the supply of high quality farm inputs and purchases of Soya at the doorsteps of the villagers. This project was started in 42 villages of Ujjain district and around 1,800 kiosks in Madhya Pradesh and has around 3,300 kiosks in Central India. The kiosks also handle dealerships of various commodities like Hero cycles and Eicher tractors. This feature has provided extra benefits to the villagers in terms of minimizing their cost on travel expense.
7. **e-Seva – Hyderabad, Andhra Pradesh [2001]:** The project was started as a pilot in the twin cities of Hyderabad and Secunderabad, and was thus called TWINS (Twin Cities Integrated Network Systems). It was started at the cost of Rs 10 million, fully funded by the Government of Andhra Pradesh. The project provides registration of birth and death certificates, and vehicles and learners' driving licenses.
8. **Fast, Reliable, Instant and Efficient Network for Disbursement of Services (FRIENDS) – Thiruvananthapuram, Kerala [2000]:** This one-stop service centre uses computers to provide public services such as payments of electricity bills, examination fees, motor vehicle tax, building tax, property tax, water bills and telephone bills. This project is operational in all 15 district-headquarters of the state. The services are provided on a user-charge basis and government officials operate the counters at the FRIENDS centres.
9. **Gramdoot – Jaipur, Rajasthan [2002]:** Aksh Optifibre Ltd is India's second largest manufacturer of optic fibre cables provided an integrated hardware and software solution for connectivity in the Gramdoot project. Gramdoot provides e-governance through broadband services to 200 Gram Panchayats in Jaipur district. The project also provides cable connections to rural households on which 32 television channels are telecast. High-speed non-dial-up Internet access at 70 Kbps is available to 200 villages. Land records, prevailing market rates of agricultural commodities, Hindi e-mail facilities, application for certificates and online grievance opportunities are also provided.
10. **Gyandoot – Dhar, Madhya Pradesh [2000]:** This project started as a comprehensive community network in Dhar district with 40 ICT-equipped information kiosks and has been replicated in more than 45 districts in India. More than 24 public services are installed, including land records, agriculture commodity

rates, grievance opportunity, and applications to government departments. These are charged to users. All the kiosks are either community financed or privately owned.

**11. India Agriland – Nellikuppam, Tamil Nadu**

**[2003]:** EID Parry, a 212-year-old private company, working in the field of sugar production, catering to 100,000 sugarcane growers has partnered with N-Logue Communications Private Ltd. for 48 kiosks since 2003. The project disseminates market and commercial information to farmers and provides them with direct access to their markets. These services are provided at user charges ranging from Rs 5 to Rs 10 per service. Information kiosks also collect soil samples for testing and sale seeds, sugar, tea and candies.

**12. Janmitra – Jhalawar, Rajasthan [2002]:**

A joint initiative of UNDP and the GOI, has been implemented with the help of district administration Jhalawar, Department of IT (Government of Rajasthan) and RajComp, a state agency. A rural intranet provides e-governance, e-education, e-health and e-commerce services to the villagers through 30 Community Information Centres (CICs); 21 departments are connected to the server through dial-up connectivity and 13 departmental offices are on a Local Area Network (LAN) with the server. The kiosks also function as stamp vendors, petition writers, computer education providers and desktop publishing (DTP) providers.

**13. Mahitishakti – Panchmahal, Gujarat [2001]:**

About 80 tele-centres have been set up in Panchmahal district to cater to the information needs of villagers. The network provides more than 200 online forms of different government schemes. It also provides updated sanctions of development works from the District Rural Development Agency and the District Planning Board, along with some GIS functions available in the local language (Gujarati).

**14. N-Logue Telecentres – Madurai, Tamil Nadu[...]:**

N-Logue Communication Private Ltd., a commercial offshoot of Indian Institute of Technology (IIT), Madras, has pioneered its own version of WiLL technology. In Madurai district of Tamil Nadu, 30 tele-centres have been set up, which provide a link between the doctors at Madurai Medical College and the villagers. Besides telemedicine, several other web-based services are also provided to the villagers.

**15. Self Employed Women's Association (SEWA) – Ahmedabad, Gujarat [1998]:**

SEWA is a large primary trade union working since 1972 for women workers in the informal sector. SEWA's two main goals are full-employment and self-reliance. SEWA started using the SatCom (Satellite Communication) Programme with its receiving terminals in nine districts and transmitting terminal in Gandhinagar. SEWA has started computer training for semi-literate women workers. Many of its milk cooperatives are using computerized milk collection software.

**16. TARahaat – Jhansi, Uttar Pradesh [2000]:**

The project was started by Development Alternatives (with the help of 12 project partners) in four districts of North India as a business model to cater to the unserved rural markets. The project provides services like TARAbazaar (e-bazaar), TARAvan (mobile kiosks), TARAguru (e-education), TARAdhaba (cybercafé), TARAreporter (news), TARAdak (e-mail), TARAvendor (e-commerce) and TARAcad (e-greetings). This project provides connectivity to franchisee kiosks through C-band satellite, VSAT or dial-up modem, according to the infrastructure available.



**17. Vidyal Information Service Provider (VISP)**

**– Tiruchirapalli, Tamil Nadu [2003]:**

Activists for Social Alternatives (ASA) has been working in five districts of Tamil Nadu in rural micro financing since 1993 has 2,000 women's credit and thrift groups and has 60,000 women members. In May 2003, ASA launched VISP in six villages. The project provides services such as prices of agriculture commodities, horoscopes, rural market place, matrimonial services, educational services, grievance opportunity, government forms, etc., by using the software developed by Drishtee Foundation. The kiosks also provide services like web browsing, DTP, data entry job work, net-to-phone and basic computer education.

**18. Warana Wired Village – Kolhapur, Maharashtra [1999]:**

The Government of India, the Government of Maharashtra and Kolhapur Sugar Cooperative on a cost-sharing basis has linked 70 villages in Kolhapur and Sangli districts of Maharashtra through a Wide Area Network (WAN) using dial-up connectivity and VSAT technology. This project aims to provide benefits to members of the sugar cooperative and the villagers. More than 12 public services, such as measuring the content of carbohydrate in sugarcane, payments due to farmers, land records, etc., have been introduced.

All the projects in Harris and Rajora (2006) refers to tele-centre information dissemination approach. It recognizes that even when individual implementations generate useful and unambiguous benefits, external factors such as political will, social awareness, business imperatives and the availability of resources will affect the rate at which ICTs are made available to wider audiences of poor rural populations. The study remarks that the projects with promise have the ability to influence these external factors but at the same time they are not dependent on these factors being in their favour. The project succeeds to the extent to which the

recipient community accepts the project within its day-to-day life. It has emerged that the most effective way of achieving community acceptance lies in the quality of the staff at the centres with whom the community interacts. This in a way negates the role of ICT as a sole service-provider in Western context and demands human interface to make ICT intervention relevant and effective.

**Agarwal (2007)** elaborates 41 case studies on e-governance based on the on-going e-Governance projects entered for the Computer Society of India-Nihilent e-Governance Awards 2005-06 instituted in the year 2003. The content analysis reveals, excluding two repeated cases, out of 39 case-studies majority represented six States- Andhra Pradesh and Kerala (6 each), Gujarat (5), Karnataka and Maharashtra (3 each), Haryana (2) apart from Government of India (6). There is one case study each from five states (8 North-Eastern States treated as one, Chattisgarh, West Bengal, Uttaranchal, Assam) and three Union Territories (Delhi, Chandigarh, Luckshdeep). In all only 11 States and three union territories out of total 28 States and 7 union territories on India were competing for e-governance awards. The ICT for e-governance users are mainly citizens (25) followed by government (14). The projects ranged for applications like providing information to citizens (17 projects) for variety of things like motor vehicle registration, employment, postal insurance or e-post or instant money order, pension case follow ups, ticket reservation, centralized seat allotment for professional courses or “mutli-service single window” application. Government applications included file monitoring and management, land records, treasury, irrigation or mapping of land and water resources through satellite images, procurement, collectorate modernization or court information management. The entire book elaborates about what is being offered rather than who the users are and no reference and any comment with reference to needs of the people for whom such massive investments are being made.

Analysis of all the secondary sources reveals repetitive representation of certain ICT4D projects like WARANA wired village, TARahaat, Bhoomi, SEWA, Andhra Pradesh mandal computerization and eChaupal. While Agarwal (2007) elaborated all government e-government projects in the context of the work, Harris & Rajora (2006) refers to ICT tele-centres mainly in rural India. Bhatnagar and Schware (2000) provide the wider applications of ICT4D. All the three secondary sources cautions about the dangers of ICT applications and make references to the ground realities in India.

### **Defining 'D' of 'ICT4D' in Indian Context**

Development as a term has yet to find a universally acceptable definition. The discourse has undergone many changes with time. Yet as a term it refers to wide spectrum of economic growth, physical quality of life (life expectancy, infant mortality and literacy) human development indicators (equity, sustainability of physical-human-financial-environmental resources, productivity and empowerment of people) in a given national context. The pre-condition to achieve a state of development in a country context is a democratic political system of governance with transparency and responsiveness.

Prahalad & Hart (2002), using four-tier categorization for world population pyramid, remarks that tier four (poor) “communities are often physically and economically isolated, better distribution systems and communication links are essential to development of the bottom of the pyramid...creating buying power, shaping aspirations, improving access, and tailoring local solutions- the four elements of the commercial infrastructure for the bottom of the pyramid are intertwined. Innovation in one leverages innovation in the others. Corporations are only one of the actors; MNCs must work together with NGOs, local and state governments, and communities.

India is a land of 5000 year old civilization and 50+ year old democracy houses geographically, geologically, climatically, culturally, linguistically diversities. Present India is young (65 percent below 30 years of age), better literate than earlier (decline in absolute number of illiterates from 1991 to 2001), populated (density 324 per Sq. K.M.), rural (72 percent) nation. India is an example of how cultural diversity in society gets mirrored by market not merely for economic reasons but for cultural and political also. The threats are opportunities and masses are occasionally dominating the directing the market.

Development of ICT4D in the Indian context requires the understanding of the grass-root reality. Chakraborty (2007) based on her fieldwork in Mong-Nagaland (with reference to usage of CICs of NeGP) quoted a response of a local man to the question, what are the three most important things he would want to have for his village? The response was 'We need to create a secure water source, ensure that every child can read the Bible and build better roads for different access points within village and a community gathering place where villagers can meet and discuss issues of common interest'. She asked a woman what development meant to her and the local village woman stated “Till now we survive on aid from outsiders, Development would be, to become provider for others”.

The census of India, 2001 household data reveals that even by the beginning of twenty first century, one fourth of Indian population resides in slums indicating poor quality of life. Half (precisely 52.5%) of the Indian households use firewood for cooking and only 17.5 percent of Indian households have LPG stoves for cooking. Half (53.6%) of the houses are without drainage, majority (63.6%) of households do not have latrine/toilet facilities and only one-third (36.1%) has bathroom facility within the house. Only half (53.42 %) of the households have drinking water within the premise wherein 34.25 has the facility

nearby but 12.33 percent of the households in India has to go far of to fetch “drinking water”. The status of electricity is equally dismal, as 44 percent of the households in India do not have access to electricity. **Table 2** illustrates the differences of asset ownership across rural and urban households in India and usage of banking facilities.

## Challenges for ICT4D in India

Considering that ICT is defined “mostly as a monolithic and homogeneous entity”...a great extent, the ambiguous findings and diverse opinions on the role of ICT in national development can be attributed to this limited focus (<http://www.ict4d.org.uk/>). Chakraborty (2007)

**Table 2: Percentage Distribution House-Holds assets/banking access by rural and urban**

	Availability of assets							Total HHs availing Banking
	Radio	TV	Phone	Cycle	2-Wheeler	4 -Wheeler	None Specified	
All India	35.1	31.6	9.1	43.7	11.7	2.5	34.5	35.5
Rural	31.5	18.9	3.8	42.7	6.7	1.3	40.5	30.1
Urban	44.5	64.3	23.0	46.0	24.7	5.6	19.0	49.5

ICT profile of India (2005/06) prepared globally too confirm to the ground reality as out of the total population of 1.037 billion, only half (52 %) has literacy in national language. Per 100 inhabitants computer ownership is 0.6, Telephone lines are 4.2, Cell phone subscribers are 1.73 (2001), Internet users are 1.65 and subscribers are 0.33. Per 10,000 inhabitants, Internet hosts are 0.35, Internet cafés/tele-centres users are only 0.1. Number of websites in the national language(s) is only 20,000 while number of websites in English and other language(s) is 1,30,000. (<http://www.apdip.net>)

Apart from technological and hardware factors, “existing social division and disparities are much sharper than digital divide...it has to be viewed in the context of few other access realities [like]...electricity, telephone, computers, Internet. ICT especially, Internet access and use has no relevance to the land-less poor so long as it does not provide roti and roji (bread and employment)” (Sarkar, 2002:4). India has 22 official languages and multiple religious and ethnic diversities reflected in its colour, text, visuals, aesthetics, symbols and signs.

asks three basic questions with reference to ICT4D in Northeastern states under NeGP: development of IT or development with IT, e-governance or good governance, and empowerment through delivery or empowerment through access?

Saikia (2007) elaborating the experiences of Dharitree: The web-technology-based total land records management system of the Government of Assam elaborates “brief walk through of the project- land record computerisation (with technical support of the Assam Electronics Department Corporation) as a pilot project was started in Sonitpur district in 1991 and data entry was completed by 1993, the project could not be continued because of the problems like data storage, integration and maintenance of information technology(IT) infrastructures. “Although, this pilot project failed, it gave lot of knowledge to restart the project with renewed confidence”...she mentions, “it is well known to all that ICT alone cannot bring in real e-governance in a developing country like India. There are many challenges, which are to be dealt with strong determination, planning, and a policy by the government to achieve the objectives of e-governance. She lists six challenges- lack of system

of review and analysis of problems, lack of government commitment and participation to bring in success through e-governance, lack of government agenda for citizen's awareness campaign and citizen charter policy, corrupt and inefficient staff, inefficient processes, and sustainability” (p-236).

De' (2006) records the IIMB Management Review Round Table Discussion on E-Government Systems in Developing Countries bringing together a panel of stakeholder representatives, policy makers and academics in an attempt to understand the issues that are central to the success of e-government systems in developing countries. The note has comment by a Deputy Inspector General of Police, “I notice in both presentations that the government employees are not treated as stakeholders in the entire initiative. Similarly, the e-governance initiatives that I have seen, taken by the government or the NGOs, have not been able to convince the employees who function there... Many of these experiments/ initiatives have actually increased the work load of the subordinate staff in the government. They feel that it is an additional burden, which they have to carry – and they don't see the facilities that come out due to this increased efficiency”. Karwal (2007:60) remarks that quality, selection, responsiveness and speed seem to have been overtaken by the concept that competition can be decided on the basis of 'best price' alone. And for a country like India, price can be only one of the considerations.

Mayanja Meddie (2006) based on experiences from India and Africa reviews three tele-centre sustainability models- The Social Development Approach, The Enterprise or Information Kiosk approach, and The Social Enterprise Approach and comments that combining financial and social sustainability of tele-centres remains a key challenge more than a decade after the establishment of tele-centres as a social, cultural,

and economic development experiment. She makes an argument for a new approach - one that will ensure financial sustainability and high social capital leading to expanding community usage.

Harris and Rajora (2006) notes, “several projects (ICT for rural communities) have failed to understand the importance of cultivating close relationships with their beneficiary community, either by employing inappropriate staff within tele-centre or by failing to supply incentives for those staff to ensure that they are sensitive to the needs of the community”.

In a Valedictory Address titled 'E-Governance: The Next Chapter' delivered in the Second Round Table on IT in Governance on 13.03.2002 by N. Vittal, Central Vigilance Commissioner, he pointed out that the culture of governance in India is characterized by three important elements: secrecy, seniority and corruption. De (2007) notes about Transparency International survey of 133 nations (2003) in which India ranked 83rd with score of 2.8/10, Survey conducted by national daily in 2004 stating people believe that 85 percent bureaucrats are corrupt and mentions that Corruption has increased after 1991. e-governance though providing the scope for transparency and lesser corruption, may also add many intermediaries. Poor, powerless, technology-intimidated people might need facilitators to empower them to harness benefits of ICT.

Prahalad & Hart (2002) notes, “It is tragic that as Western capitalists we have implicitly assumed that the rich will be served by the corporate sector, while governments and NGOs will protect the poor and the environment. This implicit divide is stronger than most realize. Managers in MNCs, public policymakers, and NGO activists all suffer from this historical division of roles. A huge opportunity lies in breaking this code — linking the poor and the rich across the world in a seamless market organized around the concept of sustainable growth and development”.

## ICT4D.....Dominant paradigm?!

The medium of television was initiated in most developing countries including India mainly due to 'political will' (UNESCO 1953, 1964) and was labelled as 'violence to life' in otherwise outdoor life of 'developing' countries (Katz & Wedell, 1977). Mattleart (1984) discusses society as the site of confrontation and negotiation between social groups that serve to mediate national communication policies. ICT on those lines function as an "ideological apparatus, its relationships with the State, at least with the State conceived as a set of institutions, are relative, variable and historical" (Caughie, 1978).

Bajwa based on his study of ICT policy in India remarks that "among the developing countries, even though India has been able to establish considerable ICT national capacity in the context of market-oriented globalization, the same cannot be said about India's ICT capacity for addressing pressing needs and demands of the underprivileged sections and majority of the people in terms of education, health, energy and transportation systems to name some important sectors are concerned...the exploration of major ICT policy documents and state ICT policy discourse reveal developmental concern for these sectors... the structure and orientation of ICT policy initiatives, in a large measure are directed towards market-oriented demands of globalisation. It also emerges from the study that the role of individual state leadership for proactively using ICT for development, also tend to strengthen the system of market economy (2003: 59).

The logic of reducing the cost of ICT with scaling up of usage may not apply for the country like India where 'information infrastructures' are not technology- centric and oral cultural traditions have sustained societies for centuries. Besides that scaling up means uniformity which is largely irrelevant in a context of linguistic and other diversities of the country. No doubt, one is not proposing that the country needs to live in pre-

historic times in caves when world is going to Mars, but when food-shelter-clothing needs of the large majority is yet to be addressed, education-health-gender parity are still contested areas, how justified it is to invest into so-called technology infrastructures?

Analysis of ICT projects/experiments /initiatives reveals that they intend to provide decision support to public administrators in planning, implementation or improving of development projects, provide access to information and transparency to citizens, or empower people through training using ICT. Many of the projects are hardware driven and have little of investment in training or capacity building prior to use of ICT infrastructure at the grassroots level. Little or no investment figures in the budgets for needs assessment or two way interactivity in operational terms.

Village Knowledge Centre (VKC) Project by the Swaminathan Foundation emphasizes integrated pro-poor, pro-women, pro-nature orientation to development and community ownership of technological tools against personal or family ownership, and encourages collective action for spread of technology. The local through connecting villages by PCs, telephones, volunteers gather information and feed it into an Intranet and provide access through nodes in different villages. E.g. In Veerampatinam village (in Pondicherry), a fisher woman downloads every day the weather data from the U.S. naval oceanographic office operated by the Department of Ocean Development gives information through satellite on the longitude and latitude of the place of fish schools. Now, these women have put up loudspeakers to announce the information (Gulati and Dogra, 2006). Though there is a scope for local content creation, in the above stated example, there is a dependence on the United States of America for local weather conditions. Isn't dominant paradigm told us that only 'specialists' have knowledge and others have to take it and disseminate it?

DR. A.P.J. ABDUL KALAM, President of India (July 2002 TO July 2007) coined a term, PURA (Providing Urban amenities in Rural Areas) which aims at delivering three types of connectivity: physical connectivity by providing roads in rural areas, electronic connectivity by providing reliable communication network and knowledge connectivity by establishing more professional institutions and vocational training centres. Though the access is crucial, the assumption is “knowledge” lies in urban centres and 'development' as it is in 'urban' context. Where is the space for indigenous knowledge, assessment of local needs to bring about change in the quality of life of people apart from 'physical' quality of life?

The Government of India established a National Knowledge Commission (2006) on 13th June 2005 and has been given a time frame of three years. The Commission remarks, “Access is one of the most fundamental issues in a knowledge society. Even if universities, research institutions and laboratories produce large amounts of knowledge, it will be of little use until the majority of the population actually possesses adequate means to acquire, absorb and communicate this knowledge”. And again the premise taken is centre-periphery, where the people are passive receivers of the centralized information and not active agents of change.

Even as The Millennium Development Goals Report 2007 (UN, 2007) recording the progress on all the goals and also on the eighth goal, records mainly the hardware connectivity dimension and notes, “Connectivity is increasing, with the number of Internet users and telephone subscribers expanding worldwide. The most rapid growth has taken place in the mobile sector, which has been critical to improving communications in regions with few fixed telephone lines”. There is no mention about nature and quality of private participation or people participation in ICT projects.

Majority of the existing ICT4D projects reconfirms the dominant discourse of development “where role of state or civil society is to provide with material resources, with opportunities for skills or income augmentation and with employment. Strategies have never been built upon a resource in which poor people are often rich i.e. their knowledge” (Gupta et.al. 2000: 116). Most often the people for whom the projects have been designed are more of commercial decisions for private players or constitutional obligation for the public player in terms of completing the yearly budgets. Very few project refer to 'participation' or 'empowerment' of people through or in ICT4D projects. Unfortunately the participation also limits itself to “1) information-sharing or (2) consultation but never has (3) joint decision-making to (4) initiation and control by stakeholders” (Stewart and Wang, 2003).

### **Conclusion**

Based on the analysis of about 66 ICT4D projects in India using secondary sources, it can be concluded that tele-centre information access to its population is the most frequently used model of ICT4D in India. Even the study of tele-centre users (Harris and Rajora, 2006) revealed that the expectations of the project users were not well managed. They did not feel that their use of the centres encouraged them to adopt any form of leadership in using the technology. The essential condition for successful projects were:

- ❑ Projects that were formed within public-private partnerships, where the tele-centre operator had a financial incentive to succeed, possibly under a franchise arrangement;
- ❑ Centres that delivered a wider range of integrated useful services, including e-government, Agricultural support, education, trade facilitation, health and entertainment;
- ❑ Projects that participated closely with their beneficiary communities, in a bottom-up mode of design;

- ❑ Projects that targeted low cost technology; and
- ❑ Projects that engaged in capacity building at all levels of stakeholder engagement, from institutional to local.

This in a way asks for participatory model of project design and implementation. Human interface on tele-centres played a crucial role in acceptance of ICT4D application of tele-centres in a way suggesting inter-personal support being crucial to technology diffusion. The ICT policy and structure supports market economy of globalization and there does not seem to be much of space for people's needs and people's participation. The paradigm of development that majority of the ICT4D projects address though offer successful models for Public Private Partnership does not seem to be making people partners in bringing about change, whereby negating their roles of active agents in taking charge of their lives.

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# Disappearing Daughters in Vadodara: Reassertion of Normative Construction of Girl Child in Gujarat

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## Introduction and Outline

The development of the nation which is not engendered is considered to be endangered. Sex ratio of any country is not just a demographic variable but an important indicator of country's gender development index. An adverse sex ratio reveals a lopsided social development and violation of human rights. The demographic explanation for the rapid decline in CSR has to be therefore sought in the broader socio-cultural patterns and structures that grow and develop in a given political economy—a point powerfully highlighted by Amartya Sen through his article on 'Missing Women' (1990) which drew attention to the growing gender discrimination in terms of declining sex ratio (Sen, A., 1992: 586-587). The time frame of this decline in India coincides with the era of women's movement of 1970s. This gives rise to a paradox between reassertion of patriarchal ideology of son-preference and normative construction of girl child on one hand and emergence of new reproductive rights on the other.

There is a considerable regional variation in demographic trends of adverse sex ratio specifically the rapid decline in the child sex ratio. This decline is particularly significant in historically female deficit states like Punjab, Haryana, Rajasthan, Delhi and other north Indian states. What is alarming, however, is that the malaise of adverse sex ratio is also evident in states that did not historically indicate such a trend.

Among these states mention may be made of the rapidly industrialising states of Maharashtra and Gujarat. Another crucial factor indicated in the data is that there is contrast amongst the districts in each state and with their urban-rural and tribal components. Although the decline is evident in almost all the northern and north-western states of the country, the decline in Gujarat has been sharper only in the last two censuses of 1991 and 2001. And this decline is almost of 50 points. i.e from 928 to 883. (Census of India, 2001) On one hand it boasts of being one of the fastest developing states with a great economic, industrial and infra structural growth with high level of literacy. On the other hand, its sex ratio especially the child sex ratio is falling at a devastating rate. Vadodara, one of the progressive and developed districts of Gujarat exhibits this decline in the state since last two to three decades.

This paper broadly divided in to three sections, in the first part seeks to understand the general trend and transition in the decline in CSR in Vadodara (Gujarat). In the second section, it tries to comprehend the underlying factors responsible in the domestic sphere especially the son-preference and normative construction of a girl child in the Gujarati culture for the decline. In the third and final section it examines the impact of this visible trend on the social fabric in general, and institution of marriage in particular.

## Research Methodology

The paper is based on the data collected through an intensive field work in Vadodara during 2009-2015 for a doctoral thesis. Although this study draws from the ample data available on the statistical analysis of the sex ratio, CSR and its trends, it also aims at collecting experiential data. And hence it was essential to take an approach which is in-depth, egalitarian, emancipatory, and inclusive of voices from all the sections of society. It is located in the socio-historical methods of research in general and feminist standpoint methods in particular.

The study is conducted with a combination of secondary data collected from published and unpublished resources and works and primary data collected from the field. Secondary data from census reports, reports from local self governing body like municipal corporation records, archival material, reports from ministry of health, campaign material (both informative and communicative) provided by various NGOs, reports prepared by various NGOs, legal reports pertaining to the law, books, articles from various books and journals in English and Gujarati are used.

The primary data collection from the field study is undertaken with personal interviews and focus group discussions being the two main methods of data collection. A total of 250 respondents participated in the research and the sample was selected on the basis of non probability sampling based on the availability and willingness to talk. The respondents include a cross section, in terms of caste, religion, sex, economic and educational background. Taking its diverse nature into consideration, semi structured interviews helped to get a uniformity and cross section comparability of the responses. The other respondents include Gynecologists, Radiologists, Marriage bureau personnels, lawyers, government officials, representatives of civil society organization and academicians. A total of five focus

group discussions were conducted across, class, caste, religion and varying employment levels of women in Vadodara.

## Disappearing Daughters In Vadodara

Historically, as it is popularly known amongst ethnographers in the Gaikwad reign, Baroda was in its 'golden era' where it became one of the most progressive states of British India. Women's literacy, maternal health care and social reforms for women empowerment made a long term impact on the overall status of women in the state. In spite of the influence of general normative constructions regarding role of women, Baroda did project itself as a role model for gender equality and empowerment. However, it is important then to understand the transition from the glorious past of the state to the hitherto dismal decline in the sex ratio.

Amongst the major urban centres with low CSR in Gujarat, the city of Vadodara has indicated a rapidly declining sex ratio and child sex ratio of just 832 girls per 1000 of boys in the age group of 0-6 years (see appendix **Table 1**). (TOI, 2003: 3).

**Table 1: Attitudes of Respondents on Daughter Aversion**

Reasons for daughter aversion	Respondents (in %)
Dowry/marriage cost	45%
Protecting her virginity	35%
Small family/one child norm	05%
Considered to be someone else's property	15%

Vadodara due to its distinct history and location at the heart of the state, is a place of paradoxical contrasts—of educational emancipation and social regress as indicated by the recent evidence of an unequal sex ratio. An analysis of the trend indicates that this decline has been sharp in the last two decades. What is even more telling is the rural-urban variation in the child sex ratio. The urban pocket of Vadodara is experiencing a more severe decline, which is at the core of concern in the present study. Therefore it is ironic, that “despite wearing a tag of 'Sanskarnagari' and being called

the cosmopolitan capital of the state, Vadodara still witnesses the evil of female foeticide". (TOI, 2002). In spite of being a startling fact, no in-depth study was conducted in the cultural capital of Gujarat to probe into the factors responsible for this decline.

In studies conducted in North and north western India, son-preference and daughter aversion in the larger structure of patriarchy has been the most common and prominent amongst the factors causing sex selective abortions and subsequent declining sex ratio (Mazumdar, 1994; Mutharayappa et al, 1997; Mallik 2003, Visaria, L.2007; Patel T. 2007; Ravindra R.P, 2007; Bora and Tygai, 2008; Larsen and Hatti, 2008; Samaiyar, 2008). As per an analysis done by Pande and Ashton of NFHS I reports, Gujarat exhibits a very strong son-preference. Around 50% of them want more sons than daughters (Pande and Ashton, 2007: 9). According to NFHS –II the percentage of couples who want more sons has gone down from 50% to 33% however it is still higher compared to the percentage of couples who want more daughters- 1.8% (Bora and Tygai, 2008: 53).

In the present study in Vadodara these assumption hold true. When respondents were asked to rank or order their reasons of son preference in the family, majority of them (60%) believed that son is essential for continuing the family lineage. Respondents ranked economic insecurity in the old age and heir for business or property at par (18%) as the next reason for son preference. The business or propertied class like Jains, Patels or Lohanas posed heir for business or property as their reason for son preference. On the other hand dowry and marriage cost has been a major factor in considering daughters a liability or a burden. Even if there exist a practice of bride price, marriage cost has generally been borne by daughter's parents. The flow of gifts to the groom and his family does not end at wedding functions but continues at the occasion of all major events and festivals in their daughter's life.

Along with son preference and daughter aversion, the introduction of new reproductive technologies (NRT) in the 1970s and early 1980s in India resulted in a trend where in several states misused this method of detecting abnormalities in foetus as a tool to detect the sex of the child and consequently followed by sex selective abortions. According to a study conducted by Population Research Centre, M.S. University Baroda in 2004 on centres using ultrasound machines in the state of Gujarat, that there are about 1,735 registered centres/clinics using ultrasound machines in the state of Gujarat. Of these, 95% are owned by private sector. Further, amongst these centres, less than half of them had qualified persons (gynaecologists/radiologists) operating the ultrasound machines. Vadodara city has the second highest number of scanning centres after Ahmadabad. It was 155 in 2004 and increased to 235 in 2007-08. (Das, N., et al, 2004: 3; PNDT, 2007) The PNDT report by the government of Gujarat very clearly notes the co-relation between the number of sonography machines and the sex ratio at birth in that district.

In the present study a total of 23% agreed of undergoing abortion. 50% of those who had undergone abortion admitted to going in for it after sex determination test and the abortion was a sex selective one. A total of 10% of the total respondent admitted to have undergone SD and SSA. But a bigger number almost 50% of the total respondents were aware about its occurrence in their locality, neighbourhood, family or community or done by their maid or a worker. The practice was prevalent across the castes and class groups. It was often a decision taken by the joint family and imposed on women. The rare cases of contestations from women included separation from the extended family or divorce petition filed by her.

### Case study- I

Manjuben Makwana, an elderly domestic servant from a Scheduled caste is a mother of four sons. Her second daughter-in-law had given birth to three consecutive daughters. Unhappy with this, they had taken her for SD test (which she agrees is illegal, but managed to get it done with the influence of her son's employer who is a big name in automobile industry). Three consecutive tests revealed that daughter-in-law had female foetus and all three were hence aborted and therefore, she was taken to quacks in Vadodara who gave medicine for conception of a male child. After number of efforts, prayers and pleading at religious shrines daughter-in-law finally gave birth to their heir, a son. The age difference between the first daughter and the son is of almost 15 years. Manjuben is tensed that the first three granddaughters will have to be given a lot of dowry and gifts at the time of marriage and subsequently at their child birth. Although she wishes to have a small family, the need of having a vaaris (heir) made it necessary for her to have more pregnancies.

### Case study-II

Aruna Yagnik, a 32 year old middle class Brahmin woman from Ahmedabad was married to Harshvardhan Bhatt in 2000. From 2001-2007 she became pregnant 7 times of which 6 times she was forced to undergo SSA at different clinics in Ahmedabad, Vadodara and Anand. Causing her immense physical and emotional trauma. Charge sheet against the family, radiologists and gynaecologists at Vadodara and Anand were filed. Her husband and in-laws were arrested for four months and were then out on bail. No action has been taken so far against the doctors, due to loopholes in the case. Both the radiologist and gynaecologist continue with their practise in Vadodara till date (May 2014).

## Normative Construction of Girl Child in Gujarat

The normative construction of gender roles in India, which is based on inequality, is the basis on which patriarchy and son preference emerges, bloom and survive. And these norms and standards of gender relations are the roots for son preference and daughter aversion in Indian society. Other than family norms in India, several other socio-economic structures determine the son preference namely, the kinship patterns, marriage patterns, economic activities, religious beliefs etc.

Son Preference in Gujarat is widespread like any other north-western states in the country. As discussed by Neera Desai (1983) "the sole purpose of women's life in Gujarat during pre-British period was to get married and give birth to sons". (Desai, N., 1983: 67) Ethnographic data collected by several researchers on ideal size and sex composition of family, revealed clearly the pressure to start the family early within a year or two, need for small family with at least one son. "Amongst Jadeja, Rajputs and Kanbi community in Ahmadabad, other parts of central Gujarat and Saurashtra, 'dudh piti' (drowning an infant girl in a vessel full of milk) was a common tradition... One of the most common reason for doing so was rigid caste system and high expenses to be incurred on daughter's wedding. In spite of efforts by several reformers, female infanticide was never completely eliminated from Gujarat." (Desai, N., 1983: 316-318).

The culture, as discussed earlier plays a very important role in shaping the normative construction of a region. Son preference and devaluation of daughters are often reflected in culture, rituals, literature of Gujarat. In their folk songs, lullabies, sayings and idioms there is a clear prejudices and bias against the girls or woman in society. A series of rituals like the other north western states try to control women and their sexuality. There are several fasts like *Molaakat or*

\*One doctor, one health programmer and health worker of the Naramaya health centre.

*gauri vrat, jaya paarvati* (fasting for five days without intake of salt predominantly with fruits and dairy products alone) done by young unmarried girls, worshipping lord shiva desiring an ideal husband in future. Married women undertake fasts like *Kevada trij, vat saavitri or divaaso* for long and healthy life of their husband (Similar to Karva chauth in Northern India). Since menstruation is an impure period, any mistakes (of participating in any religious ritual) are to be repented by fasting on a particular day in a year. To keep the children protected from diseases like small pox, mother fasts by having a stale food the whole day (*shitala satam*). Girls who have not attained puberty are considered to be pure for auspicious occasions like entering a new home. (*gruhapravesh* with a *kumbh* of prosperity and purity).

Daughters being considered as a liability and her subordinate, indifferent status in the family is portrayed in songs like *Dikri to paarki thapan kehvaay, dikri ne gaay dore tyan jaay'* (Daughters are someone else's property, she is naive like a cow will follow the path as directed by others). A series of lullaby and rhymes like *Dikro maaro laadkvaayo, tame mara devnaa didhel chho, Dikro maaro dahyo patle besi nhaayo* addresses the son and his special place in the family. There are very few lullabies in Gujarati addressing the daughters. Girls are considered a liability and often depicted with terms like '*saapno bhaaro*' (bundle of serpent), *Ukardo* (heap of dung or rubbish), or *Pathro* (stone) or *halki maati* (heap of low quality mud). Birth of a daughter is cursed upon by idioms like '*jene gher kanya ene bhagwane dandyaa* (birth of a daughter is like a punishment of god), *saat dikri no baap vaanjhiyo* (father of only daughters is still an impotent). *Jhaazi dikarie kul hin* (several daughters in the family is a disgrace to it). Son-preference is also reflected in sayings like *Dikri e dansh vadhe, dikarae vansh vadhe* (birth of daughter spread sting, that of a son expands lineage), *pahelu sukh te jaate naryaa, biju sukh te gher dikraa* (the first symbol of bliss is health and the second is birth of a

son). Being mother of a son is like added feather to her cap making her position strong in the family (*vadhakani vahu e dikro janyo*). Generally even the sweets distributed (if at all any is distributed) at the time of birth of a girl is of inferior type compared to the one distributed at the time of birth of a son.

Gujarat historically has been one of the most prosperous states in the country. Agriculture and textile industry being the major contributor to the national income, Gujarat has been on the forefront of economic progress of the nation. Marriages in such a prosperous state are obviously an important occasion for families to incur huge expenditure. Marriage costs, more than a compulsion for parents, is a status symbol for Gujarati communities, where in one's status is often judged by the extravagant expenditure incurred on one's child, especially daughter's wedding.

Thus in Gujarat, castes like the Rajputs, Leuva Patidars of Kheda and Anavils of South Gujarat have high dowry linked with hypergamy; castes like Brahmins and Baniyas have 'indirect dowry' in addition to dowry proper, and lower castes and scheduled castes have bride-price in addition to dowry. There are a few instances of bride-price, being paid among the upper castes in Gujarat, as elsewhere in India, in cases where the groom is a widower of advanced age or has a large number of children from a previous marriage, or has a physical or mental handicap, and is unable to get bride from within his own marriage circle. But such marriages among Brahmins or Baniyas are exceptions. As observed by Visaria (2003) in her field study in Gujarat to find out the factors causing the phenomenon of missing girls, "dowry was a strong deterrent to have girls along with the fear that the daughters might be sent back to parental house if her in laws were not satisfied with the dowry or for any other reason". (Visaria, L., 2003).

The dowry component of the marriage system has increased in value over the last ten years (silver jewellery being replaced by gold or even diamonds

wherever possible, rough cotton saris by polyester or silk ones, and brass utensils by stainless steel ones, the household items now include electronic gadgets as well). The lower castes where dowry was not a menace have now, in order to climb up the social ladder, have started giving huge dowries to their daughters (TOI, 2003). Economic prosperity has further worsened the problem. Vadodara, being a part of this larger cultural tradition, internalises the these values and norms shaping the identity of a girl child.

### **Impact on Social Structures**

With decline in child sex ratio since 1990s, Gujarat is also facing problems especially in form of bride scarcity, marriage squeeze resulting in bride purchase and a sharp increase in violence against women. Although there is very little documentation of the impact of decline in CSR in Gujarat, newspapers are continuously covering the incidents of bride dearth and bride purchase in several parts of the state. One of the reasons for the lack of documentation could also be that the problem of marriage squeeze shows its impact after 20-25 years of the decline when the boys and girls enter a marriageable age. Since the sharp decline in Gujarat is evident since 1991 and more so from 2001, the impact is yet to be seen.

Apart from the respondents, interviews were also conducted with marriage bureau officials to understand the change in marriage patterns and practices as a result of male surplus and daughter deficit. The bureaus were randomly selected but tried to maintain a balance in the selection on the basis of communities. During the field research, respondents were asked if they had experienced dearth of girls for marriage in their community or in any other community in their locality or in the city at large. A majority of them (81%) agreed of having experienced scarcity of brides in their own community and other communities as well. The communities where this dearth is experienced the most are Vaishnavs, Brahmin, Lewa and Kadwa

Patels, Lohana, Soni, Rajput, Jains- Marwadis, Parmar, Barot. These are some of the very community where dowry or marriage cost is very high or where son preference is very strong.

The respondents were, however not sure of the strategy used in case of such dearth amongst these communities. Around 54% of them had heard of purchasing or getting girls for marriage from tribal communities from the state or from neighbouring states. For Brahmins or Vaishnavs respondents which belong to the high caste category in the hierarchy, the strategy used to solve the problem of dearth of brides is finding a bride from lower caste marriages. Although they all were hesitant to get a bride from lower caste, for them opting for inter-caste marriage seems to be a better option to at least continue with their family lineage. Whereas some of the Patel respondents admitted that they had to 'buy' girls from tribal areas of Gujarat as they could not find a suitable girl from their own community or even from other lower castes in their area.

All the marriage bureaus across the city operating for specific communities also expressed a similar concern of finding it difficult to get girls for their clients who are prospective grooms looking out for brides in their community. For them, "application from girls has reduced". "More boys' applications are received than girls. The ratio is 70 girls to 100 boys". And they also agreed to the increasing menace of bride purchase. They also agreed to the fact that to bridge this gap in marriage market and solve the problem of marriage squeeze there have been growing incidents of bride purchase. Though for them, it has not yet become rampant in Vadodara, but one hears of random cases in certain communities.

A majority of the respondents felt that Vadodara is safe and women feel secure in the city. But of late they all admitted that cases of violence have increased to a great extent. 54% of them feel that violence against women has increased in recent times. Merely 16% felt it is the same as earlier but

now it is being highlighted more by media. No one, amongst the participants however, could co-relate this rise in violence against women to decline in child sex ratio. There wasn't any awareness regarding the correlation between increases in abduction, rape or harassment cases against women to masculinity of sex ratio. As far as they could manage to get a bride from any other community by paying a decent 'bride price', they don't perceive the problem of bride scarcity as a potential problem for increase in violence against women. But the civil society organizations working in Vadodara admit of increased in violence against women and bride trafficking.

### Conclusion

The study reveals that the causes for the decline in CSR in Vadodara are placed within the larger normative construction of a girl child in Gujarati family with a strong son preference. Desirability of a son for continuation of family lineage and for economic security, as heir for the business and property on one hand, high dowry or marriage cost on the other are mainly responsible for aversion to daughters. Small family norm or one child norm as a factor influencing the ideal size and sex composition of the family (which was otherwise seen as a constraint for having one or more girl child) does hold true only partially in case of Vadodara. Population in Vadodara stresses upon two child norm with at least one son as their ideal size of the family which further limits the chances of survival for the second daughter in the family. The decisions although made by couple are to a great extent made out of the pressures from the member of the joint family especially the in-laws and often endorsed by the bride's parents as well. Of all the abortions declared by the respondents in the study, more than half have confessed of undergoing SD followed by SSA itself is an indicator intensity of the problem.

It is observed that Vadodara is yet to experience the far reaching impact of decline in sex ratio as it is

too early to establish causal relation between, bride purchase, trafficking or increased violence against women with decline in sex ratio. Although the scarcity of bride has been experienced across all the communities and casts, the dearth has not reached the alarming level as yet. With sharp decline in sex ratio, the child population which has been overtly masculine since 1991 will be of marriageable age in another couple of years. And the male surplus will then pose a major problem. The sharpest decline of 2001 will show its impact with almost 200 surplus men per 1000 of population will definitely cause disastrous imbalance in society in general and marriage market in particular. The rise in crime and violence against women is yet to be perceived in context of decline in child sex ratio in Vadodara.

**Table 2: Child Sex Ratio of Vadodara District and City, 1991-2011**

	1991	2001	2011
Vadodara Dist.	934	872	894
Vadodara City	911	839	860

Source: Census of India, 2001 and Census of India, 2011, Urban-rural distribution: 35.

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# Carbonising World

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*“Carbon is the backbone of life on Earth. We are made of carbon, we eat carbon, and our civilizations—our economies, our homes, our means of transport—are built on carbon. We need carbon, but that need is also entwined with one of the most serious problems facing us today: global climate change.”-Holli Riebeek*  
<http://earthobservatory.nasa.gov/Features/CarbonCycle>

The problem of climate change is basically the problem of increasing carbon in the atmosphere. Therefore all the measures of mitigation are the efforts to bring down the level of carbon dioxide and its sister carbon containing methane gas (CH<sub>4</sub>) in the atmosphere. **Carbon Cycle** is one of the wise mechanisms that the nature has endowed to the earth. Carbon resides in various reservoirs. It comes out of its reservoirs through various biological, chemical, physical and geological actions and keeps on passing through pathways of atmosphere, terrestrial biosphere, oceans, sediments and right deep into the earth's interior.

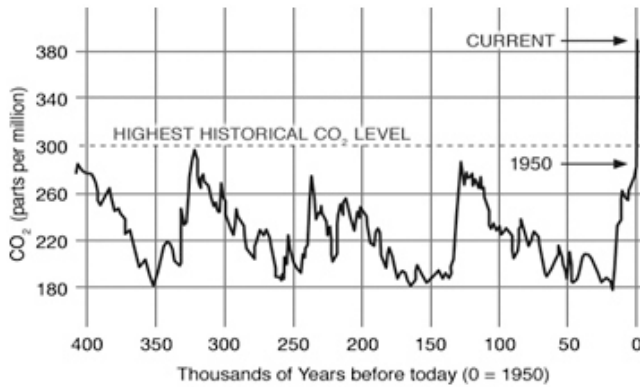
## **Carbon:**

Carbon is the 15th most abundant element in the earth's crust and the fourth most abundant element in the universe by mass after hydrogen, helium and oxygen. It's most common forms known to us are graphite, coal and diamond. It takes different forms as coal, graphite and diamond

because of link up of their atoms in different ways to make them look and behave differently. It is present in all forms of carbon-based life. All organic compounds, such as proteins, carbohydrates, and fats, contain carbon, and all plant and animal cells consist of carbon compounds and their polymers. (Polymers are macromolecules consisting of many simple molecules bonded together in specific ways). With hydrogen, oxygen, nitrogen, and a few other elements, carbon forms compounds that make up about 18 percent of all the matter in living things. The processes by which organisms consume carbon and return it to their surroundings constitute the carbon cycle. Due to its property of bonding with other elements, there are over ten million known carbon compounds, many thousands of which are vital to organic and life processes<sup>1</sup>.

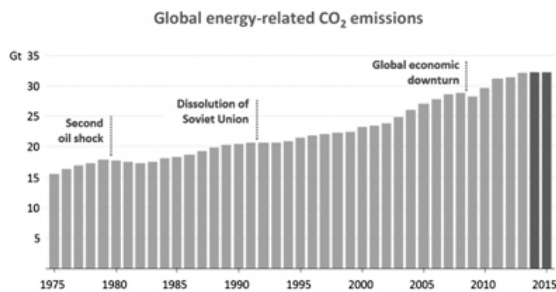
Coal is the sedimentary organic rock formed from vegetation that lived millions of years ago. Coal is the most carbon-rich of all fossil fuels. Burning coal generates 70% more carbon dioxide than natural gas for every unit of energy produced. According to the International Energy Agency the power sector is responsible for 37% of all man-made carbon dioxide emissions. It creates about 23 billion tonnes of CO<sub>2</sub> emissions per year, in excess of 700 tonnes a second<sup>2</sup>.

**Figure: NASA<sup>3</sup>**



The years 1750 and 1850, the beginning of the first Industrial Revolution and the second Industrial Revolution, respectively are taken as benchmark while measuring greenhouse gases. The concentration carbon dioxide in 1750 was 280 parts per million (ppm). Now (2015) it has reached almost 395 ppm, accounting for about 40% increase. Scientists have accurately measured the level of concentration of carbon dioxide from the past. According to IPCC<sup>4</sup>, “The main reason for the current concern about climate change is the rise in atmospheric carbon dioxide concentration (and some other greenhouse gases), which is very unusual for the Quaternary (about the last two million years). The concentration of CO<sub>2</sub> is now known accurately for the last 650,000 years from Antarctic ice cores. During this time, CO<sub>2</sub> concentration varied between 180 ppm during cold glacial times (ice ages) and a high of 300 ppm

**Figure: IEA<sup>5</sup>**



*IEA analysis for 2015 shows renewables surged, led by wind, and improvements in energy efficiency were key to keeping emissions flat for a second year in a row*

during warm interglacials (the period between the two ice ages). Presently, the earth is in interglacial. Over the past century, it rapidly increased well out of this range, and is now 395 ppm.”

On 15th March, 2016, the International Energy Agency (IEA) released the figure of CO<sub>2</sub> emissions during 2015, pegged at 32.1 billion tones, almost similar to 2014, which they found as welcome and surprising news. The main reasons for this appear to be surge in renewable energy production, Chinese slow down and replacement of oil with natural gas in the US. In 2015 90 per cent of all new electricity generation was from renewable sources, with wind energy alone producing half of it. However, the scientists added that it does not mean the slow down of global warming because excess greenhouse gases are already in the atmosphere and absolute level of emissions are very high. In absolute terms this is more than double the figure of 1975 and over a third more than 2001.

Main strategy of mitigating climate change is to stabilize the level of greenhouse gases in the atmosphere. As such there is now great focus on knowing the carbon emitting capacity of various human activities and taking measures so that less greenhouse gas is released from them. This has given rise to various concepts of carbon presence, namely:

**Carbon footprint:** Various human activities like transport, production and consumption of food, manufacturing, construction and services result in generation of greenhouse gases. The amount of greenhouse gases so generated through any activity is expressed as equivalent of tons of carbon which is the carbon footprint of that activity. One of its universally accepted definitions is as:

“A measure of the total amount of carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) emissions of a defined population, system or activity, considering all relevant sources, sinks and storage within the

spatial and temporal boundary of the population, system or activity of interest. Calculated as carbon dioxide equivalent (CO<sub>2</sub>e) using the relevant 100-year global warming potential (GWP100).<sup>6</sup>

Generation of greenhouse from various sources of energy has been determined. The carbon footprint of any activity is worked out on the basis of the sources of energy used in that particular activity. It is a simple method of calculation. Emissions calculators are in common use. In the context of climate change efforts are made to have a lower carbon footprint of various mass activities. For example, the carbon footprint of London Olympics (2012) was 1.4 million tonnes, whereas that of Football World Cup held in Brazil in 2014 was 59,000 tonnes<sup>7</sup>.

**Carbon dioxide equivalents:** Emissions of other greenhouse gases are calculated by taking into account their global warming potential (GWP), e.g. reducing one ton of methane will be equivalent to reducing 25 tonnes of carbon dioxide, the GWP of methane being 25.

**Carbon Accounting:** Working out carbon footprint has given rise to carbon accounting. Carbon accounting is basically an account of emissions generated as quantity of carbon dioxide or its equivalent. Accounting methods require accounting standards and methodologies. This will necessitate some organizations to keep a record of the accounting. Carbon accounting has also become necessary because under the Clean Development Mechanism (CDM) of Kyoto Protocol, offsets are claimed. In various countries Carbon Registries have come up. The American Carbon Registry (ACR) publishes standards, methodologies, protocols and tools for greenhouse gas (GHG) accounting, which are all based on International Standards Organization (ISO) 14064 and sound scientific practice. ACR only registers project-based carbon offset tons that are real, additional, permanent and independently verified<sup>8</sup>.

**Carbon Sink:** Sink implies something that sucks and keeps in it. Any process or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere is a carbon sink (IPCC). Forests and oceans are natural mega carbon sinks as they absorb carbon dioxide and keep it stored in them.

**Carbon Sequestration:** Sequestration means seizing something. It is also called carbon intake. In the context of climate change it implies seizing carbon dioxide from the atmosphere and keeping it in some reservoir. The UNFCCC glossary defines it as “the process of removing carbon from the atmosphere and depositing in a reservoir. Biological approaches to sequestration include direct removal of carbon dioxide through afforestation or re-forestation and practices that enhance soil carbon in agriculture.”

The world's forests absorb 2.4 billion tonnes of carbon dioxide each year, or about one-third of the carbon dioxide released through the burning of fossil fuels#. Forests also represent the world's most significant terrestrial carbon store, containing an estimated 77 per cent of all carbon stored in vegetation and 39 per cent of all carbon stored in soils; twice as much carbon as is present in the atmosphere@.

#Pan Y. et al.2011. A large and persistent carbon sink in the world's forests,1990-2007.Science. Volumen333.

@The Eliasch Review 2008 Climate change: financing global forests. Office of Public Sector Information, Information Policy Team, Kew, Richmond Surrey ([www.official-documents.gov.uk /document/other\\_9780108507632.pdf](http://www.official-documents.gov.uk/document/other_9780108507632.pdf)(16 November, 2012.)

**Carbon Capture and Storage:** Carbon capture and storage are the engineering methods of capturing carbon from a pool (industrial/ exploration location) and storing it in a reservoir. It consists of a set of technologies to reduce carbon dioxide emissions from new and existing coal- and gas-fired power plants, industrial processes, and other stationary sources of carbon dioxide. This technology is gaining ground as a mitigation measure.

**Carbon Budget:** Basically a budget is a statement of expected income, sources of income, anticipated expenditure and items of expenditure, so that the two sides are balanced. Applying this to climate change, it is a conscious exercise to work out emissions from the activities of the organization and measures to keep them at a certain desired level. The United Kingdom has a legally binding carbon budget under the Climate Change Act, 2008, which sets limit on the total greenhouse gas emissions allowed in the U.K. in successive five years.

### **Global Carbon Budget**

The International Panel on Climate Change (IPCC) is the world's apex organization, inter alia to assess the scientific knowledge about climate change. The world comes to know of the state of affairs on climate change through its Assessment Reports, coming out after every six years, in three parts. Every succeeding report is an eye-opener to the world community calling for taking serious note of the impending danger of the threat of climate change. The Fifth Assessment Report of the Working Group II Summary for Policy Makers of the IPCC (2013)<sup>9</sup> drew attention of the world by identifying the *carbon budget* of the earth, i.e. showing limit of carbon dioxide that can be emitted if we have to have likely chance of averting the most dangerous impact of climate change. Rise of 20C from the pre-industrial level is the upper limit within which the world has to stay. According to

Report, the total budget is 1 trillion tones of carbon (1,000 PgC), of which the world has used up 52%, and only 485PgC are left in the budget. If the present rate of emissions continues unabated, then this quantity could be used up by 2045. Half the amount 515 PgC that humanity has emitted since the industrial Revolution has brought the present adverse impacts on ecosystems, rising sea-level, erratic monsoons causing floods in some regions and droughts in other, extreme climatic events, rise in vector-borne diseases, etc.

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