Design for All

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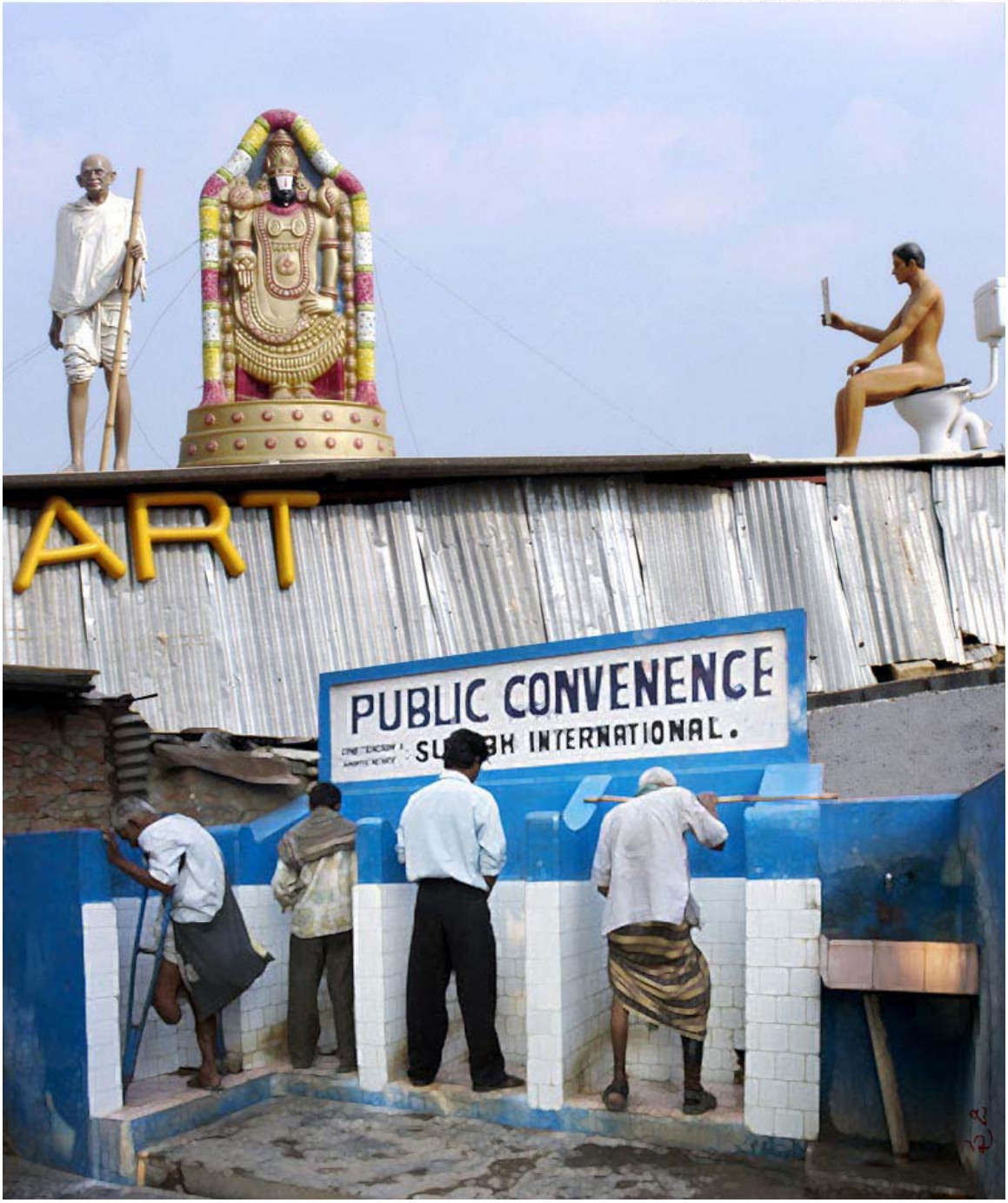

Chairman's Desk:

Is it not our moral responsibility to promote the concept of Design For All/ Universal Design in India? Others would not come forward for our noble cause why is the Indian society not encouraging the idea. Is it not that Indians are yet to come out of religious clutches? Our religion has justified sacrifice of living (Human, animal and plant) in the name of God. Prostitution has hold place in temples. Sati (burning of widow alive was earlier approved by religion) and that used to meet their veracious desires of not to share the property with widow. Abandoning the old person in religious places and compel them to do all the inhuman activities for their survival under the cover of religion. Are we fit to say we are fair human? Is not our educational system responsible that still we teach in 21st century that earth was initially a ball of fire and slowly-slowly its surface is getting cold. In developed countries, NASA has released photographs of some other planet which is 20 light year away from us and they say chances are that there is life in that planet. Is it not this attitude different from ours?

We must liberate ourselves from our primitive thinking and look for new ideas. Society needs drastic turn around in its mind set up. How can society expect that a few people keep on pursuing them for change with their meager resources? When we requested the Indian designers for contribution of article, they state like– "I am pre occupied with earlier commitments or I am not in position to contribute article and so on". Is this attitude good for society? Is it not our selfishness is killing the rightly and solemn movement of the society?

The role of our newsletter is upholding the development tradition for opening the faculty of mind or opening of new vista for designer or helping in recognition of individual creative efforts. Is it not our duty to bring them to limelight who are pursuing their creative urge for betterment of society? Should we turn our blind eye from emergence of new situation or stand up for rightful cause? When we made our humble beginning by publishing our newsletter of Design For All Institute Of India, we were not sure of what impact it will generate in society. India is poised to take off – so claim many a soothsayer. We believe India has all the ingredients for all round growth. Naturally, this boosts us our optimism in looking forward for our Indian Designers. Our challenge in this special issue is to encourage contribution concerning new directions for the future of foresight.

In our first publication of newsletter in the year 2006, February vol-1, No-1 of Design For All Institute of India, we made up our mind for equal representation to designers and allied areas from national and international. As we grew, we found our newsletter has become more an international platform and we could not give the proper coverage for what they deserve. Whatever may be the reason ,either the tremendous response from designers of developed countries for our newsletter or local designers were less confident of our success and following the policy of wait and watch or every designer is enemy of designer or they thought we would not succeed in their non cooperation. We have tried our every effort to bring all of them under one umbrella of Design For All Institute Of India. We are not happy in leaving the local

designers from our mainstream successes and we realize we can never achieve our purpose of popularizing the concepts of Design For All/ Universal Design/ Inclusive design/ Barrier free design in India unless and until the local designers are associated and take active interest their it in our social movement. We invited the scholars of eminence, also made the general calls for contribution of articles for our special issue of newsletter on "Indian Designers" from various national and international platforms, and of course requested the few individuals by writing a personal letters. In India, a few are working on the concepts of Universal Design/ Design For All and we found the standard is not at the par with concepts of developed country's designers. It has not disheartened us and we have selected few articles, which do not discuss the concepts of Universal Design/ Design For All in our expected way but to encourage them, our editorial board allows them to publish few articles. Professor Lalit Das is a person who has contributed his article in our inaugural issue of newsletter along with Prof. Ron Mace of Center of Universal Design, North Carolina state University, USA and Pete kercher, President of EIDD Design For All- Europe, Italy and we are honored in publishing his article in our this special issue. The three issues of our annual newsletters herald a new phase for our newsletter, which has been publishing this newsletter since 2006, January.

We are grateful to our eminent authors for their contributions of their articles and help us in educating the concepts of design in India. It justifies our belief that this newsletter is now a pioneer in popularizing the concepts in India as well as in Asia.

The Taiwan government with the fund of Chinese government has published their first issue of International Journal of Design www.IJDesign.org in electronic form in the line of our concepts. The www.universaldesign.com has published inaugural issue of quarterly magazine on universal design. We wish them all success from our team. We hope few more shall follow the same suit. It is my opinion that all groups/ teams should share the newsletter of their own with rest of the publishing group/ team and provide link of each newsletter or the website for the benefits of each newsletter's subscribers.

Every country has glorious past and each citizen feels proud of it. It is reflects nothing. Each country has ancient sacred book, music and culture and it unites the groups of believers. If we boost about our Vedas, classical music and civilization, it does not mean we are exceptions. Let us move ahead of slogan mongering and bring something constructive and meaningful in our thought constructs .All tribes and civilizations have precious assets which they inherit from their ancestors.

We are aware we are doing nothing exceptional and our contribution has no significant impact in the society of design and its allied areas by publishing the monthly newsletter. Our `s newsletter is simply a platform where designers can express and share their creative views with others on design. Every person has desire to attain some height in his or her respective fields that no one has attained. It is our natural dormant desire. I feel all of us who are just pebbles of an unfinished , unrecognized living in stark darkness at bottom of bottom of

the ocean from million of millions years in hopes and desires that someone will recognize us make our existence more meaningful and we will attain that height what for we set or we deserve. I feel I am friends of those unnoticed pebbles living in darkness and it is our insignificant efforts to provide a platform to who wish to be something in this life.

Prophet has no praise in his country. My friends and another around are reluctantly watching our creative efforts in this regards. We are surprised that peoples around in Eastern part of Asia are acknowledging the contribution of ours. At time, it strikes that we do not simply lack innovation rather detested if some one tries to demonstrate the same. We must keep our minds open and try to see beyond. We can actualize future that we cannot certainly imagine. Design For All Institute Of India is not attacking the any thing related to past rather investigating and creating a new expandable boundary.

Our politicians debate issue in such a manner that as they do not wish to solve rather place it over the kettle of indecision. They talk a lot and mean nothing. Our parliamentarians take money and bribe to raise questions in parliament from the vested interested. Some are charging for human trafficking. Do you have hope of improvement of the society from them? They try to make omelet without breaking any eggs.

Persistence under all oddities is necessary and most important.

With regards

Dr. Sunil Bhatia

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Content (April 2007, Vol-2, No-4)

Forth coming issue (May, 2007 Vol-2, No-5)

1. Universal Design in Education: Facilities, Information Technology, Instruction, and Student Services

By Sheryl Burgstahler, Ph. D.
University of Washington, USA

2. Designing for All Children in schools and Child care centers

By Vicki L. Stoecklin, USA

Many more information with regular features:

The Tourism for All Networks

Responsible, Sustainable, and Inclusive Development of Tourist Destinations

By Dr. Scott Rains, USA

Editor's Note:

The editor and staff of newsletter of Design For All Institute Of India proudly present the first part of the Special Issue on India. In subsequent issues we have more to share.

Happy reading and keep writing.

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Design for All: A cultural process

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There are two approaches to design. Designer as demigods characterizes the first. This is the contemporary approach to design. The designer is upped on a pedestal and bathed in spotlight in the hope the society will hold him in awe and internalize the design and the associated attributes into the culture. The second approach treats the designer as an element in a cultural team. This is the way of the tribal cultures, the

older civilizations. The top is not the designer. The top is the values we hold dear. Either way, design is culturally sustained and becomes a carrier of cultural values. This is expressed in the meta theoretic constructs subscribed by the culture. Over a period of time, either consciously or evolutionary their emerges a well-integrated paradigm at the levels of meta theoretic constructs, theoretic postulates and pragmatic experiential postulates. The traditional, Indian, and the Asian design paradigm, exists and thrives in this framework. The traditional designer works incognito. He simply permeates the cultural fabric and takes it forward. There is no personal agenda.

At the center of any sustainable cultural life style, has to be environment and human care. Both are of growing concern in all societies. It is highest, in tribal societies and to a lesser extent in developed and developing countries. These countries have increasingly taken up proliferation of products, systems and services as primary measures of development. This has been further coupled, to control and regulation of environment, to fulfill immediate personal wants. We are also pushing man to the limits of their potentiality both technically and emotionally. In the process both man and the environment are cracking up.

The values associated with environment and human care is being shared by an ever increasingly larger population of people in most developed countries, especially European. In these countries, they are on the 'political agenda'. The chances of leading a government depends on the posture adopted on these matters. In others the political impetus is missing but the

law is there. Care is to be addressed through legal means. Somebody has to complain. Assert ones right and then someone will sit in judgment. These are just different stages of imbibing values concerned with care. There is still conflict between creativity & care. There are people who assert there right to create and there are others who assert their right to care.

A symbiotic synthesis between creativity & care is required. When this happens then spirituality manifests itself. This is the essence of spirituality. Tribes had it, but lost it, as they became nations. Power and control become more important. But every nation is gradually discovering, especially in a democratic setup, that care and creativity is the prime concern of any government. These are the locus standi of any government.

Let me share a personal insight. Once I took a detour to a bird sanctuary on way to place of religious pilgrimage. The bird sanctuary was teeming with life. It suddenly dawned on me the genisus of Indian spiritual thought. All 'rishis' and 'munis' would spend years reflecting, contemplating and meditating in jungles. They would experience first hand the spontaneity, integrity and symbiosis of life. No wonder the prime principle of spirituality becoming ahimsa, do not kill, live and let live. Man was admonished not to kill, no other action, no other precept, code of conduct was required. The process of life itself will take care of everything else. I have discussed elsewhere (1) how in Indian culture a well-integrated paradigm at the levels of meta theoretic constructs, theoretic postulates and pragmatic

experiential postulates emerged. It is this top down approach to cultural design with care at the apex, which is essential for a sustainable human evolution.

Today India is increasingly missing out on the care component. Darwinian concepts of competitiveness and survival of the fittest have become the driving force of urban India. While success is flattering, but somewhere inside there is lingering and nagging feeling of something more. No wonder there is great popularity of gurus and spirituality channels.
It may be useful to map the global solution space that encompasses cultures both in space and time for a better understanding.

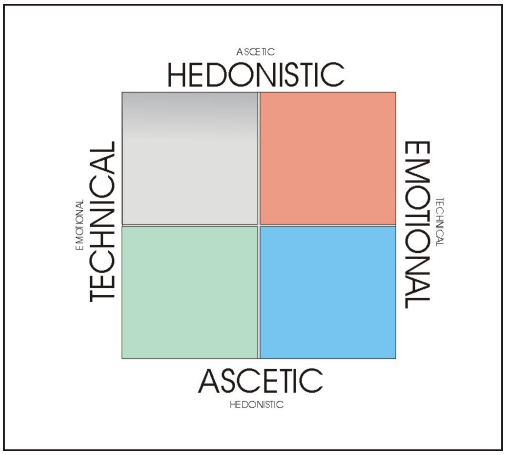
The cultural solution space

One axis of design solution space is provided by the two orientations toward the body and the senses: the ascetic and the hedonistic. The ascetic philosophy views anything that is pleasing to the senses as obstructive/destructive to human development either in material or spiritual attainment. At the opposite end, is the hedonistic philosophy. Here one intensely pursues gratification of desires. There is indulgence, insecurity, a desire to grasp, hoard, consume. It is as if there are strings of attachment binding a hedonist to a desired object. Without continued titillation, life becomes boring. Pointing a finger at such behavior, an ascetic would label a hedonist indulgent / decadent / narcissistic.

However there is no need to attach value judgment to the ascetic or hedonistic philosophy. Both are inherent in human

biology and human psychology, and have played an equally important role to human survival and development. Hedonist operates in the shorter time frame, the ascetic in the longer time frame. The hedonist is concerned with the immediate environment and this environment is for its immediate gratification. The ascetic is concerned with the larger environment and this environment exists in its own right. The ascetic would like to live in tune with this environment. The environment is the bigger and better player. Human race would not have survived if either of them was not there. The two, though extremes, together provide a vast solution space for design creativity.

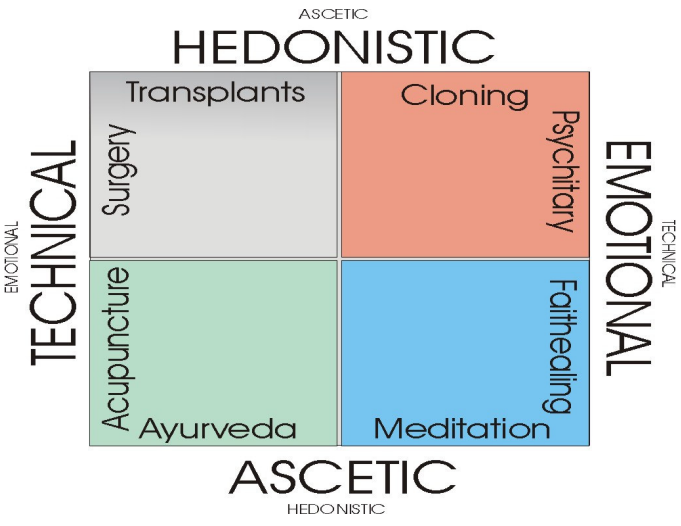
The other axis of the solution space is provided by the two sides of the human brain, the logical and the emotional. This may be termed as the technical and the emotional. Mathematics, physics, chemistry, technology, engineering, modern medicine emerges from the rational and empiric thinking. Emotional creativity encompasses poetry, art, music, dance, etc. Architecture and industrial design would lie some where in between.



There is nothing which is 100% technical or emotional. There is always an element of the other. Same is true of the ascetic and hedonistic. There is always the other.

Culturally speaking within the context of this framework, any society / culture requires both order and emotion. Modern western society is built on order, system, organization, efficiency. This was straitjacketing individuals into automata. Too much of this is suffocating and neurotic. Post-Modern movement wanted to bring some emotion, spontaneity into the life of the people.

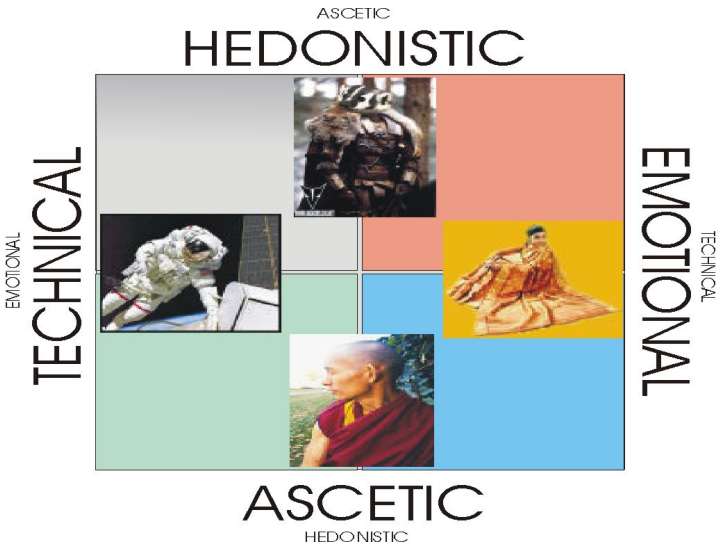
When I see India, I see a movement from traditionalism to post-traditionalism. Traditionalism had too much of individuality, emotion. There was lack of order. It lacked efficiency. Post traditionalist ushered in system, order, organization. Or judiciary is in the forefront in this. Similarly we find, too much of ascetism comes in the way of using natural resources. Likewise too much of hedonism leads to consumerism and waste generation.
We try to map the systems of healing that have evolved over millenniums in different continents on such a solution space.



Systems of Healing

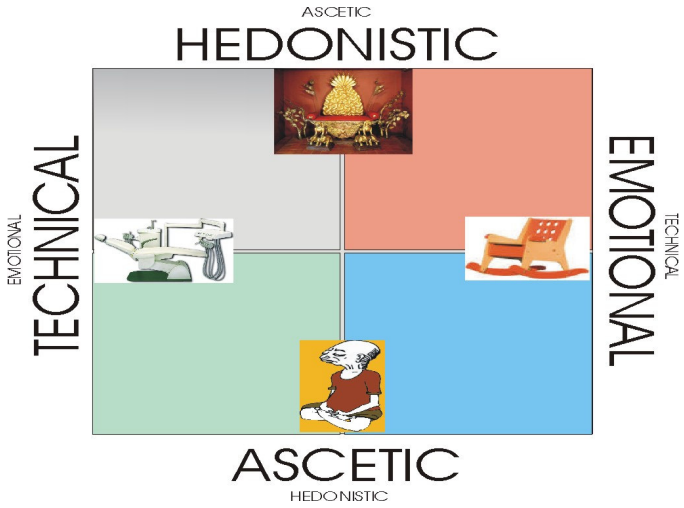
Similarly one could map other ways of fulfilling similar tasks.

With equal ease different product design solutions can be mapped.



A gladiators suit is classified as hedonistic, this product has also a strong emotional bias. A sari is an emotional design inclined towards ascetic. The ascetic monks prefer unstitched clothing thereby minimizing use of resources. The space suit is 100% technical solution to a need.

It would be useful to map more product images in this solution space, carefully reflecting the position in the appropriate quadrant.



A throne has been classified as hedonistic because of its pompous, authoritarian nature

A dentist chair is a technical solution to need

Sitting cross legged on the floor requires no additional resource and so merits an ascetic classification.

Ascetics prefer similar sitting systems

A child's rocking chair caters to emotional needs.

In reality any product has something of all the four characteristics but there is always a dominance of one or two

characteristic. Obviously this classification may seem simplistic but it is very powerful because of its generalized nature.

Product solutions, can in time, travel along this solution space. A candle at some junction in time may be a purely a technical solution. Later it may acquire tremendous emotional attributes.

A 'design for all' will not exist at the extremes. It will be somewhere in the central space. The middle domain. Creativity will be towards hedonistic domain. Care towards ascetic. We need both in adequate measures. Once again we are in the middle domain of the solution space.

The Indian Context

Design for All requires understanding and pragmatic action at the level philosophical, sociological and physical infrastructure. One of the foremost challenges perceived by sensitive in the Indian society was social discrimination. This came in the form of social access bar, social typing, social ostracizing, debilitating poverty, etc. Physical barrier of a lesser problem in the rural hinterlands were the vast majority of Indian population resided. The social aspects are always were given greater importance. In keeping with the same the Indian government has been doing much for the care of the children, women, backward classes, differently enabled, marginalized and endeavoring to bring them into the mainstream of government financial and legal support. To appreciate the care aspect of the design, we need to go the ministry of Social Justice and Empowerment http://socialjustice.nic.in/ . You will

find programs on addressing difficulties of persons with disabilities http://socialjustice.nic.in/disabled/welcome.htm . Then there is something on barrier free design. This can be seen as Amendments proposed to the PWD Act by the Ministry of Social Justice & Empowerment.. Recently the government has approved the introduction of the Maintenance and Welfare of Parents and Senior Citizens Bill 2006 in Parliament.

The proposed Bill will provide effective care and protection to the senior citizens and will provide speedy and inexpensive legal framework to grant maintenance to them. Children can be jailed if they dessert their parents. Then there is the National policy for Persons with Disabilities which was approved 2005 and is being vigorously pursued largely with the help of NGO's. Then there is the Citizens charter and the Public Works Department (PWD) Act that ensures among other things a barrier free environment in public places, work places, public utlilities, schools and other institutions. What we really need professionals who can constructively work hand in hand with the government and the elected representative. Much is desired here. Unless this happens we will only live a cynical life. Manpower development initiatives coupled with appropriate placement of such professionals is the key the success of any developmental policy. The National Design Policy recognizes manpower development as key to its implementation. It specifically mentions creation of another four National Institutes of Design. The policy also encourages the establishment of departments of design in all the Indian Institutes of Technology (IITs) and all the National Institutes

of Technology (NITs) as well as in prestigious private sector Colleges of Engineering and Architecture. We design professionals need to think of manpower development as one of our prime responsibilities in life then much can happen. There are sacrifices involved in the form or lower pay packets, but there are bigger and better satisfactions in the offing.

The current National Design Policy in India should be seen in a larger context of programs and policies already formulated by the government. The major problem in India is that we live in different centuries, different life styles, different aspiration levels, we coexist but do not co-operate. We tolerate but do not communicate. I firmly believe that there is only one way to bring about long term change and this is by training people to manage and sustain the proposed change. In my article in the first issue of the Design for All India Institute Newsletter I had proposed a manpower development approach to addressing Design for ALL ambition. We need enough design professionals and knowledge experts who can extend a helping hand to the government and the judiciary. If this happens much can happen in the context of Design for All in India.

I look forward to continuing the dialogue on these issues of national and international importance.

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Indian e-Government Initiative: An Ideal Case for Universal Design and Usability

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1. The Missing Focus on 'Design for Usability'

The missing focus on the fundamental issues like 'User Centred Design (UCD) and Usability' in the recommendations issued by National Knowledge Commission of India or the standards that are being developed for e-governance is very evident. The initiative for development of quality standards for e-governance covers only on limited aspects like documentation, interoperability, network, information security, metadata, localization, etc. Accessibility of e-government services is considered only from the connectivity point of view. But as Shneiderman [2000] categorically points out that accessibility is not sufficient to ensure successful usage. The basic questions remain to be addressed, which are about how the citizens will figure out the use of e-government software. Will they be able to understand the procedure to obtain a particular service? Will they be able to comprehend the user interface of software? Isn't localization adding further to obscurity? Will

they be satisfied with the functional behavior of system? Will they get the desired output? After all the investments and efforts, has it made the life of a citizen easy?

The usability of e-government systems is indispensable if the vision of Simple, Moral, Accountable, Responsive and Transparent (SMART) government had to become reality. And shouldn't the electronic systems be measured against the SMART parameters for validation? I came across the SMART definition of e-government on some Indian government website. Although the acronym SMART is very attractive, it is not sufficient to capture the essence of usability. Absolute fulfillment of 'user's goal' with ease, efficiency and effectiveness are at the nucleus of Usability. These attributes define the quality for *system design*. On the contrary, the SMART attributes define the quality for *government*. So the SMART attributes are again keeping the 'Government' at its centre and not 'the user or the citizen'. This difference should be noted very clearly.

User Centred Design (UCD) demands designing every aspect of the system through study, consultation and participation of the targeted user to ensure the usability of end product. In the current discussion the users are Indian citizens and government agencies both. Practicing UCD process as part of Product Development Life Cycle (PDLC) and its institutionalization has posed many challenges. New techniques, methods and processes are being explored. Have we tried to confront these questions before planning huge

investments for e-government? In my personal assessment, the answer is NO!

2. Lessons Not Learnt

In many e-government projects operational systems get developed but they fail to win acceptance from stakeholders due to major usability problems. This is quite true, as the World Bank has already reported that approximately 85% of e-governance projects in developing countries are failures; and only 15% can be seen as fully successes. The electronic solutions are implanted into government offices without catering to the transformational aspects and providing the entire eco-system for long-term sustenance.

Usability is very critical in e-government, as even one usability problem can adversely affect millions of citizens, it can cost them time and money. Shouldn't it be of paramount importance to the political establishments in India considering the magnitude of dissatisfaction or satisfaction resulting out of non-usability or usability? Year after year India is multiplying its budget allocation for e-governance with new projects and missions e.g., government of India is about to launch the Rs. 23,000 crores e-governance action plan, which will unfold in next 5 years. As per the rule of thumb 10% of the total resources should be spent on the process of User Centred Design, which can ensure the end outcome (satisfaction of users). It will require upfront planning, comprehensive strategy and mechanisms for introducing UCD process at such massive scale.

3. Citizen Centric Design (CCD)

Most e-government systems are being built to exactly mimic the conventional procedures. To my surprise, I have come across some online forms indicating the place for signature and thumb impression! Computerization of such procedures is in fact a golden opportunity to change the procedures for greater efficiency and effectiveness. Participatory design techniques can be applied for involving the citizens in improving such lengthy procedures; their feedback and suggestions can be gathered for better analysis and design. The existing approach of User Centric Design (UCD) needs to be further evolved as Citizen Centric Design (CCD) especially for e-government. CCD approach should be defined so as to democratize the e-government process design activity. Other wise the e-government systems are getting designed and built in a pretty dictatorial mode and therefore resulting in the dismal success.

Usability Audit

Performance and effectiveness measurement or periodic usability auditing of e-government systems is very important for validation of claims and continuous enhancement of design. If there is not even mention of 'usability' in Indian e-government plans and projects then how could we expect something like 'usability audit' to be there? Many foreign countries are already practicing it.

In 2004, Dubai e-Government integrated the portals of 24 departments and engaged professional agencies for auditing

the usability of these portals to ensure compliance with standards and ease of use for the citizens. They have been organizing several workshops to create awareness and sensitize the government departments about the importance of usability. St. Petersburg government websites in Russia have been already evaluated and audited on the parameters like functionality, accessibility and usability in 2004. UK Government is also reported to have performed usability audit for government websites. UK Cabinet Office found that 97% of official sites were unusable by disabled people, largely because they ignored well-known techniques for making data accessible, as per the BBC News report published in 2005. Australian government has also audited its websites for ensuring their accessibility and usability. ISO is also developing a special website usability standard named 'Software ergonomics for World Wide Web user interfaces'.

Everywhere the common experience about conformance to good-looking standards is poor execution. That seems to be the crux of the problem in India too. But unfortunately, usability and Citizen Centred Design (CCD) has not figured anywhere in Indian e-Governance planning, standards, best practices and development lifecycles. There is just no mention of it. Therefore, even if a system conforms to the so-called standards, it may not guarantee ease of use for the citizens.

3. Designing for Universal Usability

Universal design, which is related to "inclusive design" and "design for all," is an approach to the design of products,

services and environments to be usable by as many people as possible regardless of age, ability or situation. It links directly to the political concept of an inclusive society and its importance has been recognized by governments, business and industry. In this, assistive technologies play an important role for the disabled users. This is a relatively new design paradigm and in my opinion very relevant to e-governance.

India has approx. 400 million illiterate populations. There are over 10 million blind persons in our country, the highest percentage in the world. There are some 6 million movement disabled and about 3 million mentally disabled people as per the 2001 census of India. Straight away it keeps out almost 50% of India's population from availing the e-government services. Basic connectivity and infrastructure is another biggest impediment. Above all, the linguistic, socio-cultural and political diversities pose different challenges when it comes to designing user interfaces. Within the small proportion of literate and on-line citizens in India, many are unable to avail proper services from e-government portals or kiosks due to non-usability.

The user study for designing e-Government systems should include aspects like various human factors (cognitive and physical); age and gender based preferences; economic, historical, linguistic, social, cultural and political background; illiteracy (script and computer both), physical disabilities, environmental conditions, electricity and internet connectivity limitations, etc. Assistive user interfaces be designed and technology support be provided to address the wide range of user needs. Ignoring these aspects amounts to being

discriminative and depriving many citizens from availing the rightful government services. Indian e-government initiative requires a much more encompassing vision, with an objective of universal design and usability for the citizens, if it has to truly serve and be successful.

5. References

1. **Shneiderman Ben, Universal Usability, Communications of the ACM, May 2000/Vol.43. No. 5, pp. 84-91**
2. **Universal Usability (UU)**
   URL Accessed in Jan 2007:
   http://www.universalusability.org

3. **Definition of Universal Design**
   URL Accessed in Jan 2007:
   http://en.wikipedia.org/wiki/Universal_design

4. **Web Usability Standards**
   URL Accessed in Jan 2007:
   http://www.userfocus.co.uk/articles/ISO23973.html

5. **Budhiraja Renu, Electronic Governance – A key issue in the 21st century**
   URL Accessed in Jan 2007:
   http://www.mit.gov.in/eg/article2.asp

6. **Recommendations for e-governance by National Knowledge Commission of India**
   URL Accessed in Jan 2007:
   http://www.knowledgecommission.org/downloads/NKCRecommendationsEGovernance.pdf

7. **E-Government, InTo IT, The Audit Office of New South, Wales, Australia,**
   pp. 18-21
   URL Accessed in Jan 2007:
   http://www.nao.org.uk/intosai/edp/intoit_articles/17p20top23.pdf

8. **Government sites 'fail disabled', News Report by BBC, 2005**
URL Accessed in Jan 2007:
http://news.bbc.co.uk/1/hi/technology/4478702.stm

9. **Golubeva A, Merkuryeva I, Shulakov N, DEVELOPMENT OF E-GOVERNMENT IN ST. PETERSBURG: EVALUATION OF WEB SITES PERFORMANCE AND USABILITY**
URL Accessed in Jan 2007:
http://unpan1.un.org/intradoc/groups/public/documents/NISPAcee/UNPAN020449.pdf

10. **Dubai e Government to conduct usability audits**
URL Accessed in Jan 2007:
http://www.ameinfo.com/42994.html

11. **Disabled Population (2001 Census), Census of India Distribution of the disabled by type of disability– 2001**
URL Accessed in Jan 2007:
http://www.censusindia.net/disability/dis2.pdf

Universal Design Approach for mobility in Rural Built Environments

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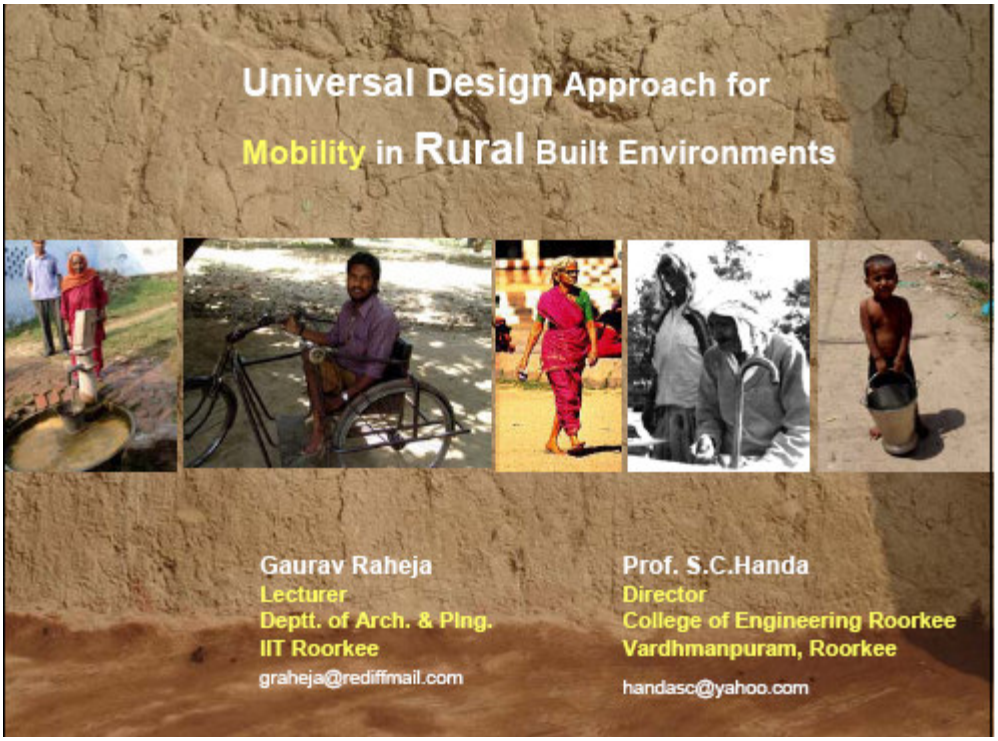
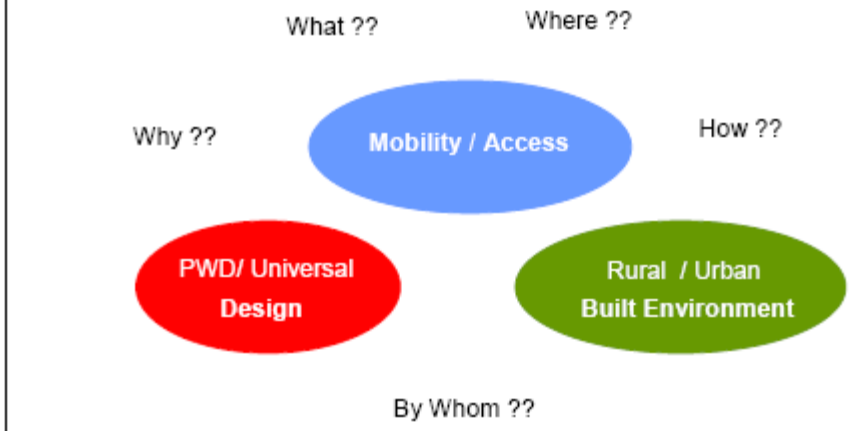


Mobility Issues



I N D I A

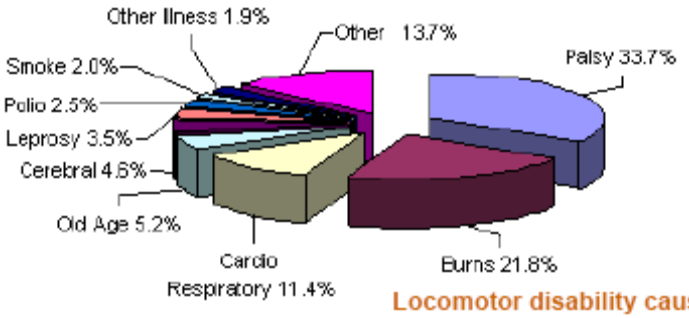
I N D I A = Rural India + Urban India

600,000 villages

700 million people

Demographic Scene (PWDs) - India

Sex and Location of PWDs National Sample Survey 1991						
Sex	Urban	%	Rural	%	Total	%
Male	4,950	21.8	17,737	78.2	22,687	58.5
Female	3,473	21.6	12,628	78.4	16,101	41.5
Total	8,423	21.7	30,365	78.3	38,788	100.0



Locomotor disability causes

Demographic Scene

- 1 in 20 individuals has disability [UN]
- 3 out of 4 of those live in Developing Nations
- 1/3 rd of world's disabled population is in India
- High prevalence rate of Movement disabilities
- Complex scenario – More than 70% live in rural areas
- 3.2 % higher prevalence of disabilities in rural areas

.....and the numbers are increasing

Distribution of Locomotor Disabled in the Survey Area

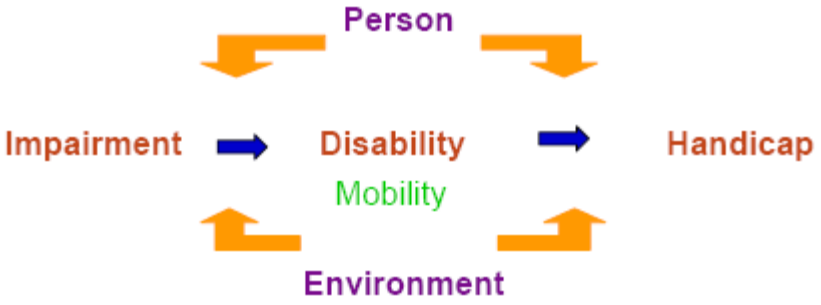
S.No.	Village	M.I.	Total	%age
1	Gaddarjudda	40	119	33.6
2	Sunehra	40	77	51.9
3	Khanjarpur	38	73	52.05
4	Majra	10	10	100
5	Sherpur	17	33	51.5
6	Rampur	56	116	48.2
7	Bahadrabad	62	116	53.4
8	Malakpur	05	16	31.25

Medical Model - Individualistic Approach

Social Model – Community based approach

Research Directions

Author (Year)	Research Direction	Methodology	Conclusions
Ed. Steinfeld, Duncan, J. (1977)	Psychosocial Effects of Inaccessibility	Literature based	Environmental Design as a major control parameter
Jeffers, J.S. (1977)	Barrier Free Design	Legislative Review based	Review of legislative response to barrier free design wrt ANSI A-117.1
Ed. Steinfeld (1977)	Developing Accessibility Standards	Human Factors Approach	Standards document to be reviewed after every 5 yrs. Target Population to be identified thru' Human Factors and costs involved.
Ast, Gunduz (1977)	Planning a Barrier Free Environment : Moline (Illinois)	Survey Based	Identification of barriers and recommendations on entrance design
Connell, B.R, Sanford, J.A. (1999)	Universal Design – Research Implications	Anthropometric & Biomechanical research	Population based anthropometry and biomechanical norms. Impact assessment of universal design in practice.
Steinfeld, Ed., Danford, G. (1999)	Theoretical Basis for Enabling Environments	Theoretical Evaluation	Scales of disability measurement critically reviewed. Proposed model I = f (P, E, C)



New Conception of Disablement Process

I C I D H – 2002

International Classification of Impairments Disabilities and Handicaps

The Concept of Independent Living

- Independent Living does not mean Living Independently

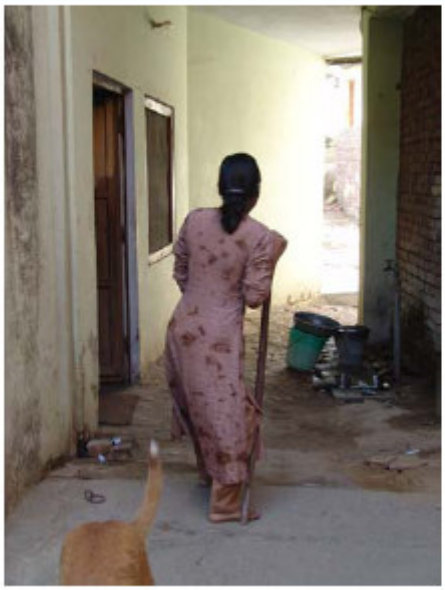
RIGHTS BASED APPROACH

- All Human Life is of Value
- Every individual is capable of exerting choices – no matter whether Able bodied or disabled
- Right to assert control on their own choices
- Right to fully participate in society

Rural India

.....a glimpse of the rural life

the all terrain vehicle



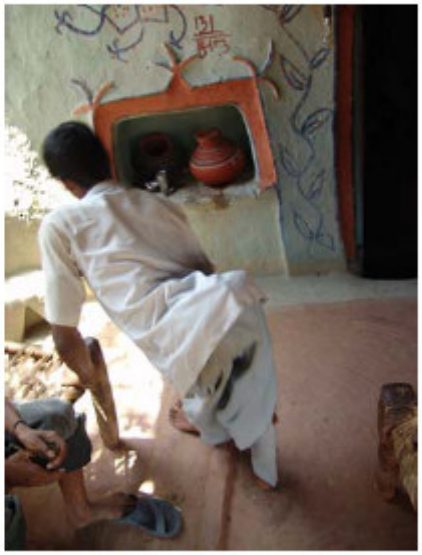
Access to Water

Access to Water

Socio Economics vs Mobility Devices

Socio Economics vs Mobility Devices

Socio Economics vs Mobility Devices



Thresholds

Thresholds

Transfer

Transfer

Self Care (Sanitation)

Self Care (Sanitation)

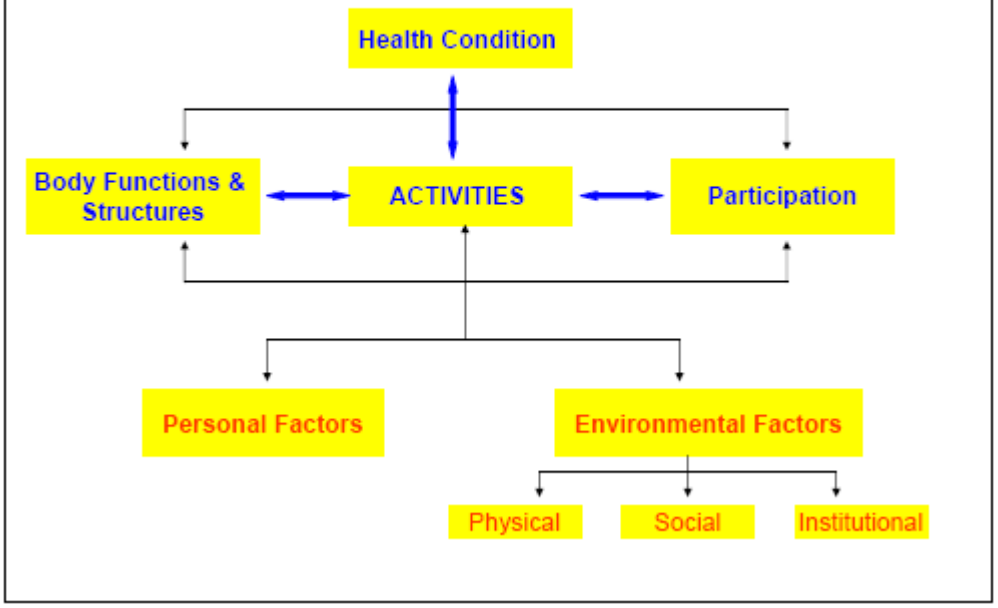

KA42
T492

The Built Environment TRANSFORMATION

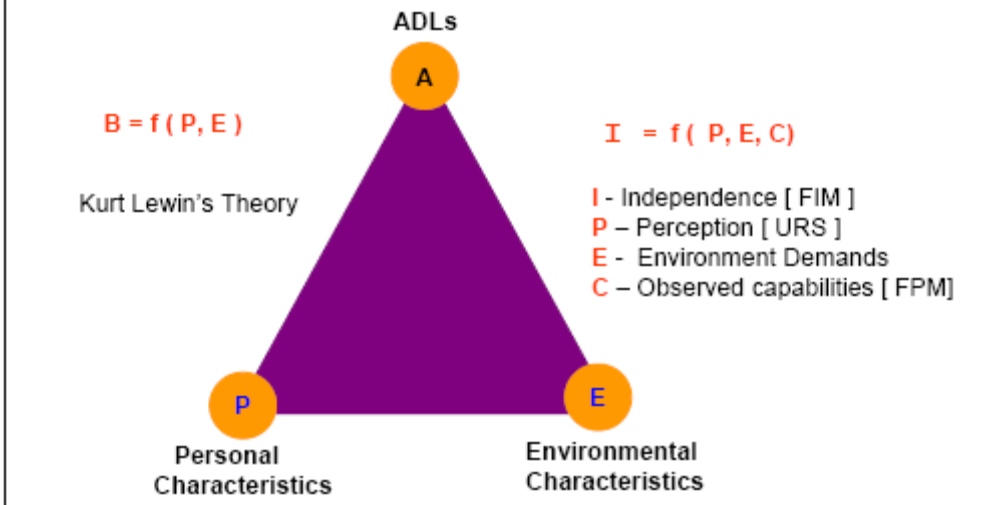
Interrelationships

Goal Subject Interface

I C F Model [International Classification of Functioning]



Interrelationships



Activities of Daily Living [A D Ls]

Self Care & Sanitation
Toileting, Bathing, Dressing, Washing
Mobility / Locomotion
Walking, Climbing steps
Transfers
Bed, Ground / Floor, Toilet, Bathing
Occupational Activities
Education, Vocation, Employment based activities
Social Participation
Decision making, Community Interaction, Religious Functions
Functional Activities
Food Preparation, Cooking, Household Cleaning, Fetching & Carrying Water

People – The Subjects

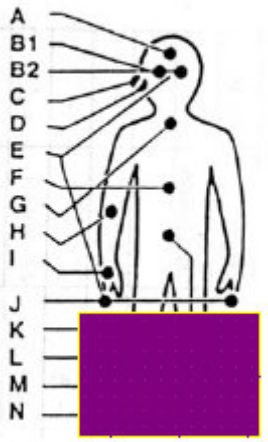
People = Infants + Children + Adults + Elderly

Male , Female

Physically Fit , Physically weak, Temporarily Injured
Permanently disabled, Pregnant Women etc.

FUNCTIONAL LIMITATIONS / DEPENDENCE ON ASSISTIVE DEVICES

A	Difficulty interpreting information
B1	Severe loss of sight
B2	Complete loss of sight
C	Severe loss of hearing
D	Prevalence of poor balance
E	Incoordination
F	Limitations of stamina
G	Difficulty in moving head
H	Difficulty in reaching with arms
I	Difficulty in handling and fingering
J	Loss of upper extremity skills
K	Difficulty bending, kneeling, etc.
L	Reliance on wlking aids
M	Inability to use lower extremities
N	Extremes of size and weight



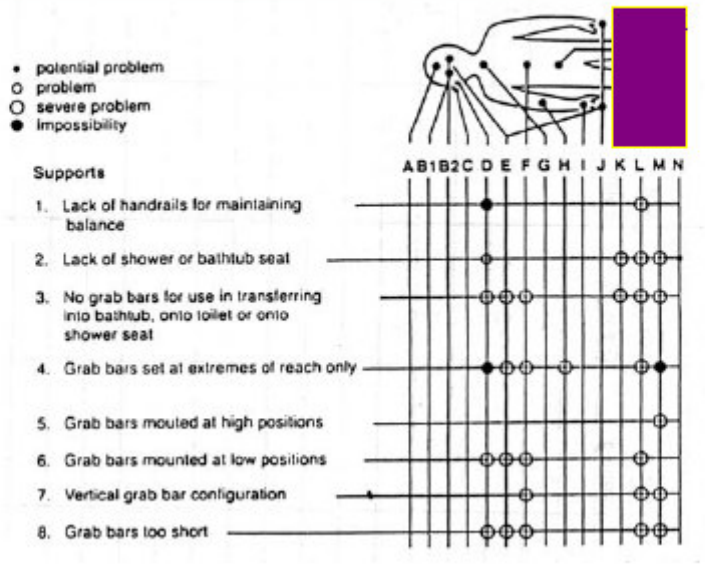
Rural Spaces

Entrance
Semi covered verandahs
Inner Courtyards
Activity Rooms
Space for water based activities
Animal Sheds
Space for chulha

Chaupals
Panchayat Ghars
Health Centre
Open ground spaces
Village market
School
Religion Centres
Wells/ Community taps

Main access roads
Secondary streets
Tertiary lanes

PROBLEM IDENTIFICATION MATRIX



Environmental Factors

Personal Factors
Age
Sex
Education
Caste/ Religion
Occupation
Economic Factors
Degree of Disability
Disability type
Assistive Device

Physical
Walking surfaces
Presence / Absence of built features
Thresholds/ Levels
Long Distances to cover
Lack of resting spaces
Open Drainage
Privacy
Spatial Layout

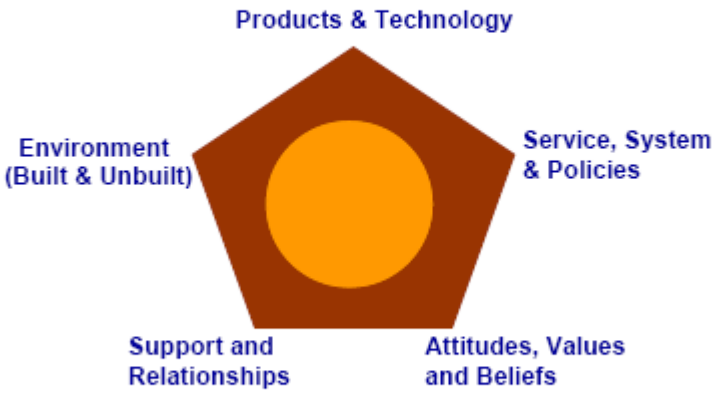
Social
Family Support
Extended Family support
Friends
Acquaintances
People in Authority
Health Professionals

Institutional
Individual's attitude
Family Attitude
Social Norms / Practices of the Region / Religion
Rehabilitation Policies
Individualistic Approach vs Community Approaches

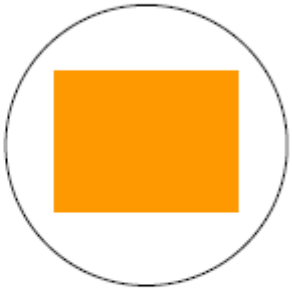
Barriers to Mobility

- Irregular Walking Surfaces
- Steep Gradients in Pathways
- Walkways with sudden level differences like pits etc.
- Unplanned development of street infrastructure
- Too narrow to too wide access pathways
- Open drains with uncobbled edges
- Illogical routes – Wayfinding
- Poor or no illumination during night
- Inaccessible water points
- High thresholds
- Long walking distances
- Lack of supports
- Lack of resting surfaces
- Inability to afford expensive assistive devices

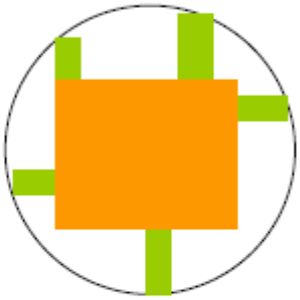
Problem Solving Approaches



Design Approaches

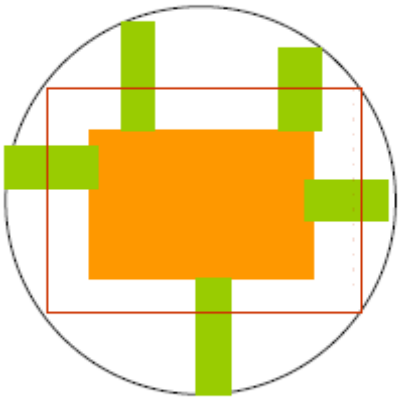


Traditional
Implicit Design Approach



Designing for the Disabled

Design Approaches



Integrated Design Approach

Indian Philosophy

One Piece Cloth

One Size Fit All

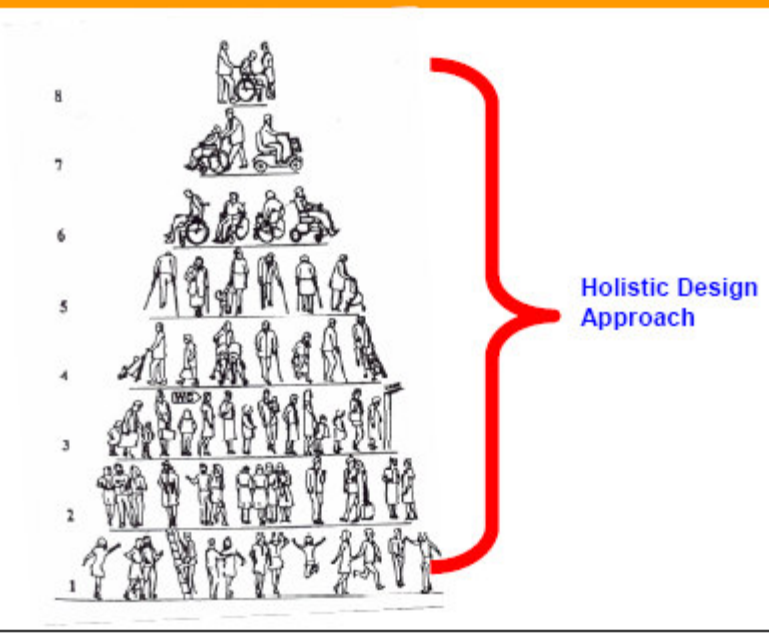
One Space Fit All

One Environment Fit All

Universal Design

thinking

Universal Design Pyramid



Universal Design Principles

1. Equitable Use
2. Flexibility in Use
3. Simple Communication
4. Perceptive Information
5. Tolerance for Error
6. Low Physical Effort
7. Dimensions for Approach

Appropriateness Criteria

Indian Efforts

NEW FRONTIERS

Now welcome aboard buses without barriers

The Capital will soon have disabled-friendly bus stops...

The Hindu, 08, Jan. 2006

Lucknow: India's first 'disabled friendly' city!

U.P. Govt. has already initiated a strategy to develop all urban pockets as disabled-friendly

The Hindu, 05, Sept. 2005

Indian Efforts

Delhi Metro to become more disabled-friendly

By Gaurav Vivek Bhatnagar

NEW DELHI, FEB. 9. The Delhi Metro Rail Corporation is now headed towards becoming a Mobility for people with disability as well by facilitating their education and employment through a cheap, reliable and safe transport system, now all set to get even better for those with varying disabilities with installation of more signages, modern equipment and conduct of sensitisation workshops for the Metro staff.

At a meeting with representatives of Samarthya, the Centre for Promotion of Barrier Free Environment for Disabled People, the DMRC agreed that sensitisation workshops would be started for the staff depending on availability of time and the conducted visits by disabled persons on the Delhi Metro system would be resumed on weekends since on weekdays it was difficult for parents to bring their children out to the system.

The DMRC spokesperson, Anuj Dayal, who was present at the meeting along with the Chief Architect, Tripta Khurana, said the Corporation would also try to incorporate another good suggestion which was made by Sanjeev Sachdev and Anjali Aggarwal of Samarthya regarding installation of signages depicting wheelchairs in white over a blue background on the spot from where disabled people would enter the specially-marked section for them near the cabin car on the first coach.

Following the hour-long meeting, Mr Sachdev appeared very satisfied with the response of the Delhi Metro, which he wants to be "the best Metro in the world in every respect". Samarthya, he said, suggested installation of some cost effective technologies during the meeting.

These techniques include talking guides for the visitors incorporated, pictogram signages on seats marked for the disabled, escalators with four steps so that the disabled are able to park their wheel-chairs on them and a folding step in the driver's cabin which can be used for allowing wheel-chair riding passengers in where there is a gap between the platform and the coach as at the Kashmere Gate station. All these techniques were found to be in use by the Samarthya members in Tokyo Metro.

Samarthya, which has been working with Delhi Metro since 2002, has also called for redesigning of the Saket toilets at the Metro stations as they did not possess the kind of canopy, door closure space or non-slippery floors that would have made them disabled-friendly. "We want universal and inclusive designs on the system so that Delhi Metro sets the standards for all others to follow," said Mr Sachdev.

Mr Aggarwal said while people generally associate train travel with high cabins and difficulties, it is essential that the "power of signages" is used to make them aware about the comforts and friendly nature of the Delhi Metro so this would also facilitate the education and employment of the disabled who ill-afford costly private modes and find the other public transport too difficult to commute on.

As the signage, she said, the key one would be the pictorial representations of wheel chairs which have been suggested on the platform from where the passengers enter the wheel-chair compartment right behind the driver's cabin. Also, similar signages have also been suggested right above this spot and on the exterior of this coach so that people all over the Capital become aware and sensitive about the needs of the disabled.

Finally, Samarthya has also suggested making of a short film on the subject for various presentations and telecast on channels so that more and more people adopt the Delhi Metro as their own.

The Hindu, 09, Feb. 2005

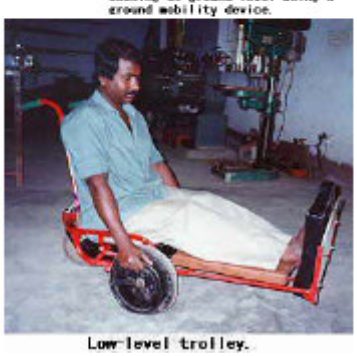
A wheelchair to suit Indian terrain soon

Times of India, 11, Nov. 2005

Ground Mobility Devices

Cooking at ground level using a ground mobility device.

A wheelchair converted into a tricycle.



Low-level trolley.

Child's wheelchair

Wheelchair toilet with tube and pot

Alternative Solutions

Rural Pathways - Compacted Earth Road, Stabilized Earth Road, Gravel Surfacing, Brick or Block Paving, Water bound macadam surface

Drains – Tight fitting removable coverings

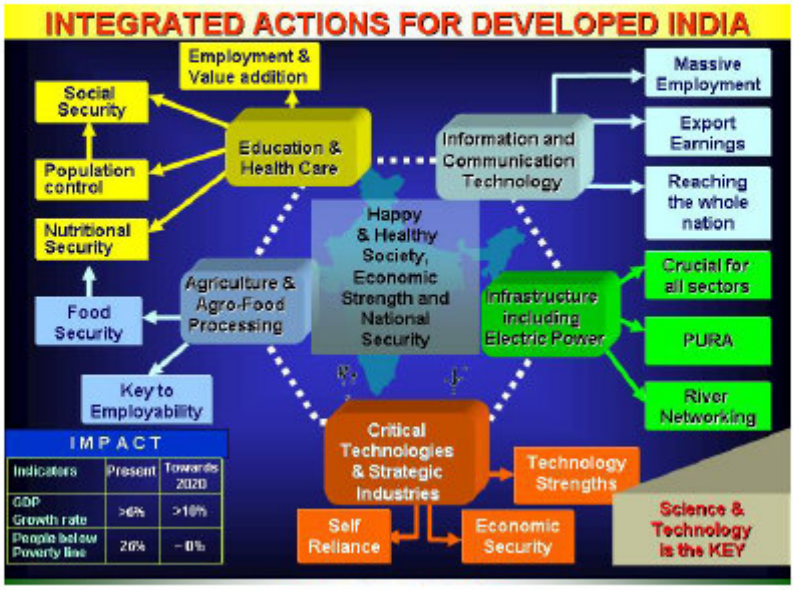
Community water points - to have accessible features for independent use by mobility impaired

Infrastructure Development Plans - like PURA need to ensure mobility and access in their designs.

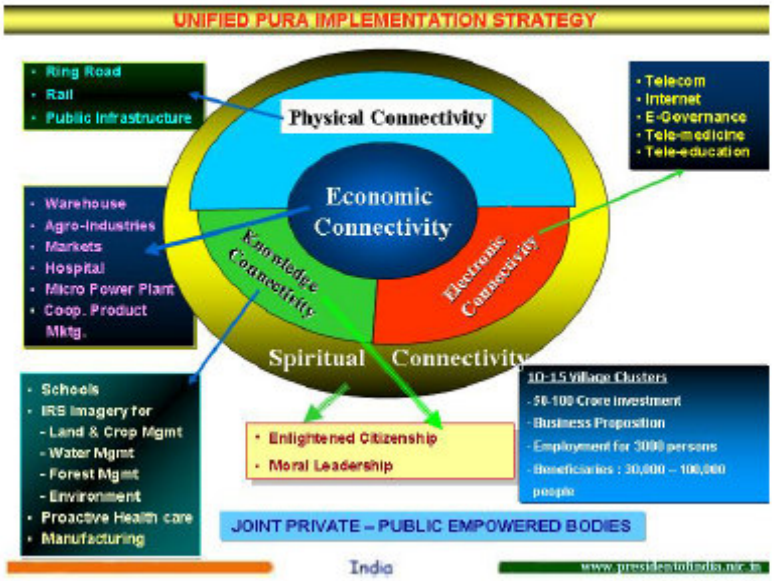
Mobility device designs - focussing on diverse terrains like GADI [Ground Assistive Device for Indian Women] developed by NID.

Access to Rural Schools, Health Centres, Chaupals, Religious Centres, Village Panchayats, etc.

Accessible Transport Facility to the nearest town



P U R A – Provision of Urban Amenities in Rural Areas



Recommendations

- Need to shift from Charity to **Rights based approach & Social Model**
- **Integrated Design Approach** by working with Rural Disabled using Community Participation of Rural people.
- Dcoumentation of already existing solutions in rural environments.
- Conscious **Awareness** among Design Professionals and the rural community for bringing out adaptive solutions and implementing them.
- **Measurement tools / scales** based on Rural context need to be developed to study the impact of Environmental Parameters on Functional Independence
- Development of **Strong Theoretical foundations** for accessibility through research in Rural Environments

Mobility to Independent living

....a dream for **rural India.**

Look! ...don't see.

Paul Sandip LG Electronics , India

Industrial Sculptor, Winner of Business World Design Excellence Award 2004, "Best Indian Concept"

Why does your soap dish look the way it looks? And why do you hold a spoon the way you do? You probably wouldn't have lost any sleep over these questions, not even when they didn't work right.

Everyday products, they are so numerous and ubiquitous. They form the material framework of our existence, enabling it to function, not only in practical or utilitarian terms, but also in ways that give pleasure, meaning and significance to our lives.

But why don't we notice them?

Most of us travel by the same route everyday, do similar tasks everyday, go to same places and although we are awake and seeing things around us we are not actually looking at them consciously. Hence, such products are frequently taken for granted.

Design, to my understanding, is much about having an eye for such details and bringing back life to mundane objects. I would

like to emphasize on the act of "Observation" as a necessary tool to design useful products.

My designs are guided by user expectations, which are often felt but never fulfilled. Peeling down to the heart of the (sub) conscious human behavior helped me reveal the magic of effortlessness with design, creating a comprehensible, delightful and character-full product. I would like to highlight an issue, identified and fulfilled with voluntary simplicity.

The Mug story…

It all started at the railway compartment. This might have been the umpteenth time I was traveling with a wait-listed ticket, sitting near the lavatory. Well that is quite a common sight in this part of the sub-continent.

Indian Railways is the second largest network in the world and every day millions of passengers travel by its trains; with 27% of them being long distance travelers and it has been doing a spectacular job not withstanding the various kinds of pressures and obstacles it faces. But one area which needs significant improvement is the lavatory.

Presently The Indian Railways does not provide anything in the lavatories except water to wash after defecating. People in the sleeper coaches use all sorts of *'jugaad'* (read contextual innovation) in the lavatory, e.g., plastic mug, plastic tea/coffee cups, empty mineral water bottles or plastic glasses. Given a

choice, most of the passengers would prefer products which are portable, disposable and eco-friendly to be used in the lavatory. Indians prefer water to toilet paper.

"This is the context which needs design intervention!" – I said to myself.

The Indian consumers are price sensitive and prefer to buy value for money products. I was informed and inspired by people's behavior and experience — physical, cognitive, social, emotional, and cultural. Hygiene and ergonomic issues (both physical and cognitive) were my major focus areas. User survey pointed out that a handle is a must in a toilet mug and that the user's hand should not touch the toilet floor in any case. The thought of universal design had already started haunting me. With all these insights in mind…the task of creating an appropriate solution had only just begun.

One month later…

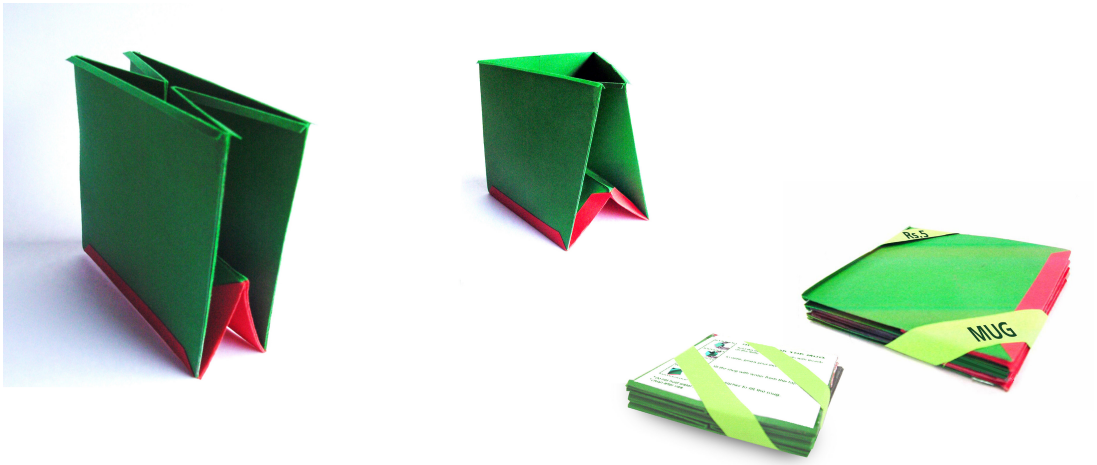
I was in Kolkata and had happily forgotten about the issue I had identified in the railway lavatory. Busy munching on a grub of *'jhaal muri',* which I had just picked up from a *'chaatwala'* across the street, I was intrigued by the construction of the paper containers (locally known as *'thonga'* in Bengali) which the vendors gave out their food stuff in. They were folded when stacked together and were made out of reclaimed newspaper! These were perfect to hold dry stuff and could be disposed off

easily. Eureka! …I had found the answer to my contextual analysis: Disposable – Foldable Toilet Mug.

Rushing back to my studio with a couple of these *thonga's* I started peeling down their geometry. Believe me…I had no knowledge of origami either! Finally, I came up with a product that is made out of a single sheet of handmade paper by a technique called surface development. The mug is foldable and occupies insignificant space of ones luggage. It easily fits into ones pocket!

This product of mine shows a gradual transformation between two basic end shapes; a square and a triangle, held within a cubical space. The gradual transformation also gives the mug its inbuilt handle. The square base allows the mug to rest in equilibrium and the triangular rim gives the mug its double snout. The double snout makes the mugs usage easier for both the left and the right handed. No synthetic adhesive has been used to make it completely eco-friendly. Instead, organic glue has been used. The mug disintegrates after about 15 minutes to avoid its reuse.

The mug meant for washing after defecation in lavatories in the train compartments. It can hold about 1.2 liters of water, which is quite an amount of water to fulfill the task. Disposal of this mug would not create a nuisance in and around the train as well as the railway tracks.



The mug has been selected from over 100 entries all over the country in a national talent search conducted by National Design Business Incubator in 2003.
It has been vetted by an eminent panel comprising NID and IIM faculty in areas of Product Design and Operations respectively. I was honoured by the chief minister of Gujarat, Shri Narendra Modi in 2004 for showcasing the power of context in product innovation.

Indian Railways can maintain the hygiene of the lavatory in a major way by introduction of this disposable mug made of paper. The mug is yet to be mass produced...but this project taught me one thing: Genuine needs are often felt but seldom spelt.

Author: Paul Sandip

Occupation: Industrial Sculptor

Winner of Business World Design Excellence Award 2004, "Best Indian Concept".

NEWS:

1. Hong Kong dentist designs tools for space

(By Tan Ee Lyn Reuters Wednesday, March 28, 2007)

HONG KONG (Reuters) - Hong Kong dentist Ng Tze-chuen's work is literally out of this world.

The 54-year-old, who has been designing his own dental tools for 20 years, is part of a team developing an ultra-small rock grinder that Russia will use on an unmanned space mission in 2009 to explore one of the two moons of Mars.

"I want to use my skills and test them in the most extreme of environments, in outer space, in the deep sea," said Ng, whose creations have made it into space in 1995 and 2003.

The size of a cigarette box, the light weight device being developed at the Hong Kong Polytechnic University can grind rocks and pebbles as hard as volcanic rock into fine particles. "The purpose is to prepare soil samples for analysis," Ng said.

Ng began designing forceps in 1989, when he got frustrated at standard tools that did not grip properly, causing dental fillings to fall onto his surgery room carpet.

He has since designed more than 70 pairs.

"I needed forceps with persistent gripping, so I designed them. Dentists are the best at gripping, so the spinoff from this skill is tremendous," said Ng, whose office is filled with posters of space exploration programs.

"Then I thought my forceps were too good for dentists, they should instead be used in outer space by astronauts."

Called the Soil Preparation System (SOPSYS), the device Ng and his team have designed has three motors and is made almost entirely of titanium. The grinder is made of tungsten carbide.

"Our design is final and it's ready for first prototype testing. In summer, rocket scientists from Russia will be here to test it. There should be six more prototypes to go," said Ng.

Chinese President Hu Jintao, who is visiting Russia, signed deals with Moscow on Monday, one of which is to cooperate in joint exploration of Mars and its moon, Phobos.

Phobos is 9,380 km from Mars. Mars is 56 million km (35 million miles) from earth, at the closest point in its orbit. The Hong Kong-made SOPSYS is one of three Chinese devices that will be used on the unmanned spacecraft.

Russian cosmonauts used four pairs of Ng's forceps in 1995 to solder wires onboard the Mir space station, which orbited Earth for 15 years (1986-2001).

His "rock corer" was onboard the unmanned British Beagle 2 in 2003, which scientists believe crashed on the surface of Mars.
A self-confessed daydreamer, Ng wants no money from space agencies for his designs.
"It is an honor just for my designs to go to space. Maybe all we'll ask in return is a gram of soil," he said.

2. **Keeping Indians poor: Grand government design**

(M R Venkatesh March 27, 2007)

A bit of digression at the outset is crucial to understand the depth of food depravation, associated poverty and the resultant food insecurity prevailing in India.
For the ordinary Indian it must be shocking to know that food security in India is a falsehood propagated repeatedly by the government since the mid-eighties.
To understand the enormity of the falsehood, let me put things in perspective. The net per capita food availability in India in 1971 was 394 gm per day. This was just after the onset of Green Revolution in India. Exactly 30 years later, in 2001, the net per capita of foodgrain availability was 396 gm per day: a princely rise of 2 gm! In effect, for over 30 years our farm growth has barely kept pace with our population growth. This sets up the debate.
A comparison with other countries is central to understanding the extent of food shortage prevailing in India. Advanced countries, on a per capita basis, consume anywhere between 500 gm to 600 gm per day. Such healthy consumption in these countries is supplementary to the substantial quantity of meat,

fruits, vegetables and milk.

On this score, our consumption on a per capita level is far below the world average and significantly below the average of the developed countries. It would seem that, we as a nation, seem to have declared food self-sufficiency on virtually empty stomachs.

A reference to China is unavoidable here. China, a country with approximately 1.2 times our population, produces approximately 450 MT of food grain every year -- more than double that of India. Does this comparison with other countries not blow the myth of self-sufficiency in India?

What is appalling is the fact that even after the British took over the reins of India, they constituted a commission to look into the quantity of food required in India, should India were to be hit by a famine. For this purpose, the per capita food consumption was held to be 500 gm per day by the said commission. It has to be noted that the British fixed this norm for consumption of Indians during a famine. It would seem that our colonial oppressors had a more charitable view than our own democratically elected government!

A callous approach to agriculture Thousands of farmers have committed suicide in India in the past few years. Yet governments, both in the States and at the Centre, have been shying away from dealing with the issue appropriately. While there has been occasional media outcry, the 'packages' announced by the government have hardly made an impact. And if these packages do take effect, experience shows that this would at best be insignificant.

The issue is not merely of agriculture, food security and

farmers: it is something much more. Agriculture is far too central to the Indian economy than can be imagined by many of us. It is our route to food security, economic well-being, poverty alleviation and, crucially, national security.

But like all other things in India, the seriousness of the issue is inversely proportional to the attention it gets.

Structural issues remain un-addressed

At the root of the current crisis in the farm sector is the fact that decades of neglect has de-legitimized the farm sector. There are a number of structural issues that remain un-addressed within the farm sector today. These include:

Farm Credit: Lack of an appropriate lending mechanism, which means farmers are forced to obtain credit at exorbitant rates from the informal sector. Though credit expansion by the formal sector has taken place in the recent past, it is inadequate.

Soaring costs of inputs: Apart from interest costs, other input costs (viz. seeds, power, etc) -- barring fertilizer -- have shown significant increase in the past few years. This rise in input costs has been disproportionately higher than the rise in the selling price of farm produce. Naturally farmers are reeling under huge debt, a sure sign of a losing economy.

Lack of water: Water is crucial to farm activity. Successive years of drought in many parts of India have reduced agriculture in India to a gamble on the monsoon. With a mere 40 per cent of farmland irrigated, Indian farmers have been at the mercy of the weather gods. Under the liberalization programme, the fundamental assumption is that virtually every government activity can be privatized: however, it needs to be

understood that irrigation and capital formation within the farm sector cannot be privatized so easily in India. It has to remain a government function, essentially.

Farmers are entrepreneurs. They take risks. Their risk gets compounded due to the vagaries of monsoon. They do not look to the State as a benefactor. Rather they would prefer the government to be a genuine facilitator in lowering these risks. Today a farmer gets a fraction of the final retail price while a substantial portion of the prices that we pay for our food goes to the retailers, wholesalers, middlemen and others. These are structural issues that can be addressed only by the government.

And due to these distortions within the system we are witness to a strange paradox: rise in prices of farm products strangely resulting in farmers committing suicide.

However, due to fiscal orthodoxy and indifference to the farm sector, the government has been reluctant to deal with this issue of capital formation in the farm sector. And in areas where the government has done so, it has been far from satisfactory.

A leading daily in Chennai had recently exposed as to how despite the government spending in excess of Rs 35,000 crore (Rs 350 billion) in the past decade or so under the Accelerated Irrigation Benefit Programme (AIBP), there has not even been a marginal increase in the gross farm land under irrigation in the country, which virtually stands at 40% of the total farm land.

The Indian economy has yet to mature to expect that the private sector would step in to the space created due to the

government's exit. If the government cannot handle this crucial issue -- of rural infrastructure -- why do we have governments?

The government spends about Rs 26,000 crore (Rs 260 billion) every year on food subsidy, through the public distribution system (PDS), for those living below the poverty line. It is estimated that for every Re 1 of subsidy to reach the ultimate beneficiary, the government has to spend approximately Rs 7 on the administrative mechanism. In fact, of the 300 million poor estimated to be below the poverty line in the country, only 25 per cent are estimated to have access to PDS.

The rest are left to fend for themselves . In effect, the government's program -- in intent and in execution -- leaves a lot to be desired.

Yet, is it a failure of the delivery system, or is there something more to it than meets the eye? Keeping farmers poor, a grand design Speaking on the issue of farmers and the general lack of food security prevailing in the country, I suggested to a retired bureaucrat (who held very high positions in the Government of India) that India must double its food production from its existing 200 MT. This, I argued, would boost the income of the farmers as well as provide access to food at far cheaper rates to those living below the poverty line.

The bureaucrat was appalled. Clearly stating that India required nothing more than 200-220 MT of foodgrain, he dismissed my line of reasoning.

Crucially, through a paradigm of shortages, the government and its officers have increased their relevance, power and authority. In contrast, farmers have been reduced to play the

role of applicants and would forever remain in the clutches of the State and its draconian agencies.

The net result of our 'planned' neglect of the farm sector has meant that today approximately 50 per cent of our population is malnourished. Some international agencies report that certain pockets in India suffer from acute malnutrition more than some African regions.

Robust growth in the farm sector acts as a trigger for overall economic growth. Economists have been repeatedly pointing out that a one per cent growth in the farm sector acts as a significant multiplier in industry and the services sectors, leading to increases in aggregate demand within the Indian economy.

Despite a decade and half after the initiation of reforms, the government has yet to come out of its socialist mindset vis- vis the farm sector. This is not without purpose and falls within the government's grand design of keeping farmers -- and India -- poor.

The failure of the farmers comes with an attendant and natural bonus -- it can ensure that a substantial portion of our population is underfed, under-clothed and mired in acute poverty. And that directly increases the importance of the government, the politicians and the bureaucrats.

If farmers were to succeed, it would mean the failure of our politicians and the brand of politics practiced in this country since 1947 by the Left and the Right.

And that explains why the government is keen on a failed farm sector: the idea is to merely keep it on a life support system, allow it neither to die nor to bloom. And that ensures that India

remains poor, while its politicians are rich.

The author is a Chennai-based Chartered Accountant. He can be contacted at mrv1000@rediffmail. com.

3.

This eNewsletter is also available for viewing and printing at: http://www.whitehutchinson.com/news/learnenews/2007_march.shtml

Vol. VI, No 1, February-April 2007

In this issue

4.

Charles Eames Design Emeritus Fellowship

National Institute of Design invites nominations/ applications for the Charles Eames Design Emeritus Fellowship.

This is a prestigious International Fellowship for recognizing and supporting outstanding original work related to design education, research, and its contribution to quality of life. A fellowship grant ranging from a half to a million Indian rupees would be provided for furthering the outstanding work being carried out by the eminent professional in the area of "Design Education & Research Interface" for a period of 18 to 24 months.

Nominations/ Applications are welcome from highly accomplished design educators, innovators, and professionals of repute with at least 15-20 years of relevant experience, preferably in the age group of 50-65. The incumbent should possess an outstanding track record of contributing to society in the areas related to Design & Development/ Technology/ Media/Innovation.

For details please visit NID website <www.nid.edu>

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5. Study of coastal disasters yields surprising findings

Two of the world's worst natural disasters in recent years stemmed from different causes on opposite sides of the globe, but actually had much in common, according to researchers who are part of a large National Science Foundation-funded research initiative that has been studying both the Indian Ocean Tsunami of 2004 and the Hurricane Katrina of 2005.

One of the research team's surprising conclusions: when it comes to the damage they wreak, hurricanes and tsunamis can bring surprisingly similar forces to bear.

"A lot of the hurricane damage along the Mississippi coastline came from storm surges -- not from high winds or levee flooding that occurred in the New Orleans area," said Yin Lu "Julie" Young, an assistant professor of civil and environmental engineering at Princeton University. "Storm surges result in very different mechanisms. When it comes to forces on a structure, what happens in a storm surge is very similar to what happens in a tsunami."

During a storm surge, structures that were built to withstand the downward force of gravity now must cope with a totally different force: the upward and lateral push of water. In addition, buildings have to withstand assaults from debris caught up in the surge.

"Eighteen-wheeler containers, freed floating barges, and boats can all become projectiles that will strike objects in their path," said Young. "Large debris may also become lodged between structural elements like columns and lead to complete collapse of the structures."

Young's collaborators are Ronald Riggs and Ian Robertson, professors at the University of Hawaii at Manoa, and Solomon Yim, a professor at Oregon State University. The team members will publish their work in an upcoming special edition of the Journal of Waterway, Port, Coastal and Ocean Engineering.

During their two field visits, the team took more than 2,000 photographs of the destruction to the Mississippi coast. An exhibition of photographs culled from that collection opens today during a reception at Princeton University's School of Engineering and Applied Science. The photographs will be on view through May 11.

One of Young's favorites is a photograph of a stack of delicate unchipped china that survived the storm completely unharmed. All that remains of the church where the china was used is a bent steel frame. "You have to appreciate the irony of nature," Young said. "Most of the time, the scenery is tragic, ironic, and beautiful all at the same time."

One of the group's interesting research findings from the Mississippi work has to do with a phenomenon better known for occurring in neither hurricanes nor tsunamis but, rather, earthquakes. That is something known as "liquefaction." As the storm surge recedes, the sudden decrease in downward pressure on the saturated soil causes the sand to liquefy and flow out like a heavy slurry. This can lead to the eventual collapse of buildings, highways, or bridge abutments, as well as gigantic potholes along coastal roads.

The team was award a NSF NEES-SG grant to study the effect of tsunamis on engineered structures. The final goal of the project is to develop design recommendations to enhance the safety of coastal infrastructures subject to tsunamis.

"If you consider the gravitation, wind, seismic and wave forces, as well as the surrounding soil composition, a building can be designed such that it should be available for immediate occupancy after a minor event, and be able to remain structurally intact to allow for safe evacuation during a Category 3 hurricane like Katrina," said Young.

Understanding how to build hurricane-resistant buildings is one thing; getting society to implement that knowledge is quite another, Young said. "Politics and human values come into play," she said. "People are resilient and have short memories and think that if another hurricane comes along they can just rebuild. I admire their strength but at the same time there is a certain stubbornness about not learning from past mistakes. People like to do what they did before because it's easier than fixing the root of the problem."

Last week, Young gave a presentation on her research at the Massachusetts Institute of Technology. She will also be giving presentations at the Oregon State University, California Institute of Technology, the University of Southern California, and the University of California at Berkeley. "We hope to present our findings widely so that engineers can learn from this and modify future design codes to minimize damage," she said.

6. The elephant wakes up

By Vivek Nanda

There was no denying the excitement among the delegates to the 2007 Vision Summit organized by the India Semiconductor Association (ISA) in February in Hyderabad. Executives from local design houses, multinational chip vendors and EDA companies hung on every word from the analysts, venture capitalists and bureaucrats as they handed the industry its "report card" along with words of advice and, of course, promises of incentives.

That India has the potential to rapidly grow its electronics ecosystem was revealed in the report commissioned by the ISA last year. Frost & Sullivan, the researcher and author of the report, expects consumption of end-user electronic equipment in India to reach $363 billion by 2015, up from $28.2 billion in 2005. The firm estimates the market for ICs to increase to $36.3 billion by 2015 from about $2.82 billion in 2005.

The ISA this year commissioned Ernst & Young to deliver a benchmarking study to the Indian electronics industry. The consultant compared India with China, the Czech Republic, Israel, Taiwan, the U.K. and the United States. On availability and scalability of talent, India was at the top; on talent cost advantage, it was the second best location; and on IC market potential, it was fourth behind the U.S., China and Taiwan. Ernst & Young also identified areas of challenge: quality of technical education, maturity of IC design sector, quality of business environment, and legal/IPR regime. While the firm said that the advantages outweigh encumbrances, India is definitely weak in areas that need either government intervention or, at the very least, government support.

As if on cue, the Indian government seemed to have woken up to the demands of the industry, announcing in late February the broad direction of support for India's electronics industry, semiconductors in particular. The document, widely called the special incentive package scheme or simply the Indian semiconductor policy, is getting its final touches by an empowered group of ministers at the time of this writing. The government has, however, announced that its incentives will be focused on the manufacture of semiconductor products, various display technologies, storage devices, solar cells and other photovoltaic products, nanotechnology, and assembly and test.

The package, which applies through 2010, includes cash incentives of up to 20 percent of the project's capital

expenditure (capex) during the first 10 years for units located inside Special Economic Zones (SEZs) and over current SEZ benefits like exemption from excise duty, value added tax, and tax on profits generated by the unit. Units outside the SEZs will enjoy a cash incentive equivalent to 25 percent of their capex.

The two most important announcements are the government's willingness to participate in business, although only up to 26 percent of equity, and the definition of "ecosystem units." The ecosystem comprises business units that together make up the design-to-manufacturing chain—including, for instance, suppliers of chemicals and gases to wafer fabs.

Together with planned government initiatives in education, including e-learning similar to MIT Open Courseware, and the establishment of three more Indian Institutes of Science (IISc), four to five Indian Institutes of Technology (IITs) and business schools like the Indian Institute of Management (IIM), the policy changes could very well address the areas of weakness identified by the Ernst & Young report.

The local industry is relieved that India will finally find purpose in the competitive electronics landscape with clear medium-term policy level support. Long seen as the "elephant" of Asia, albeit a sleeping elephant, as opposed to the "soaring dragon" next door, the Indian electronics industry is now perched on the point of all growth. It is up to those in the business of technology to take it over the tipping point.

7.Technical textiles sew up apparel success

16 April 2007 | Source: just-style.com

Technical textiles for the apparel industry, ranging from stain resistant clothing for catering staff to all-in-one suits for nuclear, biological and chemical warfare, looks set to be a fruitful area of growth over the next half-decade. Joe Ayling takes a look at a new report on the sector.

New research - 'The global market review of technical textiles in apparel: forecasts to 2011' - shows that volume growth of technical fabrics for apparel end-uses should increase 23% by 2011, with the value of the market jumping 17.3% in this timeframe.

Smart products - such as wearable electronics - are the cause of much excitement among both manufacturers and consumers alike, with Nike's strategic "tie-up" with Apple Computer on trainers that can track a runner's performance and help choreograph songs to a workout a case in point.

There is still room for aesthetic and commercial improvements, but technical fabrics, such as those incorporating Kevlar and Nomex, will show further penetration into mainstream apparel as a blend or stand-alone in garments, according to the just-style report.

Asia is identified as the largest growth area for technical apparel textiles, with a 42.7% value increase forecast over the period by 2011. This will be driven by an increasingly developed and sophisticated infrastructure, as well as huge growth in the private health sector in both China and India, requiring new uniforms.

Notable influences on the technical textiles market include the growth of China's economy, changes in membership within the EU, and ongoing political instability in the Middle East - with demand for technical fabrics used for military and public utility uniforms already increasing in line with the conflicts in Iraq and Afghanistan.

However, the growth of technical apparel textiles is not refined to the military, and many newly-developed materials have married well into the mainstream fashion sector.

Performance textiles

Performance textiles - often windproof, breathable or aerodynamic - have been taken up widely. just-style's report deduces that aesthetic properties are a vital factor in the design of such products. The development of performance textiles was identified as the driving force behind many innovations in mainstream apparel.

In addition, clothing for outdoor pursuits is one of the largest market areas where technical fabric technology crosses into

mainstream apparel, the report finds, using nylon or polyester microfibres.

Perhaps the most publicised technical innovation has been smart-clothing and smart-fabrics. However, the technical textiles report remains sceptical about such "hype", saying that despite many years of research and development, all that has been confirmed is, to date, very few "wearable electronic" smart textile products.

"Many problems have resulted from the fact that the developers of smart textiles technology have mostly been either US academic institutions, which have largely focused on the unique requirements of the US military, or electronics/chip companies, who have not understood the very different approaches to product development, planning horizons and user needs of the textiles industry," the report surmises.

"As a result, new product development has often failed to reflect either true market requirements or the problems of garment technology integration that are likely to be faced."

In addition, the report finds that many developments by small companies have failed to flourish through a lack of funding.

Commercial potential

Examples of smart-clothing with potential that has already hit the shelves include wearable electronics, appearance changing garments, shape memory products and non-electrical thermal

control. Each was found to have different commercial and market potential by the research.

Various academic institutions, such as the Georgia Institute of Technology, have developed wearable electronics for communication, information and entertainment uses. However, there is a limit to the commercial potential of these products due to technological obstacles, despite the enthusiasm of mobile phone companies, for example, to make a breakthrough.

On the other hand, there is likely to be significant scope to supply appearance changing garments to the rescue services, outdoor workers, mountain rescue teams, as well as cyclists and joggers. Such garments, which change appearance in response to some external stimulus, have until now been largely directed at fashion clothing for nightclubs, the report says.

Overall research and development (R&D) is identified as "the lifeblood of the technical fabric industry", by the report, which names Klopman International, Milliken & Company, Du Pont de Nemours, Malden_Mills Industries, WL Gore & Associates, Royal TenCate, The Toray Group, Schoeller Textil AG, and Reliance Industries among the leading technical innovators.

However, it seems that the transfer of garments from laboratory to catwalk could be a slow one for manufacturers,

especially while the sale of such products through their functional attributes seems enough to support growth alone.

The technical textiles report, available now from just-style, also details the most commonly used fibres in the sector, along with sourcing and technical information. For more information, click here

8.Tata Interactive Systems' ePerformance Support Systems specialist reveals all in Australia

TATA Interactive Systems | London, UK

John Kusi-Mensah, worldwide vice president for ePerformance Support Systems (ePSS) with the global e-learning producer, Tata Interactive Systems (TIS), is contributing his extensive knowledge, experience and expertise of these systems to delegates at the Australian Institute of Training and Development (AITD)'s national conference, being held in Melbourne, Australia, on 19th and 20th April.

John Kusi-Mensah, worldwide vice president for ePerformance Support Systems (ePSS) with the global e-learning producer, Tata Interactive Systems (TIS), is contributing his extensive knowledge, experience and expertise of these systems to delegates at the Australian Institute of Training and Development (AITD)'s national conference, being held in Melbourne, Australia, on 19th and 20th April.

Kusi-Mensah, who is speaking on 'taking workplace performance improvement to another level', will be outlining TIS's award winning ePSS solution which combines on-demand learning and performance support for a major player in the financial services sector.

According to Kusi-Mensah: "This solution is driving Service Centre Excellence through enabling faster and more effective transaction resolution, significantly accelerating time to competence for new employees and enabling the effective handling of multiple and complex customer interactions."

In particular, Kusi-Mensah will be outlining:

- **How ePSS delivers increased revenue, reduction in operating costs and operational efficiency.**
- **How ePSS and on-demand learning are converging.**
- **How ePSS and artificial intelligence are converging.**
- **The future of workplace performance improvement and learning**

Other speakers at the AITD conference include Dr Laurie Bassi, an international authority on gaining competitive advantage through investments in learning; Ed Cohen, vice president of the Satyam School of Leadership, who specialises in aligning employee development programmes with strategic corporate goals; business strategist, Alastair Rylatt, and Les Pickett, an international expert in HR development and human capital management.

The AITD conference is being held at the Sebel, Albert Park, 65 Queens Road, Melbourne, Victoria 3004, Australia, on 19th and 20th April. Further details from http://www.aitd.com.au

About Tata Interactive Systems (TIS)

Tata Interactive Systems (TIS), a global leader in e-learning, is a part of the $22bn Tata Group. Truly international, TIS has a presence across the US, Canada, UK, Australia, New Zealand, the Middle East, Japan, India, and mainland Europe. TIS offers corporations, universities, schools, publishers, and government institutions a diversified and innovative bouquet of learning and training solutions including Simulation-based Learning Objects (SimBLs™), Story-based Learning Objects (StoBLs™), courseware and curriculum design, special-needs education, assessments, electronic performance support systems (EPSS), mobile learning, along with other corporate training and consultancy services. Our multi-disciplinary expertise and 16 years' experience across domains helps us design e-learning programmes that are unique to clients' requirements and specifically crafted to boost knowledge retention and application.

Apart from holding ISO 9001 certification, TIS is the only e-learning organisation in the world to be assessed at Level 5 in both the SEI-CMM and P-CMM frameworks. TIS's quest for excellence is reflected in numerous prestigious industry awards, including a Silver Brandon Hall Excellence in Learning Award 2005 and 2004, APEX Award of Excellence in 2005 and

2006, BETT Awards in 2004 and 2006, and two Business World-NID Design Excellence awards

9. RIDDLE OF THE PYRAMID

A French architect says he has uncovered the secret to the construction of Egypt's Great Pyramid of Cheops 4500 years ago: Workers hauled the stones up an internal spiral ramp.

Jean-Pierre Houdin has been working on his insight for 8 years, and late last month in Paris, he unveiled it along with a video made using new 3D-visualization software.

Houdin says the usual theories of how pyramids were constructed are impractical: A giant ramp would use more stones than the pyramid itself, and a ramp spiraling up the outside would make it hard for engineers to get the geometry right. But a 2-meter-wide inner ramp solves all the problems, he says. Corners of the pyramid would have been left open, allowing workers to maneuver 2-ton blocks around them (see illustration). Houdin is negotiating with Egyptian authorities to allow noninvasive testing of his idea using microgravimetry and infrared and acoustic sensing.

CREDIT: DASSAULT SYSTÈMES

The work was done in consultation with Egyptologist Robert Brier of the C. W. Post Campus of Long Island University in Brookville, New York, who says, "it's a radical new theory, [but] almost all the Egyptology experts say it should be tested." At least one native Egyptian has reservations about it, however: Farouk El-Baz, head of Boston University's Center for Remote Sensing, says, "No engineer would ask workers in ancient Egypt" to haul stones up the dim inner ramps. "These are people that live all their lives in the sun, and most are afraid of the dark."

(Source: Science)

NANOFINGER

Nanotechnology is adding a new weapon to the crime fighter's arsenal: a nano-solution for sharpening fingerprints.

For more than a century, crime investigators have sprayed suspect surfaces with a water-based gold or silver solution to detect fingerprints. The metal ions are reduced to a black precipitate along the lines of fatty deposits left by the skin

ridges. But "even with the most advanced fingerprint techniques," says chemist Joseph Almog of Hebrew University in Jerusalem, "less than a third" of good prints at crime scenes produce usable evidence.

Almog, who is also a former chief forensic scientist for the Israel National Police, and fellow Hebrew University chemist Daniel Mandler have found that attaching hydrocarbons to gold nanoparticles is the key. The fat-seeking hydrocarbons guide the gold to the skin impression and lay down a metal trail. If this treatment is followed with the conventional solution, the gold catalyzes the precipitation of metal in solution, and the resulting fingerprints are far sharper, the scientists report in the current issue of *Chemical Communications*.

The new method could be "revolutionary" for crime fighting, says Antonio Cantu, chief forensic scientist for the U.S. Secret Service in Washington, D.C. But first, says Almog, it has to be refined, standardized, and field-tested in police labs.

(Source: Science)

MODELING MECCA'S CROWDS

CREDIT: KAMRAN JEBREILI/AP

THE ANNUAL PILGRIMAGE, or haj, to Mecca in Saudi Arabia offers one of the world's greatest challenges in crowd control. The millions in attendance create a volatile environment in which pilgrims have been trampled to death performing a ceremony on the Jamarat Bridge in Mina, where they hurl stones at pillars representing the devil. In January 2006, more than 360 people were killed in a stampede near the bridge. Haj officials have since instituted new safety rules and enlarged the bridge; they have also sought advice from experts in traffic and crowd flow.

One of these experts is Dirk Helbing, a physicist at the Technical University of Dresden in Germany, who was asked to suggest safe routes for crowd movements. Last week, he reported on this work at a physics conference at the University of Leicester, U.K. He and co-workers analyzed videotapes of the 2006 disaster, observing how thick crowds of people, like high-density flows of fluids, can turn "turbulent," causing groups to move erratically. When this happens, people fall and get trampled. Helbing described how it is possible to identify changes in crowd behavior in advance of the turbulence and thus pinpoint danger spots.

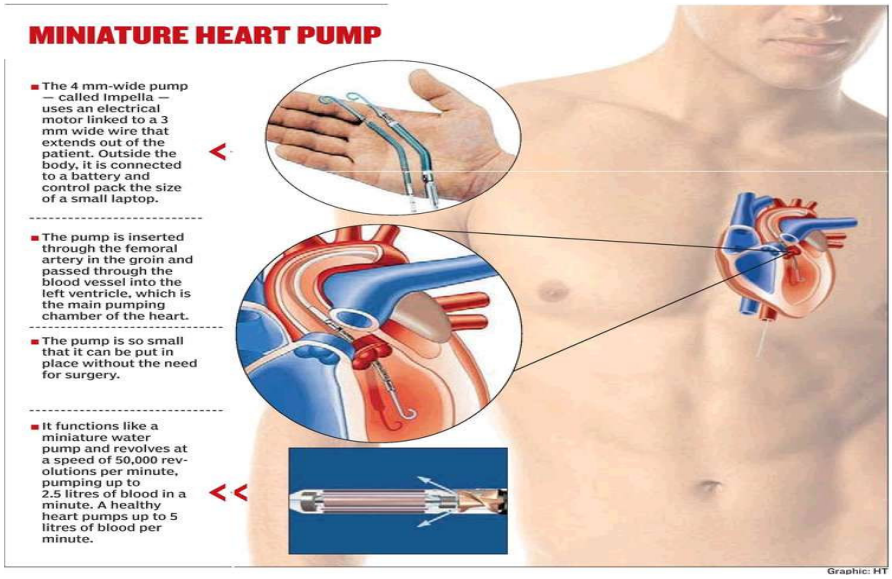
The changes have apparently been effective: At the latest haj, from 29 December to 1 January, there were no major incidents.

(Source : Science)

REINHARD KRAUSE/REUTERS

OPTICAL ILLUSION: Women sit on specially designed stools at a park in China's Chongqing municipality.

(Source: Hindustan Times)



(Source: Hindustan Times)

OBITUARY:

British architect Laurie Baker dies at India home

Tuesday, April 3, 2007

Architect Lawrence Wilfred Baker, credited with building thousands of low-cost houses in India, died at his home in the south of the country Sunday at the age of 90, his family said. Baker, popularly known as Laurie, was considered a pioneer in building cost-effective and environment-friendly houses for poor Indians by using traditional techniques, materials and crafts such as mud and thatch. He constructed thousands of low-cost buildings all over India - mud houses, rural colonies, fishermen's villages, cathedrals, schools, hospitals, film studios, holiday cottages and factories. Baker adapted a 16th century building method from England - rattrap bond walls - to contemporary Indian needs. Instead of laying bricks flat, one above the other, he lays them sideways up, leaving a gap between them. The number of bricks required to build rattrap bond walls is 25 per cent less than in conventional methods. In an interview with outlookindia.com, R.D. Padmakumar, an architect who ran the Laurie Baker Building Center in New Delhi said, "Baker has taught us that construction should be in sync with local conditions and needs." Born on March 2, 1917 in England, Baker studied architecture at the Birmingham School of Architecture. In 1938, he became an associate at the Royal Institute of British Architects (RIBA). He became an anesthetist to a mobile surgical team during World War II. Trying to return to the U.K. in 1944 he had to wait for a boat for three months in Bombay at a time when Gandhi was there.

He was greatly influenced by him to return to live and work in India after a very brief spell at his home in England. In 1948 he married Elizabeth Jacob, a like-minded doctor from the southeastern Kerala state and settled with her in India. Until the mid-nineteen sixties they lived and worked in a remote Himalayan region where they built their own home, hospital and schools and brought up their children. It was during this period that Laurie Baker acquired his insight into the problems and actual conditions of rural India, together with his deep appreciation of indigenous architecture.

He was honored with one of India's top civilian awards, the Padmashree in 1990, the same year he became an Indian citizen.

Baker also served on the panels of several government bodies. He was affiliated with The Housing and Urban Development Corporation Ltd. (HUDCO), the National Institute of Design, and the Scientific Advisory Council of Central Building Research Institute (CBRI).

He is survived by his wife, two daughters and a son

PROGRAM AND EVENT:

1. Dear TIEMS Members and Friends,

You will all be aware that the 14th Annual Conference of The International Emergency Management Society (TIEMS)is due to take place between 5th - 8th June 2007 in Trogir Croatia, and we are pleased to inform you that registration for the conference is now available from the TIEMS website at
http://www.tiems.org/eventmanagement/tiems2007/

We would also like to take this opportunity to let you know that the deadline for early bird registrations has been extended to 13th April 2007, so register before this date and save yourself 10% on the conference fee.

The website is being continuously updated with the latest information so encourage you to keep visiting and look forward to welcoming you all to Croatia in June.

Kind Regards

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e-mail: khdrager@online.no

2. Hello Dr. Sunil Bhatia,

We have started a forum HCI-Hyderabad in May 2006, to bring HCI professional and enthusiast together with an objective to share knowledge and promote awareness about HCI/Usability profession and establish among the Indian IT and other industries.

As we approach closer to mark the first successful anniversary, in May 07, we are organizing a three day national event in month of JUNE 2007, which would provide us an opportunity to serve a larger audience not only from Hyderabad/AP but from Bangalore , Pune, Mumbai, Chennai, Delhi , Chandigarh and Kolkota etc. The event would be based on a theme of current interest – "Living in the Digital World" it's challenges and resolutions.

The three day event would entail:

- **Day 1 – Conference, Paper Presentation, Panel Disc., Photo Exhibition**

- **Day 2 – Workshops/Tutorials, Quiz, Contest, Competition Entries Display, Photo Exhibition**
- **Day 3 – Competition Entries Display, Exhibition, Closing Ceremony, Prize Distribution and Get-together**

Our objectives and goals for this events are as follows:

- **Make a content rich engagement that touches the core issues of HCI & UCD discipline.**
- **Offer an opportunity for HCI/UCD community in India to contribute through papers and presentation.**
- **Create an appropriate environment for learning and knowledge sharing among the UCD professionals and practitioners and academia.**
- **Provide a platform to Design and Engineering Students to showcase their Design proficiency for designing products/services which effect human life and society.**

We would like the participation and cooperation from you and your group to make this possible and success. In this regard I would like to speak to you to discuss the same. I will appreciate if you could let me know your contact number and the convenient time for the same.

Looking forward to your response

Raman Saxena
09866237620
www.hci-hyderabad.org

3 An introductory course on HCI for working professionals will be held in the Industrial Design Centre, IIT Bombay from July 3 to 13, 2007.

This course will cover user studies, interaction design and

usability evaluation. Details on the course (contents, schedule, fees etc.) are
at http://www.idc. iitb.ac.in/ ~anirudha/ workshopJuly07. htm

If you need any other information, please feel free to contact me. Apologies if you got this message more than once.

Anirudha Joshi
IDC, IIT Bombay

Job Opening

1. Requirement for a fashion/apparel designer
in jaipur. please write to the person mentioned in the
mail below directly in case of interest.

AEP NID APPAREL DESIGN 1996-2000
MA SPORTSWEAR DESIGN, DERBY, UK 2002-3
Visiting faculty NID, NIFT, SRISHTI
Craft consultant and fashion designer, Ahmedabad

2. neelam jain <jainneelam31@ yahoo.co. in>

We are looking for the following:
1. Graphic designers (specially people with an interest and aptitude for signage design)
(1) Retail designers (large format stores)
(2) Interior designers

(3) Site supervisors

(4) Civil engineers

(5) Product designer

We are also restarting our training program for summer, office and semester training. The intake will be a maximum of 4 trainees at any given time.

Trainees are welcome from any design and architectural institute. We have in the past few years had over 28 trainees at our studios.

Fresh graduates can also apply.

Email your CV to:

Amit Sheth

MIND'S EYE DESIGN PVT LTD

703 H K House

Ashram Road, Navrangpura

Ahmedabad 380009.

e-mail: mindseyedesignplc@ gmail.com

3. **Dear All**

Hitech Plast Ltd., a fast growing company providing packaging solutions to their customers, requires a product designer with 2 to 5 years of experience (preferably Post Graduate).

The person's responsibility will include interaction with customers, understanding their requirements, conceptualizing and developing solutions as per the requirements, getting the required tooling developed and finally productionizing the solution.

Our customers include P&G, Reckitt & Benckiser, HLL, Dr. Reddy's, Cipla, GSK, Marico, ITC and other companies from FMCG and Pharma sector.

Interested candidates please send their resumes to G.S. Bhumra (Vice-President D&D) at bhamrahitech@yahoo.com

Regards
Pulkesh
Design Dept.
Hitech Plast

4. Graphic Designers Wanted Qualification: Graduate with Degree / Diploma in Graphic Arts.
Experience: 2 - 4 years of experience in Print Media.
Skill Sets: Sound knowledge of CorelDraw, PhotoShop, PageMaker, Illustrator, & Flash. The Company is Financial Technologies. .Leaders in providing solutions to the Finance markets.
It is the parent Company of MCX -Multi commodities exchange... Soon in they have more exchanges and exchange related exchanges coming in...
Anybody interested Write to vandanabalwally@ ftindia.com
5. **Graphic Designers (1-2 years of experience) - 2 positions**
Interior Designer cum 3D Visualiser - 1 position
Client Servicing & Design Manager (2 years experience) - 1 position
Copywriter - freelance or full time employment
Please respond with your resume & portfolio (PDF

Format)
Call on (020) 6478 2278 to take an appointment for interview.
Those short listed will be contacted by e-mail.
Please send responses to:
info@lemondesign. co.in
wasim@lemondesign. co.in

5. One of my contacts is looking for a small/medium design company which has some experience in FMCG product branding campaigns. The product range under consideration is somewhat like Kurkure, already selling under a brand name in Northern India (the product is packaged decently and tastes good...I tasted it myself). The task is to overhaul the name, graphics and position it differently to make it a formidable brand.
Incidentally, Onio does not focus on FMCG packaging/branding and hence the broadcast :).
Interested individuals/ companies can directly call him on (Mr. Subodh Bhandari) 093240 88306
Manoj Kothari
Onio Design Pvt. Ltd.
5. National Institute of Design invites applications or nominations for the Design Research Chairs and Charles Eames Design Emeritus Fellowship from experienced and professionally qualified designers, educators, innovators, and allied professionals from India/ Overseas (working/retired) .

A. The Research Chairs looking for incumbents are:

1. Autodesk Design Research Chair for Design Education & Innovation.(Ahmedabad)

2. John Bissell Chair for Textile and Apparel Design & Technology Fusion. (Ahmedabad)

3. Ravi J Matthai Design Research Chair for Design Innovation & Management.(Ahmedabad/ Gandhinagar)

4. O P Jindal Chair for Stainless Steel Product Innovation & Development. (Ahmedabad/ Gandhinagar)

Design Research Chairs act as catalysts for collaborative research opportunities at NID supported by specific sponsoring industry/institution. The work carried out by the Chairs usually focuses on the specific design development needs of the industry in particular, and society at large.

B. Charles Eames Design Emeritus Fellowship for Developmental Design

This is a prestigious International Fellowship for recognizing and supporting outstanding original work related to Design Research in the respective areas of design for development and quality of life. A fellowship grant ranging from a half a million to a million Indian rupees would be provided for furthering outstanding work being carried out by the eminent professional for a period of 18 to 24 months.

Eligibility (A, B):

Persons with at least 15 years of relevant experience having

made a significant and tangible contribution and in the age group of 50-65 years in the relevant sector in relation to Design Research, Product Development & Innovation.

More details available at NID website <www.nid.edu>

(More jobs are in our web site www.designforall.in)

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