

## TOWARDS A SKILLED INDIA@75 & BEYOND

Dr. (Prof.) Darlie Koshy PhD (IIT,D)  
Educator, Design management Strategist, Author & Speaker

### A) Introduction :

Richard Hamming the acclaimed Mathematician and Author in his book 'The Art of Doing Science and Engineering' had explained the difference between Education and Training: "Education is what , when, and why to do things; Training is how to do it".

So both knowledge and skills in some measure are required to enhance the value of a person, society and the country at Large. Value of Human Capital also has a strong correlation with the socio-economic development of a country as we know from the examples of several Developed Western Economies.

Amartya Sen in an Interview given in 2014, the year in which the 2nd edition of National Skill Development Policy was brought out, had said presciently "The whole idea that you could somehow separate out the process of economic growth from the quality of labour force is a mistake against which Adam Smith had warned in 1776". The Central Government in succession had in fact launched the National Skill Development Policies in 2009 and 2014 and an ambitious National Skill Mission on 15th July 2015.

The Human Development Report (HDR 2020) has placed India at 129<sup>th</sup> rank among 162 countries in terms of skilled labour force with just 21.2 per cent only said to have the required skills.

The World Economic Forum's report on Future of Jobs (2020) emphasizes that skill gaps will continue to be high as in-demand skills across jobs change in the next 5 years. It is said that once AI, Robotics, Block chain, Exponential technologies along with 5G connectivity become all pervasive we will see dramatic changes in next 5-7 years more than what we have seen over the last 50-70 years.

Richard Hamming had also made a pertinent observation that "Teachers should prepare the students for the future of students and not for Teachers' past".

## B) Demographic Dividend :

The window of opportunity of Demographic Dividend as per the United Nations Population Fund is available to India for about 5 Decades tapering from the year 2035 and fading out by 2050-55. The Demographic dividend will be available at different times to different states because of the varying population parameters. The working age group people of 15-59 being currently about 62.5 per cent of the population is expected to reach 65 per cent by 2036.

When the population under 15 and above 65 which are dependent population is less than the working population, it is termed as Demographic Advantage but Dividend can be earned only if that working population has sufficient skills to gain productive work. For ensuring employability and productivity; higher order skills are required. In the World Skills arena where more than 56 skills under 6 broad categories are tested against Global benchmarks India's performance has been generally disappointing with just one Gold won in Water Technology over the last 3 editions of competitions. In Fashion Technology and in various design skills the performance has not been anything to write home about. Sri Subrato Baghchi, who heads Odisha's Skill Development Authority where a World Skills Centre has come up has pointed out "A National Skill Development policy is at best similar to the direction of an arrow, where the tip of the arrow needs to be defined in the States' specific context. A State's own skill policy can steer the availability of skills close to the local needs to meet the aspirations of the local population. Odisha, Jharkhand and UP states seem to be headed in that direction. Certainly the ODOP - one district, one product scheme- of UP covering all 75 Districts though still in early stages is a case in point. If Talent, Technology and Tolerance (3T<sup>s</sup>) are woven in the system the crafts and traditional skills especially Geographical Indication Registered (GIS) products of our 750 districts across the Country can generate considerable livelihoods and employment and disincentivize migration.

## C) National Skill Development and National Education Policies :

As mentioned earlier, Amartya Sen had noted "India is the only country trying to become a global economic power with an uneducated and unhealthy workforce. It has never

been done before and never will be done in future either". A look at the policy responses indicate that a lot of actions were initiated since 2009 and the same got further accelerated since 2014-15. The first Skill Development policy was released in 2009, and at that time only about 2 per cent of the work force had any formal training, leaving out the huge traditional skills of population. From such a dismal situation currently it has reached about 5 per cent which is far below the Western Countries with 68 per cent in UK, 75 in Germany, 80 in Japan, 96 in South Korea and a modest 52 per cent achieved in the USA mostly through the Community Colleges, a system Dr Rajasekharan Pillai had implemented at IGNOU when he was the VC there and I remember ATDC - IGNOU upgrading 52 of our centres across India as Community Colleges and offering Associate Degrees. I have regretted when that initiative was discontinued later.

#### D) Skill Development Policies :

Skill Development 1.0 was signalled by the very first National Skill Development policy in 2009 as well as setting up of an Institutional framework of NSDC, NSDA and Sector Skill Councils which certainly helped to get the right focus and to some extent did succeed in bringing the word Skill as part of policy discussions at various levels.

Skill Development 2.0 was fronted by the 2nd edition of the National Skill Development policy and the launch of National Skill Development Mission in 2015. Formation of a new Skill Development Ministry for Skill Development and Entrepreneurship was the highlight along with an attempt to integrate various skill Development Schemes under one Umbrella of Pradhan Mantri Kaushal Vikas Yojna (PMKVY).

Skill Development 3.0 saw the emergence of the State Skill Missions, Skill Development Authorities and Missions and proliferation of Sector Skill Development councils.

The World Skills Organization has been able to group all the skills under 6 broad categories and conduct competitions. As we do in everything we have narrowly split the whole concept in such a manner that it has become impossible to wade through the labyrinthine skill system anymore with QPs and protocols of skill implementation taking up most of the time! In the efforts to make systems fully IT Driven the NSDC has tended to become monolithic but strictly under MSDE which restrict creative and

practical interpretation of rules. The overheads of running physical infrastructure and training have steeply gone up making skill training very expensive. There is micro-management in the rules of DDU-GKY, for instance, with prescription for sizes of windows and doors and even mandatory requirement of cafeteria with ACs and full recording of delivery of courses with CCTV coverage.

I am at a loss to understand the rationale as the main focus should have been on effective transfer of skills and active Employer - potential employee collaboration.

Skill Development 4.0 gets linked to the “Black Swan” event of Covid-19 Pandemic and the New Normal which has taken roots in the last 2 years with Digital acceleration and emergency of Hybrid models which is the trajectory for the future. The key announcement by the Hon PM of Going Local and Being vocal has however eluded the attention while that holds the solution for avoiding Migrant crisis in future and improving earning capacity and productivity including higher participation of women in labour force.

Meanwhile, as Job losses mounted with the dislocation and closure of many MSMEs during Covid-19, MSDE has suddenly shifted its focus to developing more entrepreneurs. Digital acceleration and the New Normal are Game Changers and the response to these major trends need to be shaped with considerable analysis and prognosis.

#### E) Sustainable International Models of Skill Training :

In one of our visits to UK as part of the FICCI Skill Forum, we had found an effective training system and a sustainable model in a Vocational Training centre (TUET). The industry around were members of a Guild and they have put up a Pledge in front of every unit which they all have accepted. Then the Skill Centre has multiple small facilities under one roof which allow the prospective candidates to try out for a week or so different trades as per their aptitude and the demand in the geographical zone viz. bricklaying, haircutting, beauty treatment, visual merchandising, apparel construction etc. The Govt. meets or reimbursed the expenditure for the course directly to the provider to ensure employability for the candidate and once the course gets over the

availability of such trained candidates are notified to the members and when the person gets the job within a month or 3 months in some cases the EMI takes effect and the person pays back the Course Fee. The person can upgrade from time to time or move to another skill after a cooling off period through available assistance from the Government.

In our country the mobilization of candidates for every course has become a competition between different skill providers and less said the better. Being a grant driven training -given free with huge payments to the skill providers and the Assessment - Certification agencies -the responsibility and accountability become a casualty and precious resources are not being used optimally. Some of the State Governments like Kerala for the ASAP (Additional Skills Acquisition Program) scheme meant for skilling school - college students have made an outcome-oriented approach with choices given to schools and the cohorts.

#### F) Dichotomy of Skill Universities :

In my opinion there is a dichotomy in such an approach of setting up Skills Universities. While it looks very alluring as a concept the skills unlike knowledge have to be demonstrated to convert into competencies of the job. That's possible when the skills can be used and demonstrated in the context of geographical clusters like fishing, coir making, rubber tapping or furniture (sankheda type) manufacturing, toy making, soft toys and life style products or jewellery or leather accessories production etc..

A Skill University is often delinked from the context of skills where they are situated with no proximity to the skill requirements. Also vernacular context and communication are essential part of trainers and trainees for imparting skills.

In Retail there is a concept of Wheel of Retailing .This may happen eventually with Skill Universities upgrading themselves like in lighter vein as in the story of rabbits being taught swimming. Local population, innate skills and the clusters around will need to be linked to every College, Engineering Institute etc. for offering skills training so that the class - caste divides fade away and Aspirational Quotient (AQ) is taken into

consideration. Even the nomenclature of the courses and trades are critical as we have seen when 'Barber Shops' got transformed to 'Beauty Salons'. A University in Odisha and one in Rajasthan where Skills centre or zones were set up offering a range of skills taking into consideration the local needs and students taking those courses on their own volition exemplify the point

**G) Before Covid (BC) – After Covid (AC) : Hybrid Mode of skill training :**

Once we analyse a course and determine the respective 'Theory and Skill intensity' whether the ratio is 50:50 or 30: 70, the students in vocational training centres can opt for the theoretical lessons to be taken online and the physical skills training on site of the Skill Hubs. This will bring down the cost of implementing the courses substantially. Now considerable portion of money in some of the schemes go into the pockets of those who offer hostel and food for the candidates and provide other infrastructure. The quality of skills training has become very inconsistent and too costly even for Government agencies.

**H) Women in workforce:**

This is an area which require huge efforts. Reserving select courses for women exclusively in Tourism, Hospitality, Apparel and Textiles and in Health Sector might help to attract more women to workforce.

**I) T-Shaped Workforce :**

India is a creative country. Several policy makers inadvertently and indiscriminately quote China for comparison with India. Our Workforce with their inherent creativity is far superior as they are brought up in a liberal democracy. The concept of T-Shaped Skilled professionals was initiated by Tim Brown of IDEO. But it is my belief that for several industries instead of I- shaped single skill individual a T-shaped skilled individual may contribute better as, (Ref. RUNWAY TO SKILLED INDIA Pages 56–57) with Creativity and Functional expertise which may include Soft skills and attitude giving such professionals and work force are able to adapt to rapid changes on the floor and in the environment better. There are also specific requirements of Pi, E, M, X shaped orientation of skills for design, IT Services, management, leadership roles etc.

#### J) Supply -driven to Demand- Driven to Innovation -Driven Skill Training :

Obviously, the Skill Development policies of 2009 and 2014 were both supply driven .I remember a good humoured argument with the MSDE Union Minister on stage after I spoke about the need for higher Unit Value of goods exported with considerable value addition and value creation through branding which will be a function of development of higher skills with better wages. In a study by a Harvard Professor, it has been argued that labour arbitrage and low wages with low value addition are not sustainable with the growing ambition of higher GDP growth rate of economy. Vacating low value goods to move to higher value products which demand higher order skills for labour force with better wages will become inevitable. If labour force is stuck at low skills and result in productivity with a poor wage structure, the Human Capital cannot result in Demographic Dividend. That calls for a higher Gross Enrolment Ratio GER at both Higher Secondary and undergraduate levels. Without better literacy, numeracy and ITeracy the foundation for building skill Pyramid will remain weaker.

#### K) Reskill - Upskill and New skill : RUN strategy :

My entire argument in an article written by me in 2014 was that with just one kind of entry level training to masses we are doing great injustice to the existing workforce and the incoming new workforce.

The existing workforce on the face of rapid technological changes require massive reskilling and Reskilling can be with different purposes: one objective could be to address changing occupational profiles or tools of the trade. A large number also require Upskilling which will entail new levels of technology or processes or even automated systems etc. Newskilling is about the 'Brave New World' of cyber- physical systems, or 'Phygital' environment or the challenges brought in by robotics or Industry 4.0 / 5.0 with digital acceleration all around.

So the budget allocated for Skill Development needs to be judiciously used under these buckets with sound rationale rather than just making a 'non- worker an entry level semi - skilled worker'. That does not seem to be in Sync with the articulated ambition of a 5 Trillion Dollar economy.

#### L) Entrepreneurship & Designpreneurship :

I had euphemistically termed design incubatees as Designpreneurs, when setting up of India's first National Design Business Incubator was initiated at the NID campus in 2003. I was the Founding Chairman of the Section 25 Company with a rolling fund of Rs 10 cr to start with. The NDBI was formally inaugurated by the then Hon Chief Minister of Gujarat the current PM on 15<sup>th</sup> February 2005. NDBI has succeeded in catalysing many profitable ventures over time.

#### M) Crafts, Commerce & Creativity:

I had become acutely aware of the diverse innate skills of the weaver communities when I had worked in different States. Much later, I had exposure to Karigars of various handicrafts in different clusters of India when I was the Director at NID; I had written in the Preface to the landmark research publication brought out by NID "Handmade in India" in 2008, about how crafts represent encoded values and skills of India. Our civilizational heritage and skills could have afforded us Design and Skills edge in the world arena. I have argued in my book Indian Design Edge (Roli Books 2008) that "Designed in India, made for the world" should be our approach taking off from my earlier treatise in "Winning Strategies" (Prentice- Hall of India (1997) where I had made a strong case for India's positioning as a "Creative Manufacturer" as different from 'Factory to the world' approach of China. As we all know the colonial rule and rapid industrialization have destroyed a great deal, our inherent skills and sadly now we get described as less skilled or unskilled and creativity and skills have failed to come together to create "Designed and Made In India," Global Brands.

#### N) Lessons from the field experience:

N(i) From the experience of a decade in handloom sector I have learnt that it's very easy to commoditize skills and lose the edge if the incentive alignment of policies is not correctly implemented. The 1977 scheme of Janata Sarees and Dhoties by giving subsidy for very basic coarse fabrics killed the fine weaving traditions in many places, which is a case in point.



- N(ii) In the case of Handicrafts by closing down overseas SONA showrooms and making the HHEC to relegate its mission, we see today 'Indian' pre-fix sadly missing for Handicrafts and the word 'Hand' also no more in focus with only commercial Crafts and artefacts remaining as part of the IHGF! Recently, I was shocked to see the factories of a leading exporter of so called Handicrafts, only producing Salt and Pepper holders in Ceramics and Paper-Mache artefacts with mostly mechanised production. Handicrafts or Handmade in International context is the ultimate form of Luxury and Lifestyle and here our Apex organizations are simply not able to create demand by capturing imagination through story telling as part of Cultural and Creative industries. The design Institutes have also been taking the trodden paths instead of roads less travelled.
- N(iii) At the Fashion Institute, NIFT, I have seen the Founding Faculty Members clearly appreciating that 'Haute Couture' meant highest form of skills and therefore insisting the students to put in hard work and acquire the skills. Now students even subcontract their collections and pass the exams as the design Institutes proliferate and the cohorts mostly wanting just a degree. Exceptions are there but they do not prove the rules.
- N(iv) At NID when I was the Director, I was fortunate to see the senior faculty members attempting to compete with students on even speed of execution. But I am sure with the retirement of such Design Gurus and fast Digitalisation attention to skills is hard to come by.
- N(v) At a macro level Institutes like NIFT and NID never came forward to own up that they are inherently premier skill-based institutes and instead tried to distance and ITIs, craft institutes and ATDCs remained as poor cousins instead of resulting in a mutually supportive robust Skills Pyramid. Unless such Institutions own up the ecosystem and the progressive skill Up-gradation through RUN Strategy the levels required for India to become a 'Skill Capital for the World' will remain elusive as we have today one of the lowest percentage of skilled labour with almost abysmal productivity.

- N(vi) As I had the opportunity to lead probably the largest Sectoral skill Development Scheme implementation through over 200 ATDCs under ISDS of the Ministry of Textiles, having received funding to train over 250000 candidates which my organization through 234 centres in about 23 states had carried out between 2010 to 2017. I can say with confidence that intensive mobilization after aptitude assessment and training using local instructors in vernacular language and improving soft skills, infusing industrial culture, and attitude simultaneously are the keys in achieving scale in skill Development apart from counselling, monitoring and placement tracking. Finding right employment for the trained candidates and orienting the employers and their supervisors as to how to manage these newly trained people with empathy continue to be a vital input. Otherwise just as our body tries to reject a transplanted organ these newly inducted people will either drop out or get thrown out or eventually move away from the industry itself and attrition will continue to haunt with poor productivity.
- N(vii) I have also found the Training of Trainers the crucial key to quality. As early as 2010- 11 we had initiated 4 TOTs in 4 regions which brought about good outcomes and 'SMART-TOT Academies' and SMART( Skills for Manufacturing of Apparel through Research and Training) centres became the front engines of 'Hunar ki Hunkar' which we had conducted as we crossed 1 Lakh Candidates and 200 centres by 2014.
- N(viii) Another important step needed with a sense of urgency is to bring more women to the workforce and empower their evolution from Home to Factory. For this with the help of GAP Inc. USA, ATDC has been implementing PACE - Personal Advancement and Career Enhancement program covering over 15000 candidates initially. Similarly for other candidates Soft skills modules were offered in collaboration with Career Strokes which incorporated stories from cricket and other fields to drive home the principles. For catering to local demands of apparel industry, 52000 candidates under Community Colleges were trained in tie-up with IGNOU and gave certificates from the University and others through NSDC later. In addition for the first time in Textile- Apparel

Sector a BVoc program was introduced in tie-up with an INI, Rajiv Gandhi National Institute for Youth Development (RGNIYD). So we need to take care of the Skills at different levels in a pyramidal ecosystem as the NSQF levels also indicate.

N(ix) As soon as the Covid 19 upended physical training the Organization – ATDC – I was heading scaled up the Digital offering of courses which was already introduced as if in anticipation in July 2019, after a National Principals’ Meet in April, 2019 and it is ironical that the theme of the meet was “Preparing for Disruptive Times” almost in anticipation. By the time lockdown came the online courses were offered by most of the centres apart from offering free Up-gradation courses for the Faculty Members and offering TOT online on behalf of MOT, MSDE and others.

N(x) Last lesson to mention is about raising CSR funds which have great value for the candidates as well as for the employers as not only funds come in but accountability and Commitment become more rooted and sustainable.

O) Some Recommendations:

I may venture to make a set of recommendations aimed at different players to address some of the issues more effectively:

As Mohan Das Pai says in his Foreword to my book RUNWAY TO SKILLED INDIA, "The true wealth of a nation are its productive, skilled and educated people".

O(i) Crafts and Craftspersonship :

The foundation of India's skills are traditionally found in its crafts. Craft essentially means an ‘activity’ involving ‘skills’. Often ‘Craft’ is dismissed as part of a bygone era. But Craftspersonship in any field will be the measure of a person's real worth. So discovering and contemporarising the traditional skills as Japan's Famous designer Issey Miyake did from Origami or Kenya Hara from Japanese cultural practices will be the key to unleashing the innate creativity.

The long tail of e-commerce is helping such ventures especially with the emergence of Direct to Consumer (DTC) brands. You can see the revival of many dying crafts taken up by young entrepreneurs and designpreneurs and this has to grow manifold. Every University and educational institute would be better advised to initiate courses in Culture and Crafts with projects exploring our Country.

O(ii) Matching Technology with high order Skills :

VS Naipaul's observations in his book 'India: A wounded civilization' published in 1977 shook the National Institute of Design Ahmedabad from its comfort zone in those times. But if you examine the summary of what he said " to match technology to the needs of a poor country calls for the highest skills and the clearest vision " is really a great pointer to what we need to do .The elusive dream i.e. Our pursuit of Demographic Dividend can be realised if high order skills are developed in our people who can then channelize the technology to find solutions and create wealth especially being a developing economy. But just as we export cotton and yarn more than finished textiles or garments we are not adding sufficient value to our human resources as they remain mostly unskilled or semiskilled!

O(iii) Universities need to lead Eco-systems : Localization of Skill Training matching local needs :

I have seen an attempt in Chile where certain assigned Universities take the lead to develop a Skilling ecosystem around .For Instance to develop their wine industry end-to-end including packaging Universities in Santiago offer specialised courses with skills training. In our country the Skilling ecosystem has got delinked from the Universities and unlike the multimodal transport system the knowledge- skills highway seems to be not following a seamless convergence approach. Nevertheless, I am very happy to note that the National Education Policy 2020 coming a long time after the last one in 1986, has placed

emphasis on convergence. Hope the policy walks the talk. Unfortunately class and caste systems around manual Skills continue to divide sharply the perceptions and perspectives.

O(iv) Minds on, Hands on :

Two major mind-set changes should happen if we have to create entrepreneurial skills .The first is to encourage risk taking abilities and to remove fear of failure .The second is to teach the value of Time and phenomenon of Money and wealth creation from the start of schooling itself. Time is right now congenial as India is discovering Start- Up culture. The Director of IIT Delhi told me in a conversation that one out of every three students wants to be an entrepreneur. The society and the Universities need to prepare the students for being - resilient to begin with and become anti- fragile over time as 'Nicholas Taleb' has made the case in his books to withstand shocks and adversities to succeed.

O(v) Future Proof with 'Learn to Earn' , 'Earn to Learn' and 'Learn to Learn':

Knowledge and skills for 'knowledge sake' and 'skill achievement sake' are old stories .Now ROTI is extremely important. (Return On Time Invested). The role of educational institutions and Faculty Members are changing rapidly and with online courses and many options, it is important to replace 'information' with 'insight' as far as faculty members are concerned. The students above all have to 'Learn to Learn' which will make them FUTURE-Proof. Lifelong learning is not a myth but a reality.

O(vi) Tail-Piece :

To end, let me remind all, a small story which you all know, about the frog in a kettle of water? If we increase the temperature degree by degree the frog will eventually die being unable to jump out. If you increase the temperature

suddenly it will jump out and save its life. The type of technological changes along with 5G etc. in the next 5-7 years is likely to further change the world dramatically which already has got accelerated with the rapid digital transformation during Covid 19 Pandemic .

We have to help the GenNext and our youth to become Future-Proof especially those in the age group of 15-35 with right knowledge, skills and above all right attitude with optimism and Hope. As said by Christopher Reeve, "Once you choose Hope anything is possible".

Our job is not to invent the Future but Enable it. And as Albert Einstein said famously "I never think of the future; it comes soon enough".

*(Full paper of Somaiya Public Lecture delivered by Dr Darlie Koshy PhD (IITD) at the Somaiya Vidyavihar University, Mumbai. Please don't reproduce or publish without seeking express permission by writing to [darlie.Koshy@gmail.com](mailto:darlie.Koshy@gmail.com)/please visit [www.darliekoshy.com](http://www.darliekoshy.com) for details)*

*(Ref: For details Runway to Skilled India: Dr Darlie Koshy DFU Publications 2021)*