

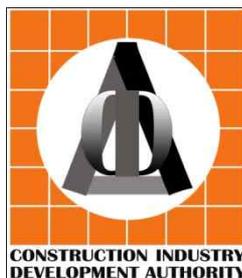


The 22nd Asia Construct Conference

SRI LANKA THEME PAPER

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1.0 Executive Summary

The Construction Industry in Sri Lanka is ready to take off after a prolonged period of doldrums under the initiatives of the new government in the post war environment creating a boom in the Construction Industry.

This massive emerging development will not be sustainable if the resource requirement of the industry is not fulfilled in timely and efficient manner. The special emphasis needs to be provided for the human resource development addressing the shortage and bridging the widening gap between types of skills required and available skills.

The Construction Industry is rapidly evolving due to the emergence of modern technologies and innovative materials pushing the traditional boundaries of limitations in construction. The skills development programmes needs to be vigorously oriented towards the market needs, addressing the types of skills and competencies required by the modern Construction Industry.

The government alone may find it difficult to shoulder the entire burden of meeting the human resource development in industry and service sector due to the budgetary constraints being experienced. The government's role is to introduce policy reforms and concessions encouraging the private sector to play a lead role in developing the human resources required, meeting the need of their respective industries ensuring the increased efficiency and productivity of their businesses and enterprises. The human resource development through a Public Private Partnership (PPP) has now been in operation as a solution to the shortage of human resource in construction which has always yielded very positive results encouraging more private sector investment in capacity building, creating a more appropriate and sustainable solution for meeting the human resource requirement, augmenting the rapid economic growth.

2.0 Main issues with the human resource development in the construction sector

2.1 Unprecedented development boom

After eradication of 30 years long conflict, peaceful situation is now prevailing in the island creating very conducive environment for investment and development. Many

infrastructure development projects which had not been possible for a long time due to the conflict prevailing in the north and east have now been launched, resulting the happening of lot of major infrastructure development projects creating a construction boom. This sudden boom happening at the Construction Industry requires lot of resources specially trained human manpower and construction materials. Delay in catering to the resources requirements of the Construction Industry specially human resources, will have a serious negative impact on this massive emerging growth. The gap between the requirement and the supply of the Construction Industry manpower are increasing rapidly, highlighting that some rational approaches are immediately required in order to bridge the widening gap between the supply and demand of the Construction Industry manpower.

2.2 The structure of the training courses

The training courses which have been carried out during the last few decades have not been properly updated catering to the immerging market need, responding to the types of skills required by the modern day Construction. Traditional courses on training of masons and carpenters having duration of one year or more do not cater to the present day needs and the aspiration of younger generation who are more technology savvy. These courses need to be restructured responding to the market need, considering the emerging technologies and materials. These courses should be shortened ensuring that youth will be imparted with minimum employable skills so that further development of their skills can be in the form of a 'On the Job' Training while they are earning.

2.3 Mismatch between the market needs and the training output

The Gross Domestic Product to which agriculture sector had been the major contributor is now shifting towards the service and industrial sector. The training programmes have not properly responded to the changing composition of the GDP, ensuring that the training programmes are catering market needs. The training programmes need to be oriented towards the labour market creating synergy between the skills requirements and the training output.

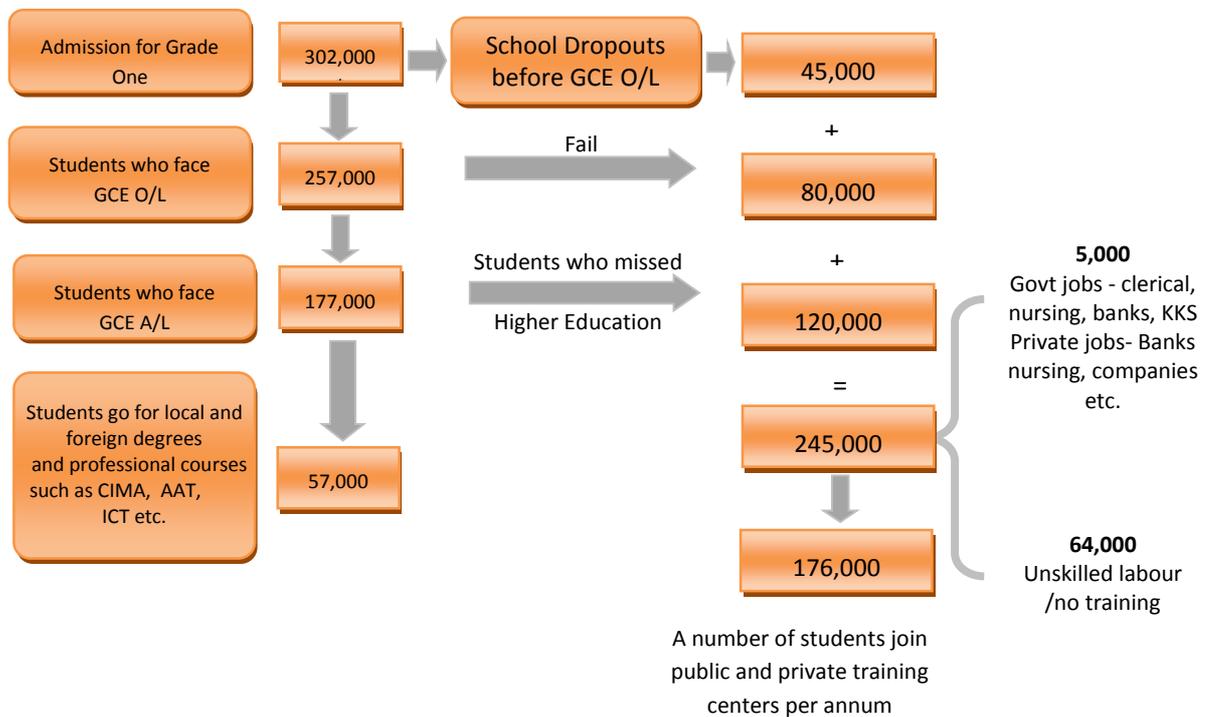
2.4 Lack of interest of the youth to join the construction workforce due to the image of the Construction Industry

The Construction Industry has been perceived as 3D industry by the youth which means difficult, dangerous and dirty. The perception of the youth on the Construction Industry needs to be changed, so that younger generation can be attracted to employment opportunities in the construction sector. The Construction Industry in Sri Lanka has not adequately transformed into high-tech industry, employing new technologies specially in relation to IT based methods.

An increased use of innovative technologies and materials will shape the industry image making it more attractive to the youth, making them interested in pursuing their carrier in the construction sector, providing a sustainable solution to the manpower need of the Construction Industry.

2.5 No proper transition from formal education to vocational education

Most of the students appearing for the Ordinary Level and Advanced Level examinations drop outs at their young age without entering the university education. Most of the dropouts join the labour force without any formal Vocational Training, decreasing the productivity of the industries slowing down the economic growth. Therefore, proper system must be developed to ensure that these school leavers will join the Vocational Training courses to develop their skills before entering into the labour market. The proper orientation must be given to school leavers showing the potential carrier path, in high demand sectors like construction, hospitality and logistics so that smooth transition from school education to the vocational education can be ensured resulting that every youth will gain sufficient employable skills before entering to labour market increasing the productivity of the sectors that they join augmenting the rapid economic growth. These orientation programmes must be done in a manner that sufficient number of youth will join the courses where there are high demand and more employment opportunities.



2.6 Lack of interest of the youth to join the Construction Industry due to the image of the construction craftsmen

The construction craftsmen who are doing very valuable service for the sustenance of the industry and economic growth have not been recognized and valued by the society creating a social stigma. The construction craftsmen must be treated equally giving a proper value to the service being rendered by them for the development and upgrading of construction activities. The quality of the construction largely depends on the skills of the construction craftsmen. The construction craftsman is called “bass” in the local language who has a lower social recognition. The social image of the construction craftsman which distance the youth from joining the Construction Industry needs to be changed if Construction Industry requires joining of more youth filling the widening gap between the supply and demand.

2.7 Lack of application of innovative technologies making the industry less productive and more labour intensive

The Construction Industry is still largely following traditional construction methods and technologies which is very labour intensive and less productive. The grave manpower shortage being experienced by the Construction Industry highlights that Construction

Industry needs to embrace new and innovative technologies if industry is willing to find a sustainable solution to the labour shortage. The new technologies and innovative materials are constantly emerging but no serious attempt has been made upto to now to employ these new technologies which make the industry more productive, saving the valuable and limited resources. The application of new technologies requires capacity building of construction craftsmen giving them the proper knowledge and skills, ensuring proper application of those technologies. One of the strategies for the technology transferring would be to encourage forming of joint ventures between the local and foreign contractors as most of the mega projects are presently being carried out by the foreign contractors employing new and innovative technologies.

2.8 Lack of application of information technology in the Construction Industry

The proper application of information technology in design and construction will ensure high productivity. The government of Sri Lanka has introduced lot of incentives to increase application of the computer based systems to the Construction Industry to increase its efficiency and productivity, taking the industry into new heights. The application of more IT based systems will transform the image of the industry, making it high-tech attracting the younger generation as they may be interested to become tech savvy workers.

2.9 Downward trend in construction seeking overseas employment

Declining trend has been observed in construction craftsmen going overseas. The reasons for this are that they can earn a very high salary in the local Construction Industry if they possess the required skill and competencies demanded by evolving Construction Industry.

3.0 Efforts made according to the conditions surrounding the Construction Industry

3.1 Introduction of National Policy on Construction containing a major policy element on the enhancement of human capital

The National Policy on Construction recently introduced also spells out some policy directives on the enhancement of human capital, professionalism, efficiency and productivity of the human resources of the Construction Industry.

The major policy directives in relation to the development of human capital includes :

- i. prepare programmes to cater to manpower shortage in the industry,
- ii. improve the quality of performance of the professionals, technical officers and tradesmen,
- iii. promoting the IT use in the industry
- iv. recognition and image building of industry personnel
- v. encourage good practices and standards through codes of conduct.

The word “bass” being used in the native language for the mason and carpenter has connotation creating a social stigma which keep away the younger generation from becoming a mason or a carpenter fuelling the dearth of skilled manpower presently being experienced by the construction sector, jeopardizing its growth momentum.

According to the Tertiary and Vocational Education Commission (TVEC) 2015 labour market information bulletin (LMIB), 65% of the unemployed population is without any vocational training. In numbers it amounted to 270,436 in that year.

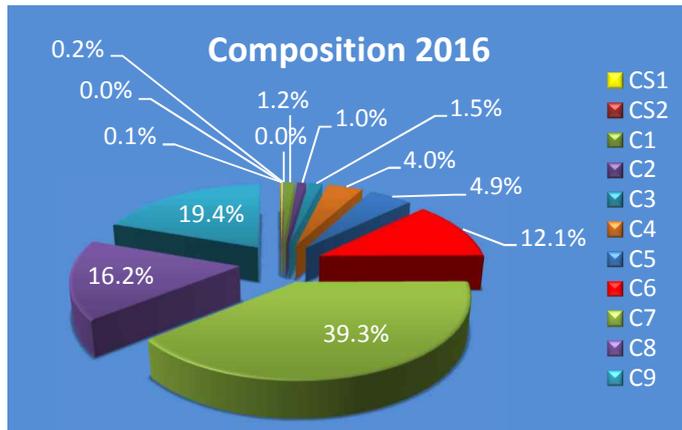
3.2 Establishment of a dedicated fund for the Human Resource Development in the Construction Industry

The lack of funds for the capacity building of human capital, research and development and social well being of the craftsmen with the provision of insurance and pension has been a major issue for the sustainable development of the Construction Industry.

The capacity building specially in relation to the small scale contractors who represent more than 60% of the registered contractors and construction craftsmen representing 70%

of the construction workforce are extremely vital to ensure the completion of construction projects, maintaining the targets in relation to the time, cost and quality.

Composition of registered Contractors



Source – Construction Industry Development Authority

Distribution of employees in the Construction Industry

Employment Category	Estimated Ratio
Professionals ¹	11.3
Technical ²	11.9
Crafts and related fields ³	70.8
Machine Operators ⁴	6.0
Total	100.0

- ^{1.} Includes Contractors, Administrators & Managers and all other professionals, such as Engineers, Architects, Quantity Surveyors and Accountants
- ^{2.} Includes Technical Officers, Work Supervisors, Accountants, Draftsmen, Landscapers, Bookkeepers, etc
- ^{3.} Includes Masons, Carpenters, Plumbers, Electricians, Steel Workers, Aluminium Workers etc.
- ^{4.} Includes Heavy and Light Machine Operators and Mechanics

Source : Survey of Construction Industry Enterprises, December 2006

For the purpose of establishing a fund for the purpose, Construction Industry Development Act has made provisions for the imposition of a levy cess to be called the Construction Industry Development Levy.

This levy is charged based on the value of the construction project. It is the responsibility of the client organizations to deduct the levy according to the value of construction project and remit it to Construction Industry Development Authority to be deposited in a fund known as the Construction Industry Development Fund.

This fund will be dedicated to the following functions :

- a. Capacity building of the small scale contractors and self employed registered craftsmen
- b. Research and publication in fields of related to Construction Industry
- c. Rewarding and encouraging the inventions, applications and propagation of environmentally friendly and cost efficient construction technologies
- d. Arranging long term insurance with pension benefits for craftsmen registered with the CIDA who are not entitled to any other form of retirement benefits under any other law

3.3 Introduction of rapid training programmes in the model of the Public Private Partnership.

Construction sector is rapidly booming requiring highly skilled manpower resources to meet the quality and time targets of the mega construction project presently being implemented. The private sector companies have frequently brought to the notice of the government authorities that they find it extremely difficult to complete the construction projects being handled by them meeting the quality, time and cost targets, due to the shortage of trained manpower. They also informed the government that they are willing to extend their fullest cooperation being partners of the capacity building process, if government is prepared to facilitate short term training programmes leading to the production of construction craftsmen with employable skills to ease the issue of acute shortage of manpower. The government has prepared an innovative training proposal to

address this acute shortage of craftsmen with the participation of the private contractors in the model of Public Private Partnership. The contractors have agreed to provide ‘On the Job’ training for a period of 3 months at their respective construction sites to impart the youth with minimum employable skills. After the completion of training, these youth will be absorbed into the permanent staff of the construction firms, giving them a fairly high salary while providing them opportunity to continuously upgrade their knowledge and skills, enabling them to be promoted to higher positions in the construction firm. The government’s responsibility is to develop the curriculum for the short term intensive training and to allocate required financial allocation to meet the stipend for a period of 3 months during which period these youth will be given minimum employable skills by the respective construction company. This partnership has already yielded very positive results as more youth expressed their willingness to be enrolled under this programme mainly due to the assurance of employment soon after the initial training.

The government has provided following package for each trainee ensuring that they will develop their capacities and skills within a very short period of time.

- a. Tool kit relevant to the trade
- b. 2 sets of uniforms
- c. Two sets of technical hand books relating to the relevant trade

The objective of providing the uniforms is to promote the image of the construction craftsmen so that more youth will be interested in joining the Construction Industry due to the change of perception of the construction craftsmen. The 10,000 craftsmen initially enrolled to this partnership programme have been provided with very intensive training at the construction sites. These trainees have been assessed at the end of the training period and given National Vocational Qualifications according to the knowledge and skills they have acquired during the period of 3 months. These trainees have now been absorbed by the construction companies providing a solution to the acute labour shortage being experienced by the Construction Industry. Due to the success and productivity of this Public, Private Partnership, government has decided to allocate more funds next year to continue these important programmes by which skills of the rural youth will be developed within a short period of time making them the partners of the productive labour force of the country.

Modules covered during this training are illustrated below :

Construction Craftsman Competency Based Skill Development Program Training Implementation Plan

Step 1 - Modules -NVQ Level 2

S. No	Module	Code
01	Rubble Work	F45S005U02
02	Brick Work	F45S005U03
03	Block Work	F45S005U04
04	D P C	F45S005U05
05	Paving Work	F45S005U07

One day Program with Theory and Practical's	
No of Hrs.= 08	
Materials requirement for 25 Participants	
Metal 6"x9"	0.25 M.Cubes
Soil or	0.25 M. Cubes
Cement with	01 Bag
Sand	0.25 M Cube
Cement Block	30 Nos
Engineering Bricks	50 Nos

NB: Bick & Block Work(Settingout should be Included)

"T" Junction, 90°Corner, Racking Back, Toothing

Guidance : Guide Book (Sinhala & Tamil Medium)
Theory Sessions Mixed with Practical's
(Learning by doing)
One day Revision session

Pictorial Presentation

Rubble Work, DPC & Paving



Setting out



Rubble Work



DPC



Paving

Block Work



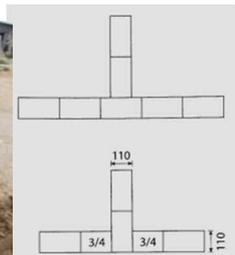
Block Work



90°Corner,

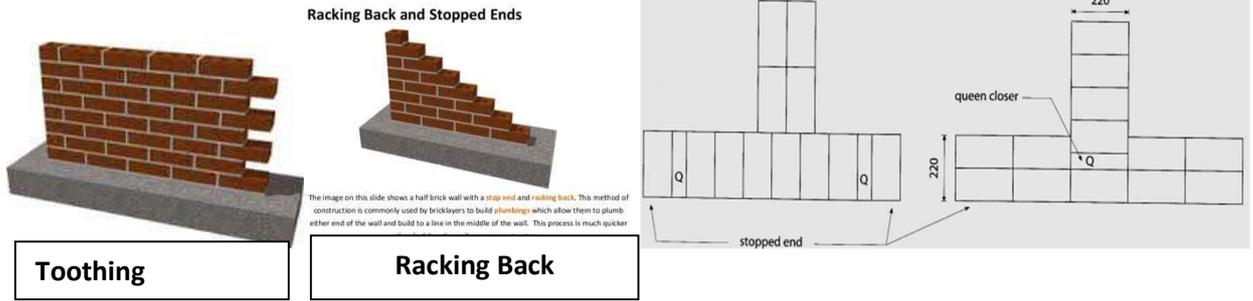


Racking Back,



"T" Junction,

Brick Work



Step 2

Conduct One day revision Class (No of Hrs = 08) before Pre- Assessment

Step 3

Conduct Pre-assessment with NAITA appointed Assessors.

Check the level of competency which they have already gained and categorized them in to two levels (NVQ L2 or L03) asking oral questions. If the trainee possessed with the expected competency level more than NVQ level 2 conduct 2 days training program covering below mentioned four modules to conduct final test.

Step 4

Modules -NVQ Level 3

S.No	Module	Code
1	Plastering work	F45S005U08
2	Rendering	F45S005U09
3	Decorative Work	F45S005U10
4	Tile Laying	F45S005U15

Conduct two days (No of Hrs= 16) training program with Theory and Practical's
 Materials requirement for 25 Participants
 Metal 6"x9" 0.25 M.Cubes
 Soil or 0.25 M. Cubes
 Cement with 02 Bag
 Sand 0.25 M Cube
 Cement Block 30 Nos
 Engineering Bricks 50 Nos
 Ceramic Tile

Pictorial Presentation



Plastering



Tiling



Rendering



Decorative Work (Molding)

Step 5

Conduct final NVQ assessment test according to their level of competency gained using same materials.

Assessment Method: Record Book References, Oral Questions, Practical Test

Summery

Activities should be covered ;

1. Conduct Theory and practical training up to NVQ Level 2
2. Conduct one revision class
3. Arrange pre assessment
4. Conduct theory and practical training up to NVQ level 3 for selected group of Trainees.
5. Conduct final assessment covering NVQ Level 2 or 3.

3.4 Establishing the sector council for the mapping of present and future needs of the human resources for the Construction Industry

At present it is evident that skills developed by the conventional training programmes do not meet the market needs.

Therefore, government has decided to establish the sector councils comprising of government officers and industry stakeholders in order to properly understand the market need with the intention of amending the structure and the content of the existing training programmes and developing new programmes to cater to the market need meeting the type of skills required by the Construction Industry. The private sector participation in this sector council has accurately conveyed type of skills and the numbers required enabling government sector to do the accurate planning, developing the training infrastructure of training providers ensuring that they are adequately equipped to produce the type of skills required by the industry.

3.5 To promote more job oriented training deviating from the traditional system of institutional based training encouraging the concept of development of skills while working

The traditional institutional based training programmes have very long durations which may not cater to the present nature of Construction Industry which is evolving and transforming at a very rapid pace responding to the changing market scenarios. The type of skills required by the industry is rapidly changing, requiring that the training programmes being conducted need to be constantly upgraded and updated meeting the type of skills required by the evolving industry.

3.6 Encouraging of private sector to take the lead role in capacity building as the government find it difficult to shoulder the entire burden of skills development.

The vocational training programmes are presently being conducted by the government sector training providers totally depending on the government treasury allocations. These training programmes which have been conducted without being modified or updated do not cater to the emerging needs of the labour market. The skills developed by the traditional training institutions maintained by the government do not produce competent craftsmen who can be employed directly in the industry as there is a serious gap between the required skills and the skills they possess. The government, due to its various other priority commitments, is not in a position to allocate sufficient funds to ensure that all the school dropouts are absorbed into the vocational training courses ensuring that every citizen of the country possesses some skills to be contributed to the development of the national economy. As government finds it difficult to allocate the required allocations on its own, for upgrading of training infrastructure of these training provides, the government has invited private sector to be an active partner in the development of skills of the labour force. Due to the provision of policy directives and tax concessions, several major construction firms have now setup their own training centres where they will train the youth to be employed in their construction projects. The advantage of private sector training is that they provide the skills that are required for construction projects guaranteeing the gainful employment soon after the completion of the training period.

One of the inherent weaknesses of the government training programmes is that there will be no guarantee that they will be employed soon after the completion of the training as

mismatch between industry requirement and the training output is often the case. With the private sector investment in human resource development, there is a very positive outcome that youth are interested in joining this programme being conducted by the private sector as job will be guaranteed at the enrolling to the training programme.

List of government training providers and training output

Network and Performance of Existing Vocational Training Centers							
Institute Name	No of Centers	Locations	Existing NVQ levels	Number of students (Intake)			
				2012	2013	2014	2015
Ministry of Skill Development and Vocational Training							
Dept. of Technical Education and Training (DTET)	30	Island wide	4,5 to 6	19,705	22,736	22,863	19,864
College of Technology (CoTs)	9	One of each province	5&6				
Vocational Training Authority (VTA)	240*	Island wide	2,3,4,5	29,064	28,446	28,692	28,745
National Apprentice and Industrial Training Authority (NIFNE)	68	Island wide	4,5,6	27,668	23,613	21,443	22,878
National Institute of Fisheries and Nautical Engineering (NIFNE)	8	Mattakkuliya, Tangalle, Galle, Negambo, Trincomalee, Batticaloa, jaffna, Kalutara	Diploma Certificate and Degree	1,423	2,123	2,061	1,805
Ceylon German Technical Training Institute (CGTTI)	2	Katubedda, Borella	4, 5 and certificate (Non NVQ)	3,446	4,516	3,285	4,175
Sri Lanka Institute of Printing (SLIOP)	1	Colombo		913	886	864	928
National Institute of Business management (NIBM)	1	Colombo, Kandy, Kurunagala, Galle	3,4,5,6 (Entry qualification is at least pass GCE O/L	10,879	10,954	9,775	9,572
National School of Business management (NSBM)	1	Colombo	Diploma and Dgree	2,325	2,459	2,165	1,427
University of Vocational Technology (UNVOTEC)	1	Colombo	7 (Dgree)	190	352	421	545
Ministry of National Policies and Economic Affairs							
National Youth Services Councils (NYSC)	47	Island wide	1 to 4	18,828	20,158	19,513	18,789
National Youth Corps (NYC)	37	Island wide	NVQ 1	13,324	9,558	10,530	8,071

Training Providers in other Ministries							
Sri Lanka Institute of Advanced Technological Education (SLIATE)	18	Island wide	Higher National Diploma	5,000	5,172	6,696	6,942

Agriculture Schools	9	Vauniya, Agunakolapelessa, karapincha, Pelwehwra, Kundasale, Labuduuwa, Bibila, Wariyapola, Palamune	NVQ 5,6	212	220	229	300
Vocational Training Centers for Differently Abled Children	16**	Island wide	NVQ 3	592	590	609	334
Animal Husbandry Schools	2	Seepukulama, Karadagolla	Animal Husbandry Diploma (2 years)	96***	–	168	–
Gem and Jewellery Research and Training Institute	6	Colombo, Rathnapura, kandy, Galle, Sooriyavewa, Polonnaruwa	NVQ 3,4**** (only for Jewellery)	430	460	599	674
Institute of Construction Technology	2	Battaramulla	NVQ 3,4 (3 years)	60	60	60	60
		Galkulama	Certificate (15-25 days ***** Duration)	816	810	724	963
Private training institutions (Training Centers Registered Under Tertiary and Vocational Education Commission)	611			45,522	43,693	51,055* *****	N/A
Grand Total				180,493	176,941	182,829	126,072 *****

3.7 Introduction of a Smart Identity Card and pension for construction craftsmen

According to the provisions of Construction Industry Development Act which is recently enacted, there is a provision that every craftsman practicing in the Construction Industry in Sri Lanka, should be registered in the Construction Industry Development Authority. Act further spells out, that these Identity Cards should clearly reflect the category and the level of skills of the construction craftsmen. At present, there is no proper system to be able to verify the level of skill that construction craftsmen possesses.

One of the issues that industry is experiencing at the moment is that younger generation is somewhat reluctant to join the Construction Industry to serve in the categories of Construction Craftsmen and other related occupations due to the temporary nature of their employment. The Construction Craftsmen are shifting from one site to another creating uncertainty in the continuation of their employment. In case of shifting their employment

from one contractor to another, they won't carry the same EPF No. which reflects that their employment is not continued. The construction craftsmen do not have the valid form of documents to prove their identity, skills and experience that they have gained working under the different projects with different categories of employers.

The Construction Industry Development Act has been enacted making several progressive steps in order to overcome the above challenges, giving proper recognition enhancing the image of the Construction Craftsman appreciating the important service that they render for the development and uplifting of the quality of the construction works. One of the provisions of the Act is to issue them an Identity Card referred to as Craft Identity Card with an Identification Number, specifying category and grade of such Identity Card holder. Act also spells out that Authority should register the Construction Craftsmen practicing in the Construction Industry and give them a long term insurance with pension benefits who are not entitled to any other form of retirement benefits under any other law using the allocations from the Construction Industry Development Fund to be established.

It was decided to issue a Smart Identity Card for the Construction Craftsmen being engaged in the Construction Industry as per the provisions of the Construction Industry Development Act No. 33 of 2014 giving them a proper social recognition encouraging the younger generation to join the Construction Industry bridging the widening gap between the supply and demand of the Construction Craftsmen.

The proposed Smart Identity Card will have the following features :

- The smart card, once it is issued under the provisions of the Act, will be a license to be engaged in the construction activities. The smart card will be designed in such a manner that this practicing license can be renewed at the expiry of the validity period.
- Smart card will have a proper numbering system so that category and skill of the craftsman can be identified through this unique identification number.

- Card also has a facility to integrate craftsman's EPF and ETF contributions so that they will have a single source to track those funds. Employers or Contractors will not have to consider such craftsmen as their employees and submit their contributions. Instead the contributions can be made to the craftsman's unique Registered Craftsman Identity Card even for sub contracts of a short period.
- Card will have a facility to store work history of the craftsman including his work experience working under different contractors. So that the firm or the person who intends to employ that craftsman can see the profile and working history of the craftsmen getting the understanding of the capacity and skill of the craftsmen being employed.
- The NVQ level and the modules completed by the particular craftsman will be indicated in the Smart Identity Card so that general public could be able to have an idea of the skills and competencies of the craftsman.
- The card will also have a facility to be updated so that new skills and experience gained by the craftsman can be uploaded to the Smart Card.

3.8 Employing foreign craftsmen in the construction projects

According to the Construction Industry Development Act, that there is a provision stating that engaging foreign craftsmen in construction projects should only be allowed, if required skills are not locally available. Due to the acute labour shortage being experienced by the Construction Industry, many major construction firms have requested the government that they should be allowed to import construction craftsmen from countries like, Nepal and Myanmar as they find it extremely difficult to complete their construction projects maintaining the required time and quality standards. They have further requested that this measure of importing labour should be allowed, considering it as a temporary measure as they will make every attempt to recruit local labour as much as possible and impart them with required skills so that they can be kept in their labour force on a permanent basis. Considering the present scarcity, the government has sanctioned

the importation of labour for the mega projects as a temporary measure until the required labour force is locally available.

3.9 Converting of civil defense force to construction works force

During the conflict in the north and east over a period of 3 decades, there had been a threat to the villagers bordering the conflict zone. As the regular forces were inadequate to provide sufficient security to each and every village, government has created a new force called civil defense force recruiting the rural youth to this force giving them a basic military training.

The concept behind the setting up of this force is that rural youth should take the leadership in protecting their own villages with the military training that they have been given. Even after the eradication of this long conflict, this force is still in operation without being much productive.

As a solution to the ongoing labour shortage of the Construction Industry, it was proposed to transform this civil defense force to construction works force giving them employable skills in relation to the construction trades of masonry, carpentry and plumbing.

These rural youth are now being trained and these traditional youth will soon be available to be attached to the construction projects operated by the private construction companies so that government can make them very productive, providing solutions to the labour shortage while generating an additional income for the government by allowing contractors to obtain the services of these skilled workforce on the basis of labour contracts.

4.0 Future development of Human Resource Development in Construction

The traditional construction methods being followed in the country is very labour intensive and shortage of human resources has now caused serious issues in relation to the sustenance of this age old traditional construction practices. The labour shortages in the Construction Industry often emphasizes the need that less labour intensive technologies should be the way forward for the Construction Industry. The industrialized building

systems and automation of construction processes are some of the concepts that can be employed to overcome human resource shortage.

More research based approaches need to be introduced in order to establish sustainable construction practices to ensure that industry is progressing well, achieving the required quality and productivity meeting the cost and time targets. The traditional technologies which have been in operation, lack the productivity and efficiency required in resources. Research organizations, under the current scenarios in the industry need to vibrantly carry out required research orienting towards the industry needs introducing novel and innovative approaches which will provide better and sustainable solutions answers to the ongoing issues of the Construction Industry, particularly human resource development. In order to cater to the human resource development in the Construction Industry, it is vital to accurately project the human resource requirement preferably for the next five years analyzing the evolving nature of the industry and changing market scenarios

The total capacity of the present training providers and the adequacy of number of training providers need to be carefully evaluated and the technical information of the training providers to be enhanced to ensure that their quality and efficiency will vibrantly meet very high level of skill requirement by the Construction Industry

The skills required in the application of new technologies are of very high standards and training provides needs to upgrade their training infrastructure sufficiency to be able to cater to the high-tech skills required by the industry.

**LABOUR PROJECTION FOR THE SRI LANKAN CONSTRUCTION
INDUSTRY FOR NEXT FIVE YEARS
(Upto 2020)**

Segregation of Labour

NO.	DESCRIPTION			NUMBERS	
1	Unskilled			752,308	40.50%
2	Skilled Civil Masons Painters			460,115	24.77%
3	Carpenters & Fabricators			241,667	13.01%
4	Skilled MEP Plumbers Electricians			347,362	18.70%
5	Technical supportive staff			39,659	2.14%
6	Administrative support Staff			2,300	0.12%
7	Professionals (Approx, Projection)			14,139	0.76%
7.1	Project Managers	1,131	8%		
7.2	Architects	1,414	10%		
7.3	Civil Engineers	6,363	45%		
7.4	MEP Engineers	3,535	25%		
7.5	Quantity Surveyors	1,696	12%		
Total Human Resource Requirement				1,857,550.00	100%

Note: *This is only a future prediction*

Conclusion

The Construction Industry is rapidly evolving catering to the increased demand of infrastructure and other construction services by the different sectors of the economy. The construction sector, need to be efficient and productive to deliver the required services so that the planned activities of the other sectors of the economy can be efficiently carried out ensuring the inclusive economic growth.

The Construction Industry to be efficient and productive, its resource requirements should be timely catered.

Investment in the sector needs to be accurately projected, in order to calculate the resource requirement of the industry. The resource requirement always has a correlation with the investment in the construction sector.

The human capital is the major resource required by any industry and Construction Industry is no exception. According to the projections, the government is planning to invest Rs. 6500 million in the next four years in construction and this investment will only be productive if required skilled human resources are available.

The introduction of less labour intensive and more productive technologies need to be vibrantly embraced by the Construction Industry as a sustainable solution to the issue of lack of human resources.

In this context, the government need to come with innovative solutions to meet the human resources requirement in a very short duration ensuring that construction projects are implemented meeting the cost, time and quality target facilitating the rapid economic growth.