

Dreams of Reality

Mutual Cause for Common Cause

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Editorial Purpose:

Our mission of Newsletter is to work as catalyst for Design at individual as well as organizational level of government and non government for spreading and exploring the new concept of Design For All/ Universal Design/ Barrier-Free / Inclusive Design.

***To meet the challenges of our times,
I believe that humanity must develop a
Greater sense of Universal responsibility.
Each of us learn to work not just for
our own individual self, family or nation,
but for the benefit of all humankind
His Holiness The Dalai Lama***

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Editorial by Chairman:

It is our inaugural issue of Newsletter and I welcome every one on the behalf of Design For All Institute Of India .The aim of the Newsletter is to bring to the notice of those people who are affected directly or indirectly with the concepts of Design For All/ Universal Design/ Barrier Free Design. It is a platform for everyone who wishes and wants to do for betterment of society with passion, sincerity and honesty. We wish more people should come forward and express their views, news and debate with conviction and firm belief in this free for all open platform. I personally believe, what the society did to the Galileo should not repeat in our modern time .But they should not either come out with idea which is yet to be establish or not thought by inventor like Addison who designed the Electric bulb which has revolutionized the society but fails to understand the affect of thermal shock on filament when it went for commercial use for common people . This is a platform where people should come with new ideas which are welcome by all of us. If there is scope of correction, people should have patience to listen carefully and argument in scientifically. Acceptance and rejection is

their own sole discretions. Initially we are planning to bring this Newsletter monthly, if the response is encouraging we can bring it fortnightly.

When I started idea of establishing a state of art Design Institute in India, most of the people were curious and asked me “What is Design For All ?. They raised their finger in doubts and questioned “Is your name of Institute all right? Will you continue with this name?” When I explain the different institute’s authority that Design For All is a concept. I managed somehow to satisfy their questions but at the bottom of my heart, I felt some uneasiness in convincing myself. My first question to myself was “What Design is?” When I start thinking I realize it is very difficult question. Similarly if someone asks you what the definition of Beauty is. In scientific community, we call anything which is symmetrical (means if you place a mirror on half of either vertically or horizontally and produce exact reflection), is bound to be beautiful. Asymmetry is Ugly. Which again contradictory, poet may say it is the beholders eyes. When you visit a city and find the trees and plants are planted both side of road in a row and unwanted trees are eliminated. Your immediate reaction and exclaim in wonder “What a beautiful City! Every thing is well managed”. In city, trees are growing against their nature to be random. We plant and allow the growth, shape as we wish. Other side, when we see forest and find growth of trees in a natural way and its vastness, density and random way makes us to exclaim in wonder “What a beauty!” When a mankind find safe and no threat to him he will admire, if he is under the threat or fear then behave in unpredictable manner. In both cases, fear is dominating character of exclaiming .Today’s mankind has passed and evolved under this constant fear. Universe wants to kill us and it is the beauty of human mind that he has survived in spite of all odds and gifted with such a delicate, fragile body that any visible or even invisible matters can kill him in no time Sometime he finds the solution of surviving by observing the shape and pattern of Nature and design his life in such a way that he can survive longer and even can strive for live forever . He controls the fear of killing by external force as well as his peer and fellowmen by designing a Governing system of Society by controlling the basic weakness of human. While inventing a new devise for life, he sometime does stupidity and stupid design fuels a movement unto itself, and some time he finds by criticizing others seriously or jokingly and says what a design of human body , in between our two legs – the entertainment complex is built around the sewage system, and sometime solves the problem with unimaginable intelligence. The bottom of surviving technique for living being is Fear factor. Sometime his acts of stupidity consider as an act of intelligence or vice versa. But certain matters either go unnoticed by human mind or fails to solve in spite of all his efforts or his knowledge is not mature enough to understand the cause .These are GAPS for human mind. These gaps haunt the life of human and create manifold fear. Some persons channellized all his energy to unfold this mystery in logical thinking and design certain model theory, we call them scientist. Some surrender to these gaps and they design a concept of Religion and some mould themselves and slowly it becomes their life style and quietly surrender to their fate and we say it is design of Culture. All these create concept of Grand Design. When person sees the thing at micro or atomic or genetic level then it is impossible to believe that this grand design is evolved because of intelligent design. Man will aghast in some places, will be happy in understanding some places, will be sad when fails in his exploration, some failing becomes mystery for

him and increases his fear manifold. The grand design keeps on evolving and mankind always encounters a new challenges. Some surrender to fate, some accepts the challenges posed by unseen dimension. Some succeed; some fail and majority die in search of as unsung hero. We must salute to those who are not in any history but contributed a lot in such a way that it has become household technology irrespective of nation boundary, caste, creed, economical strata. In modern social engineering I give respect to one technology which is so popular and people believe it is age old dress. The popularity of Brasserie is ubiquitous and impossible to believe that it was designed after 1st world war. We must acknowledge person's contribution which has revolutionized the modern thinking. The inventor must be appreciated and we should always encourage those come and develop idea of design useful for entire mankind.

The mankind has beautiful concepts that it shares their knowledge either by bartering with knowledge of others or exchanges this gap of knowledge by selling commercially. They satisfy their needs by filling their gap by exchanging. Later on, they find it can be useful for everyone and maximization of profit is not criticized in any law. As world is globalizing and different users should be accommodate for making market dynamics and commercial viable. The world is under force to think in the line of Design For All/ Universal Design / Barrier – Free Design for their survival.

I must thankful to the Internet design which is such a powerful medium and what we have achieved little success in such a short time, we would have not achieved, if scientist would have not design this concepts for everyone in view of Design For All/ Universal Design/ Barrier-Free Design.

I wish all of you a Happy New Year.

With Warm Regards.

Dr. Sunil Bhatia

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EUROPEAN INSTITUTE FOR DESIGN AND DISABILITY

ENHANCING THE QUALITY OF LIFE THROUGH DESIGN FOR ALL

A warm word of welcome

It is with great pleasure that I take up the invitation from the Design for All Institute of India to write an inaugural address to this website.

EIDD, the European Institute for Design and Disability, which I have the honour to have been serving as President since 2003, has been working to develop the concept of Design for All since shortly after its foundation in Dublin in 1993. On 9 May 2004, this process was encapsulated in the brief but complete document adopted at the Institute's tenth Annual General Meeting, held in Stockholm, and hence known as:

The EIDD Stockholm Declaration©

“Good design enables, bad design disables”

Introduction

Soon after its establishment in 1993, the European Institute for Design and Disability (EIDD) developed the mission statement: “Enhancing the quality of life through Design for All”.

After ten years as the European platform on Design for All, involving the development of external relations and an internal structure – national member organisations, corporate members and individual members now in sixteen European countries – EIDD believes that the time has come to issue a Design for All Declaration.

Design for All has roots both in Scandinavian functionalism in the 1950s and in ergonomic design from the 1960s. There is also a socio-political background in Scandinavian welfare policies, which in Sweden in the late 1960s gave birth to the concept of “A society for all” referring primarily to accessibility. This ideological thinking was streamlined into the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities, adopted by the UN General Assembly in December 1993. The focus of the UN Standard Rules on accessibility in a clear equality context has inspired the development of the Design for All philosophy, which became a generally accepted concept in EIDD at its Annual General Meeting in Barcelona in 1995.

Comparable concepts have developed in parallel in other parts of the world. The Americans with Disabilities Act contributed to the evolution of Universal Design, while Inclusive Design has gained ground in the UK.

Today, Planning and Design for All are being recognised increasingly as necessary elements in pro-active strategies for sustainable development.

The European Institute for Design and Disability, on the occasion of its Annual General Meeting in Stockholm on 9 May 2004, therefore adopts the following Declaration:

Across Europe, human diversity in age, culture and ability is greater than ever. We now survive illness and injury and live with disability as never before. Although today's world is a complex place, it is one of our own making, one in which we therefore have the possibility – and the responsibility – to base our designs on the principle of inclusion.

Design for All is design for human diversity, social inclusion and equality. This holistic and innovative approach constitutes a creative and ethical challenge for all planners, designers, entrepreneurs, administrators and political leaders.

Design for All aims to enable all people to have equal opportunities to participate in every aspect of society. To achieve this, the built environment, everyday objects, services, culture and information – in short, everything that is designed and made by people to be used by people – must be accessible, convenient for everyone in society to use and responsive to evolving human diversity.

The practice of Design for All makes conscious use of the analysis of human needs and aspirations and requires the involvement of end users at every stage in the design process.

The European Institute for Design and Disability therefore calls on the European institutions, national, regional and local governments and professionals, businesses and social actors to take all appropriate measures to implement Design for All in their policies and actions.

Although only two years have passed since Stockholm, the European Institute has already made major advances. Once this document had provided the necessary basic framework of theory and practice, our main concern shifted to the need to communicate the potential of Design for All, so as to make a real difference not only (or so much) to design itself, as to the decision-making processes that lead to a commission being issued to a designer or an architect, in other words the creation of the design brief.

In the real world, this does not take place in isolation, but as a concomitant factor in major systems. The European Institute has identified these as a series of macro areas, to which it now dedicates a cycle of Annual Conferences. The first of these Conferences, held in Berlin in May 2005, focused on the topic of Culture for All, i.e. how Design for All contributes to achieving social inclusion in the field of Culture. The second edition of Culture for All will be held in 2009 in the Austrian city of Linz, the European Capital of Culture for that year.

On 18 and 19 May 2006, Work for All will be the topic of this year's EIDD Annual Conference, due to be held as an unprecedented simultaneous event with a satellite link in two European cities: Gdansk in Poland and Waterford in Ireland. In this way,

the European Institute will be putting its inclusive policy into practice, by enabling members and a wider audience from Poland, the new member state of the European Union with the largest population, as well as the surrounding area, to attend the Conference and compare experiences with colleagues in Ireland and elsewhere, exploring the impact that Design for All can exert on employment, the intercultural phenomenon of migrant working and immigration in the European Year of Worker Mobility.

2007 is set to be the turn of Tourism for All, now being prepared as the event that will open new Conference Centre in the Italian tourist resort of Riccione, while the formal decision about the 2008 Conference topic will be made by the Board of Directors in May of this year.

Although the EIDD Stockholm Declaration© states a simple, easily remembered definition of Design for All, it is not intended to provide a blueprint for a single model of theory and practice for Design for All, but reflects a collection and acknowledgement of the different models that cultural diversity has caused to develop in the various parts of Europe. Similarly, it is not – and should never be interpreted as – a blueprint automatically applicable to any other area of the world, whose cultural differences can definitely contribute to enabling us all, everywhere in the world, to learn about alternative valid paths to achieving social inclusion.

Such is certainly the case of India. The arrival on the international scene of the Design for All Institute of India will certainly benefit everyone working in this significant field, contributing new and different insights, innovative proposals and thought-provoking solutions, so which EIDD and all its members will always be very happy to respond with their own wide variety of extensive experience.

We can all look forward to a fruitful future as we learn about and from each other.

*Pete Kercher
President, EIDD
13 February 2006*

Author: Mr. Ron Mace, Founder of Center for Universal Design, North Carolina State University,(USA)

History of Universal Design in the United States

Like a bean sprout that emerges only after its root is deep and strong, universal design has its beginnings in demographic, legislative, economic, and social changes among older adults and people with disabilities throughout the 20th century.

Changing Demographics

At the beginning of the 20th century, older adults and people with disabilities were true minorities. The average human lifespan was only 47 years, and people who received

spinal cord injuries had only a 10% chance of survival. Most people with chronic conditions lived in nursing institutions.

People are living longer today. The average lifespan has increased to 76, largely due to healthier living, better medicine, and vaccines and sanitation that have virtually eliminated many killer infectious diseases (The Denver Post, 1998). Nearly 80% of the population now lives past the age of 65. Projections based on U.S. Census Bureau estimates indicate that the number of persons ages 65 and over will grow to almost 40 million by the year 2010 (Jones and Sanford, 1996). Last year, 4 million people in the United States were over the age of 85 and about 60,000 topped age 100. By 2020, the Census Bureau estimates that 7 million to 8 million people will be over age 85 and 214,000 will be over age 100. By contrast, at the end of World War II, only 1 in 500 made it to age 100 (The Denver Post, 1998).

In addition, more people are now living with disability. Two world wars created a huge population of veterans with disabilities, and antibiotics and other medical advances enabled people to survive accidents and illnesses which were previously fatal. At the end of 1994, 53.9 million people in the United States (20.6% of the population) had some level of disability (Figure 1), and 26.0 million (9.9%) had a severe disability. It is estimated that among the population 6 years and over, 8.6 million people had difficulty with one or more activities of daily living (ADLs) and 4.1 million needed personal assistance of some kind (McNeil, 1997).

These demographic changes result in a population that is older and more disabled than many realize, and these trends continue. The limitations imposed by products and environments designed and built without regard to the needs and rights of all American citizens are significant but often unrecognized.

Public acknowledgment of people with disabilities and progress toward universal design has developed in the last few decades along three parallel tracks of activities: legislation fueled by the disability rights movement, the barrier-free design to universal design movement, and advances in rehabilitation engineering and assistive technology.

Federal Legislation

The Civil Rights Movement of the 1960s inspired the subsequent Disability Rights Movement that greatly influenced the legislation of the 1970s, 1980s, and 1990s. These new laws prohibited discrimination against people with disabilities and provided access to education, places of public accommodation, telecommunications, and transportation.

The barrier-free movement in the 1950s began a process of change in public policies and design practices. The movement was established in response to demands by disabled veterans and advocates for people with disabilities to create opportunities in education and employment rather than institutionalized health care and maintenance. Physical barriers in the environment were recognized as a significant hindrance to people with mobility impairments.

Efforts of the Veterans Administration, The President's Committee on Employment of the Handicapped, and the National Easter Seals Society, among others, resulted in development of national standards for "barrier-free" buildings. In 1961, the American Standards Association (later known as The American National Standards Institute, or ANSI), published the first accessibility standard titled, "A 117.1 — Making Buildings Accessible to and Usable by the Physically Handicapped." These standards were not

enforceable, however, until adopted by state or local legislative entities.

A number of states responded with their own accessibility standards, and by 1966, 30 states had passed accessibility legislation; by 1973, the number was up to 49 states. Individual federal agencies attempted to provide minimum access through additional regulations and standards. This resulted in numerous, often differing accessibility guidelines. An attempt to "standardize" these federal guidelines occurred in 1984 when the ANSI specifications were incorporated into the Uniform Federal Accessibility Standard (UFAS).

Significant federal legislation began to be passed in the late 1960s, including the following:

The Architectural Barriers Act of 1968 mandated the removal of what was perceived to be the most significant obstacle to employment for people with disabilities: the physical design of the buildings and facilities they had to use on the job. The Act required all buildings designed, constructed, altered, or leased with federal funds to be made accessible.

Section 504 of the Rehabilitation Act of 1973 was the first civil rights law for people with disabilities. This Act made it illegal to discriminate on the basis of disability and applied to federal agencies, public universities, federal contractors, and any other institution or activity receiving federal funds. The promulgation of regulations was initially stalled by the U.S. Department of Health, Education and Welfare. In protest, disability rights advocates held numerous demonstrations. As a result, regulations were finally issued in 1977.

The Education for Handicapped Children Act of 1975

(now called the Individuals with Disabilities Education Act, or IDEA) guaranteed a free, appropriate education for all children with disabilities. This Act had an effect on educational programs as well as on the facilities in which they were conducted.

The Fair Housing Amendments Act of 1988 expanded the coverage of the Civil Rights Act of 1968 to include families with children and people with disabilities. The Act required accessible units be created in all new multi-family housing with four or more units, both public and private, not just those that received federal funds. Accessibility Guidelines were issued by the U.S. Department of Housing and Urban Development in 1991 to facilitate compliance.

The Americans with Disabilities Act of 1990 (ADA) awakened widespread public awareness of the civil rights of people with disabilities. Discrimination in employment, access to places of public accommodation, services, programs, public transportation, and telecommunications is prohibited by this law. Physical barriers that impede access must be removed wherever they exist. The ADA has a uniform nationwide mandate that ensures accessibility regardless of local attitudes. The Architectural and Transportation Barriers Compliance Board (Access Board) issued Accessibility Guidelines for accessible design in 1991. These guidelines were adopted with modifications by the U.S. Department of Justice and became the enforceable ADA Standards for Accessible Design.

The Telecommunications Act of 1996 mandates that telecommunications services and equipment and customer premises equipment be "designed, developed, and fabricated

to be accessible to and usable by individuals with disabilities, if readily achievable." It applies to all types of telecommunications devices and services, from telephones to television programming to computers.

Federal legislation began as requirements for minimum accessibility to small percentages of facilities and features, which lawmakers felt was sufficient. It has progressed to providing full access to public and private programs and facilities and has begun to affect devices and services in the home.

Barrier-Free to Universal Design

Early on, advocates of barrier-free design and architectural accessibility recognized the legal, economic, and social power of a concept that addressed the common needs of people with and without disabilities. As architects began to wrestle with the implementation of standards, it became apparent that segregated accessible features were "special," more expensive, and usually ugly. It also became apparent that many of the environmental changes needed to accommodate people with disabilities actually benefited everyone. Recognition that many such features could be commonly provided and thus less expensive, unlabeled, attractive, and even marketable, laid the foundation for the universal design movement.

Rehabilitation Engineering and Assistive Technology

Rehabilitation engineering and assistive technology emerged in the middle of the 20th century. Efforts to improve prosthetics and orthotics intensified with the return of thousands of disabled veterans from World War II in the 1940s. During the 1950s, engineering research centers sponsored by the Veterans Administration and other federal organizations were established to address other technological problems of rehabilitation, including communication, mobility, and transportation. Rehabilitation engineering centers expanded during the 1960s and 1970s.

Rehabilitation engineering became a specialty that applied scientific principles and engineering methodologies to these problems. The label, "assistive technology," was applied to devices for personal use created specifically to enhance the physical, sensory, and cognitive abilities of people with disabilities and to help them function more independently in environments oblivious to their needs.

Intersecting Paths

Though coming from quite different histories and directions, the purpose of universal design and assistive technology is the same: to reduce the physical and attitudinal barriers between people with and without disabilities.

Universal design strives to integrate people with disabilities into the mainstream and assistive technology attempts to meet the specific needs of individuals, but the two fields meet in the middle. In fact, the point at which they intersect is a gray zone in which products and environments are not clearly "universal" or "assistive," but have characteristics of each type of design. A number of products have enjoyed crossover success, often starting as assistive devices and becoming mainstream products, such as the kitchen utensils with thick grips popularized by Oxo International in their "Good Grips" line. A few products have moved the other way, typically conceived as high-tech devices for small markets that find new application in the rehabilitation arena, such as voice recognition software.

The potential benefit of cooperation between professionals in both fields is exciting but

mostly untapped. Commercial designers have much to learn from rehabilitation technologists familiar with the ergonomics of disability and aging. Rehabilitation technologists and their clients can benefit from designers' expertise in creating products and environments that are functional, safe, attractive, and marketable for a wide diversity of users.

Changing Economics

The economic downturn of the 1980s had a negative impact on funds for rehabilitation engineering research and the removal of environmental barriers. At the same time, product manufacturers were beginning to recognize the market-broadening potential of more accommodating products.

In 1988, New York City's Museum of Modern Art exhibit, "Designs for Independent Living," featured products selected for their beauty as well as their consideration of the needs of older adults and people with disabilities. Selections included products from the United States, Denmark, England, Italy, Netherlands, and New Zealand. It was clear that the commercial world was beginning to acknowledge aging individuals and people with disabilities as viable customers.

In 1990, Oxo International introduced its Good Grips kitchen utensils for people who were limited by arthritis. These upscale products immediately found an enthusiastic audience, even though their advantages over utensils with oversized handles sold through assistive technology suppliers were primarily aesthetic. Oxo International grew at a 40% to 50% annual rate from 1990 to 1995, to \$20 million a year. Other companies quickly copied their approach.

Another emerging economic trend is the increasing "globalization" of the marketplace. Consumer businesses hoping to remain successful in the coming decades must recognize the opportunities and challenges inherent in global competition. While the size of potential customer markets is growing, the diversity of the consumer base is expanding at the same time to include differences in language and culture, customs, experiences, and historical design precedents. All of these increase the need for design that is sensitive to individual abilities and preferences.

Because reasonable cost is a fundamental issue in any design and production process, universal design has become a very marketable approach, since it addresses the diverse needs of a majority of consumers.

Changing Social Climate

Throughout history, community attitudes and physical barriers in the built environment have prevented people with disabilities from fully participating in society. Access to education, employment, housing, recreation, cultural events, and transportation has been denied many people. Along with the growth in the disabled population, the quest for independence and equal rights has grown, as well.

Buyers of assistive technology now demand that products be designed with concern for their impact on the image, as well as the function, of the user. Devices are expected to be appropriate for use at the office or school, at home, in the community, and on vacation.

Similarly, aging members of the baby-boom generation (those born between the years 1946 and 1964) have begun to see the usefulness of products conceived for people with

limitations. In a 1990 issue of Capturing Customers, Peter Francese noted, "As more Americans age, products that offer youthfulness without denigrating aging will do well. These consumers are not like their parents — they don't feel that older is ugly" (American Association of Retired Persons, 1992).

The Future

At the end of the 20th century, the world is very different than 100 years ago. People are living longer and surviving better. Potential consumers of design who may be functionally limited by age or disability are increasing at a dramatic rate. These populations are no longer an insignificant or silent minority.

The current generation of children, baby boomers entering middle age, older adults, people with disabilities, and individuals inconvenienced by circumstance, constitute a market majority. All of these constituencies and indeed, all consumers, deserve to be recognized and respected. Facilities, devices, services, and programs must be designed to serve an increasingly diverse clientele.

The demographic, legislative, economic, and social changes that brought us to this point are increasing the momentum that will propel us into a 21st century that will need to be more accommodating of individual differences. Universal design provides a blueprint for maximum inclusion of all people.

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From the table of Editor :

From Demographic Drags to People Propellants

A manpower development approach

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'Education for All' has been a important catch phrase both at the international level and at the national. It is a great political slogan. Yet every politician, every bureaucrat, every parent, every teacher, every student has its own understanding of word 'education' and the word 'all'. Both these words are loaded with social-cultural assumptions and government economic and political priorities, and this creates a gap between what is desired and what is available.

'Educational for All' is at present is merely a social justice or a human rights statement. It is not used as an economic growth prescription. As a result we are not able to achieve social justice. China has seen education as a means of economic and national development. They have converted what was seen as a demographic drag into a peoples propellant to launch their nation into the fastest growing economy. This opportunity is as much available for India.

National & International Scene

At the International level, in April 2000, representatives of 164 countries, including India, met in a conference of the World Education Forum at Dakar, Senegal, to discuss and consider these issues. At the conclusion of the Conference, six goals were adopted by the international community, which have come to be known as the Education for All (EFA) goals.

Broadly, the EFA goals cover the following three areas of:

- 1. Early childhood care and education*
- 2. Elementary education, and,*
- 3. Literacy and life skills education for adults and young people;*

with special focus on ensuring:

- v Gender equality, and,*
- v Quality education*

At the national level the National Education Policy of 1986 and subsequent amendment of 1992 contain the following excerpts. This could as well constitute the foundations, the preamble of my formulations. The key phrases are

Education is essentially for all (2.1)

Each individual's growth presents a different range of problems and requirements, at every stage from the womb to the tomb (1.10)

Education develops manpower for different levels of economy. (2.3)

To enable the people to benefit in the new environment will require new designs of human resource development. (1.14)

Neither normal linear expansion nor the existing pace and nature of improvement can meet the needs of the situation. (1.9)

The Indian education system has made creditable strides, yet there is a need to explore alternative, supportive directions of growth. The present system is based on logical linguistic capabilities. This is important, but predominant emphasis on this alone will only frustrate a very large majority of young boys and girls who are endowed with other forms of intelligence, these other forms of intelligence are essential for a multifaceted development of Indian culture and economy. By giving an exclusive, irrevocable importance to logical linguistic capabilities we are frustrating not only are cultural advancement but also millions of boys and girls in schools. Many of are distinguished Padamshree, Padama Bhusans and Padma Vibhushans were frustrated in schools, who only succeeded because of their grit, grind and inner strengths.

Intelligence, Ability, Motivation and Socio-Economic Marginalisation

Gardner proposes seven types of intelligence. Another three can be added to these.

1. Linguistic

Children with this kind of intelligence enjoy writing, reading, telling stories or doing crossword puzzles.

2. Logical-Mathematical

Children with lots of logical intelligence are interested in patterns, categories and relationships. They are drawn to arithmetic problems, strategy games and experiments.

3. Bodily-Kinesthetic

These kids process knowledge through bodily sensations. They are often athletic, dancers or good at crafts such as sewing or woodworking.

4. Spatial

These children think in images and pictures. They may be fascinated with mazes or jigsaw puzzles, or spend free time drawing, building with Leggos or daydreaming.

5. Musical

Musical children are always singing or drumming to themselves. They are usually quite aware of sounds others may miss. These kids are often discriminating listeners.

6. Interpersonal

Children who are leaders among their peers, who are good at communicating and who seem to understand others' feelings and motives possess interpersonal intelligence.

7. Intrapersonal

These children may be shy. They are very aware of their own feelings and are self-motivated.

Some authors have added another three types of intelligence.

8. Naturalistic intelligence

This is the ability to discern patterns in nature - e.g. Darwin)

9. Spiritual Intelligence

This is the recognition of the spiritual in us and in all of us

10. Existential intelligence

This is the concern with 'ultimate issues' of existence

Each one of us possesses these various types of intelligence but in varying degrees. The purpose of each of these forms of intelligence is to conceive viable configurations and relationships and subject it to evaluation. But each type of intelligence is capable of handling its characteristic type of configurations and relationships.

Then there is the issue of physical ability, disabilities and limits and potentials in each one of us. Each individual is unique in terms of his biologically acquired intellectual capabilities. He / She is also unique by virtue of the environment that nurtures his senses, his cognition and his being, and as he / she grows; age itself imparts uniqueness in terms of the capacity to distil intelligence from the essence of ones perception and creations.

The American Disability Act is fairly comprehensive and a good starting point to address the concerns of the disabled.

Under the American Disability Act (ADA), an individual with a disability is a person who has a physical or mental impairment that substantially limits one or more major life activities. A disabled person has a record of such an impairment or is regarded as having such an impairment.

The first part of this definition has three major subparts that further define who is and who is not protected by the ADA. A physical impairment is defined by the ADA as any physiological disorder, or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological, musculoskeletal,

special sense organs, respiratory (including speech organs), cardiovascular, reproductive, digestive, genito-urinary, hemic and lymphatic, skin and endocrine."

A mental impairment is defined by the ADA as any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities. Neither the statute nor EEOC regulations list all diseases or conditions that make up "physical or mental impairments," because it would be impossible to provide a comprehensive list of possible impairments.

A person's impairment is determined with our regard to any medication or assisting device that s/he may use. For example, a person who has epilepsy and uses medication to control seizures, or a person who walks with an artificial leg would be considered to have impairment, even if the medicine or prosthesis reduces the impact of that impairment.

Impairment under the ADA is a physiological or mental disorder; simple physical characteristics, therefore, such as eye or hair colour, left-handedness, or height or weight within a normal range, are not impairments. A physical condition or a predisposition to a certain disease would not be impairment. Similarly, personality traits such as poor judgement, quick temper or irresponsible behaviour, are not themselves impairments. Environmental, cultural or economic disadvantages, such as lack of education or a prison record also are not impairments. For example, a person who cannot read due to dyslexia is an individual with a disability because dyslexia, which is a learning disability, is impairment. But a person who cannot read because she dropped out of school is not an individual with a disability, because lack of education is not impairment.

"Stress" and "depression" are conditions that may or may not be considered impairments, depending on whether these conditions resulted from a documented physiological or mental disorder. A person suffering from general "stress" because of job or personal life pressures would not be considered to have impairment. However, if this person is diagnosed by a psychiatrist as having an impairment that may be a disability.

A person who has a contagious disease has an impairment. For example, infection with the Human Immunodeficiency Virus (HIV) is an impairment. The Supreme Court has ruled that an individual with tuberculosis, which affected his respiratory system, had an impairment. However, although a person who has a contagious disease may be covered by the ADA, an employer would not have to hire or retain a person whose contagious disease posed a direct threat to health or safety, if no reasonable accommodations could be reduced or eliminate this threat.

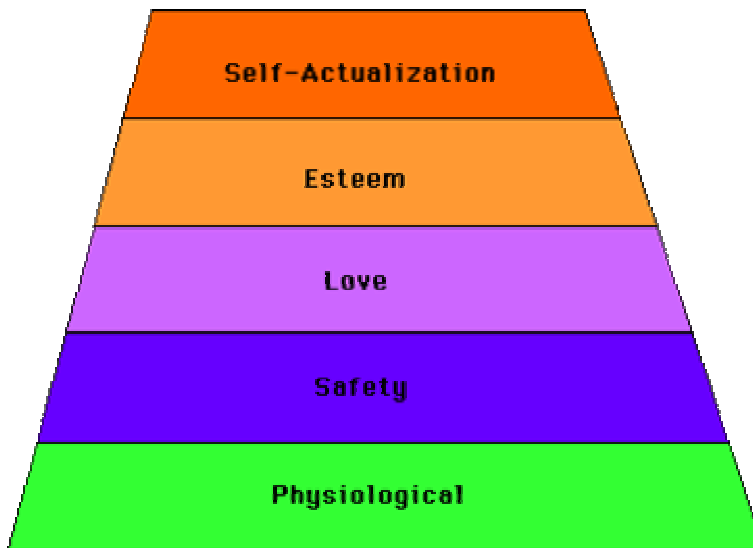
To be a disability covered by the ADA, an impairment must substantially limit one or more major life activities. These are activities that an average person can perform with little or no difficulty. Examples are walking, speaking, breathing, performing manual tasks, seeing, hearing, learning, caring for self, and working. These are examples only. Other activities such as sitting, standing, lifting or reading are also major life activities.

An impairment is only a "disability": under the ADA if it substantially limits one or more major life activities. An individual must be unable to perform, or be significantly

limited in the ability to perform an activity compared to an average person in the general population.

Maslow's Hierarchy of Needs

Abraham Maslow is known for establishing the theory of a hierarchy of needs, writing that human beings are motivated by unsatisfied needs, and that certain lower needs need to be satisfied before higher needs can be satisfied.



Needs are prepotent. A prepotent need is one that has the greatest influence over our actions. Everyone has a prepotent need, but that need will vary among individuals.

It is important for teachers, counsellors and social workers to understand the most important need that is motivating the person. We must pose, support growth challenges that will spontaneously motivate a person to achieve the goal in order to feel internally satisfied.

Social & Economic Marginalisation

India's vast population tends to be rendered disabled and thereby marginalized because of a variety of factors, viz.

Economic: Low daily income or purchasing power is the most important parameter in the exclusion of people from the social opportunities of advancement. It also tends to support other forms of exclusions. Economically well off families are always able to overcome any obstacle and are able to provide the best facilities for their children.

Gender: Typing of people on the basis of gender, and thereby setting expectations and standards to their abilities, desires and wants is perhaps the most dangerous. Even though a person has the desire and potentiality, he or she can get typed and excluded because of gender. It often seems so natural and is therefore most dangerous.

Caste ostracization: India has been suffering a lot because of caste ostracisation. Merely because one belongs to a certain caste is seen as enough reason for exclusion. Indian government has many schemes to contain such exclusion, yet it continues to be rampant.

Educationally excluded: When educational systems are built on certain predominant forms of intelligence then we automatically exclude children having capabilities in other forms of intelligence. Our schooling system is a very good example of this anomaly. While as a nation we may recognize achievements in art, music, sports, and theatre especially when such achievements get international attention, however our schooling systems with its board examinations continues to frustrate such creative talent. Our schooling system tends to disable children with talents other than in logical-linguistic domain.

Technologically excluded: We technologically exclude people from being full participants, in day-to-day life by building a physical environment that presumes only certain types of abilities. Predominance of stair cases, absence of ramps, exclusive emphasis on visual cues only while neglecting, tactile, audible, or smell can create barriers to growth. Computer illiteracy is likely to become another such barrier. Modes of transport, aids and appliances can always be designed to facilitate usage by all people with limited abilities, yet this is seldom done. Solutions are there, but initiative is missing.

Schools of creative development, learning and self-actualisation

If education for all is to become a reality then it is imperative that we have a variety of schools that provide viable access to children of all types of socio-economic background, different levels of abilities, different types of intelligence and differing motivational matrix. This is definitely not the pattern today. There are not enough schools or teachers for the physically or mentally impaired. There are not enough schools for the creatively and artistically inclined. There are n schools for artisans and children of farmers that will be professional relevant. This is a unique challenge for the education system, which can provide nourishment if it acquires a more diversified, capability / profession-oriented character at the schooling level itself. Meticulous planning of growth through careful mapping of the diverse types of manpower required and the equally diverse types of human intelligence would be the starting point. Something worth researching.

There is a need to evolve a few alternative Central or State Level Board for Secondary Education boards each catering to an important segment of our culture and our economy. NCERT will have to help in this process. Different educational curriculum, new pedagogy, new types of schools needs to be evolved. Each school could cater to a different board or to a plurality of boards. This would provide choices to the students. The best among the traditionally trained farmers, farm workers, artisans and service providers will have to play the role of the teacher. Part of the learning will take place in the home and part in the field and part in the school. A new system of education and evaluation will have to be worked out. In fact this needs to be done for every major

profession. Adult education targeted towards enhancing the performance, efficiency, innovativeness of every professional will be an important concern.

Unless we fine tune our education system to the diversity of intelligence and talents that children are born with, their motivational needs and requirement of each profession, we cannot hope to make education relevant for the people of this country and the economy of this country.

A paradigm shift is needed. NCERT has a new role to play.

A Socio-cultural paradigm for ability management

India since independence has been fragmented into a national vision of India and a socio cultural reality. As a nation we want to be modern, contemporary, scientific, technologically hi-tech. In the process we have totally ignored or innate strengths and socio-economic challenges. Our schooling system is for training scientists, technocrats, doctors, managers, and bureaucrats. It totally ignores the gifted children of our artisans, hardworking farmers, the handicapped and disabled, children with aptitude in sports, music, dance, drama, fine arts or design.

When we ignore are limits and capabilities and create a environment for growth that is oblivious to the parameters of a civilised and cultured society. We only end up creating barriers for the majority of our children. This is what has happened in India. Here I will focus on the challenged.

Towards Barrier Free Open Environment for the Challenged and the Gifted

Estimates of the number of disabled vary a great deal, depending on the definitions, the source, the methodology and the extent of use of scientific instruments in identifying and measuring the degree of disability. It is estimated that the population with disability in India is approximately over 90 million, of these 12 million are blind, 28.5 million are with low vision, 12 million are with speech and hearing defects, 6 million Orthopaedically handicapped, 24 million mentally retarded, 7.5 million mentally ill, 1.1 million leprosy cured.

If 90 million disabled, most with problems that require a tailor made solution have to be attended then one requires at least 1 for every 100 disabled population to provide some level of voluntary support. 1 for every 1000 disabled population is needed for professional diagnostic and therapeutic support. And 1 in 5,000 for specialised engineering, design and innovation support for aids and appliances.

This works out as follows

9,00,000 Voluntary support workers

90, 000 Professionals for Diagnostic and Therapeutic Support

18, 000 Specialised Engineering / Design and Innovation Support Professionals

The present availability of manpower available for working towards a barrier free

environment for the challenged is perhaps not even 10% of this requirement.

Much needs to be done. And this is only possible through a concerted effort of manpower development dedicated to providing full time professional support to the disabled in India to lead a barrier free life.

Approaches to Manpower Development

There are three alternatives to working towards a barrier free environment for the physically and the cognitive challenged,

1. Sensitising People about the Requirement of the Differently Enabled

It is extremely important that the disabled or the differently enabled communicate their experiences, impressions difficulties with others. Only then can we sensitise the society about their needs. Having mixed get together, events, work groups are all activities in that direction. Restaurant run by the blind, wheelchair tours, sports events are all very helpful in sensitising the society.

2. The Universal Design Approach to Product System & Services

The Universal approach to disability assumes that we all are disabled at some time in our lives. A child, a person with a broken leg, a parent with a pram, an elderly person, etc. are all disabled in one way or another. Those who remain healthy and able bodied all their lives are few. As far as the built-up environment is concerned, it is important that it should be barrier free and adapted to fulfil the needs of all people equally. As a matter of fact the needs of the disabled coincide with the needs of the majority, and all people are at ease with them. As such, planning for the majority implies planning for people with varying abilities and disabilities.

While this approach is prevalent in USA & Europe it has also been applied in the reconstruction of Beirut Central District in collaboration with the United Nations Economic & Social Commission for Western Asia (ESCWA).

The above approach has led to the development of Universal Design. It has become a world-wide movement based on the concept that all products, environments and communications should be designed to consider the needs of the widest possible array of users. It is also known around the world as design for all, inclusive design, lifespan design. Universal design is a way of thinking about design that is based on the following premises:

- Varying ability is not a special condition of the few but a common characteristic of being human and we change physically and intellectually throughout our lives;*
- If a design works well for people with disabilities, it works better for everyone;*
- At any point in our lives, personal self-esteem, identity, and well-being are deeply affected by our ability to function in our physical surroundings with*

a sense of comfort, independence and control.'(Leslie Kanés Weisman, 4/99)

- *Usability and aesthetics are mutually compatible.*

Universal design asks from the outset how to make the design work beautifully and seamlessly for as many people as possible. It seeks to consider the breadth of human diversity across the lifespan to create design solutions that work for all users.

The Universal Design Approach adopts a broad based approach to creating a more caring, sensitive and accommodating environment. However it ignores individual problem solving.

3. The Focussed Design Approach to Solving Individual problems

The focussed design approach focuses on the problems of individual and group and uses the existing knowledge and technology to propose solutions that would ameliorate the difficulties of the individuals and groups with a particular disability. It assumes that the purpose of all technology is to remove barriers and it just does that by devising an aid or appliance that will overcome the barrier.

Lets consider some examples.

Lifetime homes (known in Scotland as barrier-free homes) overcome this because they are built to a standard that easily accommodates adaptation for a resident with specific disability and with built-in 'visitability' for people in wheelchairs even when they are not adapted. The criteria for lifetime homes provide access for people with disabilities, including those in wheelchairs, to:

- *the approach and entrance to the home;*
- *all areas and rooms used by visitors;*
- *the upstairs parts of buildings of more than one storey.*

The IBot wheel chair is another good example of such innovation. It uses the state of art in microprocessors, gyroscopes, motors, batteries and manufacturing to provide incredible results.



Sinclair's Wheelchair Drive Unit (right) is yet another example of an ingenious extension to manual wheel chair. The WDU provides an inexpensive way of retrofitting old-style wheelchairs with a power assist.



Folding wheel chairs can still fold.

*A Restaurant run by the blind is another very good example. **Nocti Vagus, Latin for “wandering in the night” has occupied the cellar of a closed down bread factory in the former East Berlin since 2002. Here you enjoy your dinner in darkness so thick that there is no chance of seeing the person next to you. Or, for that matter, your own hands, while you feverishly feel your way to the plate.***

The waiters in the restaurant are either blind or have impaired eyesight, and they have all gone through special training, so they can handle piles of plates and filled wine Glasses in the pitch black workplace.

When you have been seated, thanks to knowledgeable and much needed help, you are impressed more than anything. Impressed by the waiters that move silently between the tables and impressed with everyone who make their way round the world with little or no eyesight. Suddenly you become aware of some of the problems that blind people have to cope with every day.

Universal Design talks of adaptive environment. The Focused Design aims at adapting to the environment.

Means of Manpower Development

India has abysmal record as far as barrier free environment or development of aids and appliances for the disabled are concerned. There is little ongoing research on issues concerning disability. The reason essentially is that these universities as per their statutes have not considered disability as of any concern to them. If we do not create manpower that is sensitive and knowledgeable about disability and ways and means of meeting the challenges posed by disability, then it is irrational to assume that we have the potential to address the issues in any serious manner.

A review of the of the internet shows a very large number of eminent universities with programmes concerning disability.

University of Arkansas at Little Rock - Personnel Preparation Programs in

Rehabilitation of the Blind

Baruch College: CCVIP-Computer Center for Visually Impaired

UCLA Disabilities and Computing Program

The University of Delaware: Instructional Technology Center

Georgia Institute of Technology: Center for Rehabilitation Technology College of Architecture.

University of Kansas: Special Education Department

University of Mass: Boston Vision Rehabilitation Projects-Specialization in Orientation and Mobility

Mass. Institute of Technology: Access Technology for Information and Computing (ATIC) program and lab responds to the technology needs of people with disabilities.

Rehabilitation Research and Training Center on Blindness and Low Vision (RRTC)

University of Missouri-Columbia: Adaptive Computing Technology Center

New Mexico State University: Access to Computing and Networking for People with Disabilities

North Carolina Central University: Vision Impairment Training Program (VITP).

University of Nottingham (England) -Blind Mobility Research Unit

University of Pittsburgh's Vision Studies Program

St. John's University: Electronic Rehabilitation Resource Center Gopher

Sussex University (England) - Assistive Technology Centre

University of Texas: Orientation and Mobility-closed

University of Toronto(Canada) Adaptive Technology Resource Centre

Utah State University: The Disability Resource Center

University of Vienna (Austria) reports on their disability-related projects.

University of Washington: Project Do-It is a disability resource center supporting high school scholars.

University of Westminster, (Canada) Computer Centre for People with Disabilities

The Indian Scenario

There are presently 226 university level institutions in India including 39 'Deemed universities.' Out of these 155 are traditional universities, 34 Agricultural Universities, (including Fisheries and Veterinary sciences, Horticulture and Dairy Technology), 17 are Engineering and Technology Universities including 6 Institutes of Technology, 14 Universities of Medical Sciences and Technology, a National University of Law, Institute for Population Sciences, Indian Statistical Institute, Indian Institute of Science, 1 University for Journalism, 1 University for Ayurveda, 5 Universities for Women's Studies, 6 Sanskrit universities, 7 Open Universities, 7 Universities of Fine Arts and Music and 1 University of History of Art, Conservation and Museology.

There are more than 8000 colleges affiliated to these universities and it is estimated that nearly 5 million students are on roll. Out of the number of colleges mentioned above 150 offer MBBS and higher degrees in medicine, 74 in Dentistry, 90 in Pharmacy, 62 in Nursing, 170 in Agriculture and allied courses, 428 in Engineering, 116 in Ayurveda and 75 in Homeopathy. BA, BSc, BCom, BEd, LLB, MA, MSc, MEd and other higher degrees in disciplines of basic sciences, social sciences and humanities including foreign languages, international relations, social studies, education and law are offered at most of the conventional universities or colleges. Master's courses in business management (MBA) and allied courses are offered at 292 colleges/ institutes including 4 Institutes of Management, which are centres of advanced learning. Along with constituent colleges of universities, a large number of research centres of the Council of Scientific and Industrial Research, Bhaba Atomic Research Centre, Indian Council of Agricultural Research, Indian Council of Medical Research, Indian Council for Social Science Research are also affiliated to the university system and offer research for doctoral and postdoctoral programmes.

The annual intake of students in Graduate (Engineering) is 3,80,803 and in Diploma (Engineering) is 1,88,300. In architecture and Applied Art the annual intake is 3,560. Our proposed target of producing 18, 000 Specialised Engineering / Design and Innovation Support Professionals (1 professional for every 5000 disabled) can be easily met if 2-3% of the intake in engineering programme were to specialise in aids and appliances for the disabled. The minimum target of 18,000 can be met in three to four years. When this many professionals decide to make a living by working for the disabled, India would be a different place and a more proud place for everybody to live in.

The issue before us, is that in spite of such a massive educational infrastructure we have an abysmal concern for the rehabilitation of the handicapped and the disabled.

We are neither working towards a barrier free environment nor are we developing manpower who specialise in aids and appliances for the disabled. Civilisations greatness is known by its concern for the lowest of the low. It is important that there should be peaks of excellence both in barrier free environment and developing aids and appliances for the physically and mentally challenged.

The disability issues needs to be addressed from a variety of viewpoints

1. Social \ Psychological \ Cultural \ Economic \ Political

2. *Legal*
3. *Medicine*
4. *Art & Architecture*
5. *Engineering Technology & Design*

It is important that every university, engineering college, technical institute should have at least one department that specialises in disability issues in the context of its overall mandate. This department has to integrate with the other departments also, because working for disability is working for the most challenging aspect of life. And life is whole. It cannot be fragmented. All fields of knowledge must go into enriching life.

Let us target a seed investment of Rs. 50 crore every year for starting new department. Safely 25 new departments can be added every year in various institutions and universities. In five year we would have created 125 departments. This is a seed investment of Rs. 250 crore in five years. Each department would require about 25 lakhs every year for recurring and non-recurring support. This comes to Rs. 157.25 crore for 5 years. Each department could have 20 scholarship of Rs. 5000/= pm to attract bright students. This would come to Rs. 75 crore for scholarships for five years.

Lets target a mere Rs. 400 crore in manpower development over the next five years, as suggested above and the barriers in thinking will start disappearing. Then the disability scene will not be as disabled as it is today.

India has US\$ 140 billions in reserve. And this growing at the rate of 25% every year. One billion US dollars is Rs. 4,500 crores. We are seeking only 400 crores over five years to turn what is seen as a demographic drag into a demographic opportunity. The handicapped and the disabled have been unfortunate, but the nation need not. They have adequate capability to fully match the work output in many jobs presently being occupied by able bodied workers. The disabled has lesser potential to be consumptive so is a lesser drag on the economy. The economic argument is in favour of the disabled. May our planning commission note.

Program And Events:

Design For All Institute Of India is honored by Design For All Foundation for collaboration on technical as well as other area for mutual benefit for the cause of development of Design for All concepts. We are thankful to Dr Imma Bonnet, president, Design For All Foundation, Barcelona. We are sending very shortly the required duly filled forms for formalizing the agreement.

OBITUARY:

On behalf of Design For All Institute Of India, I wish to inform our all members and other well wishers that we have lost a Man of principle, follower of old tradition but in thinking in very progressive, modern Engineer (by profession) ,Group Captain (Served the Indian Air Force) and Director (Defense Electronic Research and development Center) Mr. T. K Varghese . He always encouraged younger generation to understand their responsibility and cautious them progress but not at the cost of human values. He was philosopher, mentor and guide for me In spite of our huge age difference our usual discussions were on various topics of social, political, economics and administrations and I have learnt a lot from him. He helped me in drafting the Memorandum of Association/ Rules and regulations of Design For All Institute Of India. I can never forget He used to make a call to me at 7'O Clock in early morning and normally I used to keep myself free that time .If I got late he telephoned and reminded me Dr. Bhatia , you are late by 5 minutes. It was mutual respect and I never dare to take the liberty with our friendship and he never bothered me unnecessarily. He understands other person problems and distinguished between what to discuss and what not. Our relation was unique and I can not give any specific name to our relationship. Sometime I feel he is around me and guiding me for establishing this institute. I can not write in words his contribution for society in individual capacity and as a human being he was par excellence. All great minds do not look for publicity. They live in peace within .Only a well meaning seeker goes to seek benefits from them. I pray to God for peace of his soul.

From Dr. Sunil Bhatia

Who is trying to follow his path and carrying his traditions close to heart

I requested his elder daughter to write obituary of her father and in short time she dispatched the following feelings about her father. Those who want to condole, they can write at the following E- mail: mljoneja@yahoo.com

Group Captain Thomas Koshy Varghese was born on 25th March at Trivandrum, Kerala. An outstanding student, he topped Travancore University in Engineering and later was sent by the Indian Government to do his Master's degree in Aeronautical Engineering in Paris, France.

He was commissioned into the Indian Air Force on 26th January, 1950 and distinguished himself during his service, holding important posts such as Deputy Director, Aeronautical Development Establishment, Bangalore and Director, Technical Development and Production (Air) in the Ministry of Defense. He was a member of the Aeronautical Society of India and the Institution of Engineers.

He engaged himself fully in life. He was always curious, and was constantly teaching himself about new things – whether it was homeopathy or metallurgy. He had high standards and demanded a lot of himself and everyone around him. He was fair and just in his dealings with his neighbors and co-workers. If he saw a wrong, he worked to make it right. He was deeply committed to furthering social justice and worked tirelessly towards that end. A man of unquestionable integrity, he stood up fearlessly for what he believed to be right.

Devoted husband and father, friend in need to many, he will be sorely missed by all who knew him.

Marie Joneja

mljoneja@yahoo.com

Acknowledgement: Design for All Institute of India is sincerely thanking Prof .Richard Duncan for contributing a article of Mr. Ron Mace which is valuable asset for future generations .In a very short notice in a very remarkable way, he arranged, sought the permission for reprint of this article.

We are expressing our thanks to Mr. Pete kercher for his role to us as philosopher, mentor and guide. What ever little success we have achieved we owe to him.

Appeal:

1. Design for All Institute of India appeal to their members, subscriber and well wisher kindly contribute little time of thinking for ways of establishing state of art Design Institute and in what way it can benefit all living.

2. We are seeking opinion on formulating curricula of different program of 1-year of 2-semesters for beginners, 4-year Bachelors program of 8-semesters, 2-year master program of 4-semsters and area of research for PhD program. It is a backbone of society and if we produce competent workforce for future use we can make a better society. All the experts, intellectuals, philosophers of different walk of life should contribute their opinion freely and help us in making world class Design Institute.

3. Those who are really working for cause for betterment of society and are known to few person in and around are working at individual level or looking for some platform to raise genuine issues or not being registered with any institute/ organizations, either you can e-mail us .We will request them to join our institute and we can work mutually for common cause in effective way or they are welcome by us and directly registered with us through e-mail or write to our correspondence address.