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MAPPING REPORT ON THE CONDITIONS AND DETERMINANTS OF GRADUATES' EMPLOYABILITY

SRI LANKA

Integrating Talent Development into Innovation Ecosystems in Higher Education

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INNOTAL

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The report analyses the social and economic conditions that are likely to provide opportunities or impact negatively on Sri Lanka universities' efforts to develop a comprehensive and effective approach to the promotion of graduates' employability. It looks at the context and conditions both inside the higher education system and in the broader social and economic environment.

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Higher Education and the Employability of Graduates in Sri Lanka

GOVERNMENT STRATEGY AND POLICY ON HIGHER EDUCATION

Advanced industrial economies around the world are steadily moving toward a state of the economy where knowledge-based industries and knowledge-based organizations will generate more than half of total GDP and total employment. Today, the highest-value companies in the International Stock Exchange (Microsoft, Intel, IBM, Cisco, etc.) are knowledge-based companies that stand of for their IPR (Intellectual Property Rights) and knowledge content. Sri Lanka has achieved significant progress in its basic education indicators compared to many other countries, particularly in the South-Asian region. Education is recognized as a fundamental right by the national constitution, ensuring the right to universal and equal access to education at all levels. The Government of Sri Lanka introduced a Universal Free Education Policy in as early as 1945. According to the national law, parents shall be guilty of offence if they fail to send children between the ages of 5-16 to school. As a result of this policy, Sri Lanka's population has an adult literacy rate of 92%, which is the highest literacy rate in South Asia and one of the highest literacy rates in Asia overall. These figures illustrate that Sri Lanka is capable to reap the benefits of a knowledge-based economy in the foreseeable future.

Sri Lanka also provides free higher education. However, free higher education – i.e. university education provided through the government system - is insufficiently accessible to students. There is a large number of qualified students at the entrance examination but the higher education system suffers from insufficient infrastructure capacities and financial limitations and is thus unable to cater to such large numbers at universities.

The provision of university education in Sri Lanka began by the establishment of the University of Ceylon in Colombo in 1942, which merged the Ceylon Medical College (Estd. 1870) and Ceylon University College (Estd. 1921). Currently, Sri Lanka has 15 State Universities and 11 affiliated Postgraduate Institutes. Admission to State Universities in Sri Lanka is highly competitive due to a limited number of placements available which are based on the university entrance examination (GCE. Advanced Level). This has helped Sri Lanka maintain higher educational standards compared to other countries in the region.

Sri Lanka's National Policy on Higher Education was elaborated by the National Education Commission (NEC). It establishes norms and minimum standards for the sound functioning of the higher education system. The National Education Commission (NEC) was established in 1991. Its main function is to make recommendations to the President on educational policies, in view of ensuring continuity in educational policy and enabling the education system to respond to changing needs in society. The NEC provides, among others, reviews of educational policy and plans, as well as recommendations on a comprehensive national education policy framework. NEC recommendations are used when planning education at all levels, from primary education to higher education (http://nec.gov.lk/).

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State university education is governed by the Ministry of Higher Education through the University Grants Commission (UGC) which funds the required infrastructure development of universities. The UGC oversees also other matters pertaining to higher education, such as student enrolment, formulation of strategies and policies, welfare of students and academic and non-academic staff, approval of curricula, etc.

The Quality Assurance Council (QAC) under the UGC ensures the quality of higher education through a national quality assurance process. The Ministry of Higher Education provides opportunities for those who prefer to study abroad, in part, through different scholarship programmes, as well as through partnerships with foreign universities.

The first policy document on "National Education Policy on Higher Education in Sri Lanka" (http://nec.gov.lk/) was published in 2009 by NEC. Its primary focus is on the 15 State Universities, including the Open University that provides open and distance education. The policy aims at developing these universities so that they can offer maximum benefits to a wide spectrum of students, while maintaining high standards. Under this policy, State Universities are also supported to keep in line with modern strategies and developments in higher education. Identification of research priorities, expansion of higher education in multiple modes of delivery, establishing non-state higher education institutions, promoting linkages amongst universities and encouraging diverse programs of study to cater the needs of society are some of the other key points highlighted in this Policy.

The NEC emphasizes the development of a research culture, such that it would prepare competent research personnel via promotion of research amongst undergraduate and postgraduate students. This encompasses training of local scientists to be capable in identifying and utilizing native resources sustainably, while conforming to ethical considerations. Research is relevant to providing practical skills required in various occupations or professions such as independent thinking, creativity, adaptability, critical analysis and problem solving. It can thus help broaden the employment opportunities for graduates and improve workforce quality in Sri Lanka. In addition, mechanisms must be established to transfer research findings to appropriate stakeholders while retaining the intellectual property rights of parties engaged in research.

Shaping out postgraduate education to fit the needs of the country is also a major concern. Establishing postgraduate institutes in all major fields of study, and providing them with facilities to develop as centres of excellence, are considered important to achieve the objectives of promoting education, research and innovation. Improving the quality and standards of postgraduate programs would enhance the academic experience of graduates by providing an ideal environment for intellectual activities in multidisciplinary areas.

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Box 1: National Education Policy on Higher Education

The National Education Policy on Higher Education published in 1996 (Chapter 5 – pg. 36) states that to improve research, innovation and creativity in higher education institutes, they need to pay attention to following aspects:

- Developing research culture
- Ethical guidelines
- Basic and applied research
- Dissemination of research findings
- Getting research into practice
- Research funding, mechanisms for protecting IP rights
- Incentives for research.

The policy statements with regard to the above aspects are outlined as follows:

Policy 26: Build up a critical mass of knowledgeable and competent research personnel

Policy 27: Train undergraduates and postgraduates in independent learning and critical thinking through promotion of research

Policy 28: Emphasize the importance of ethical considerations in conducting research

Policy 29: Train a critical mass of local scientists competent in identifying and utilizing indigenous resources in a sustainable manner and increase the support for applied and development oriented research.

Policy 30: Develop effective communication skills among all researchers for dissemination of research findings

Policy 31: Establish suitable mechanisms to transfer research findings to relevant stakeholders

Policy 32: Increase funds for local research from the State, from foreign sources, and from the corporate sector

Policy 33: Increase institutional support to obtain intellectual property rights for individuals and teams engaged in research

Policy 34: Offer incentives for academics to remain engaged in research throughout their careers

Strategies for implementation of these policies are also detailed in the policy document. Many steps have been taken by the Ministry of Higher Education, UGC and other relevant authorities, as well as by universities themselves, towards meeting these policy guidelines during last several years (http://nec.gov.lk/).

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NATIONAL PRIORITIES FOR RESEARCH, INNOVATION AND EDUCATION

Sri Lanka currently prioritizes diverse and demanding areas for research such as agriculture, science, engineering, medicine, etc. The Government also recognizes opportunities available in the field of tourism and hospitality management, due to the acceptance of Sri Lanka as a safe tourist destination, rich in culture and biodiversity. This is supporting the generation of new income and job opportunities to strengthen the economy of the country.

However, Sri Lanka is far behind most countries in the region in applying technology, research and development (R&D) and innovation in products and services. The tendency is to follow the science and technology development of other countries rather than to lead. The reason for this is not necessarily the lack of entrepreneurs willing to risk their capital, but more a case of lack of belief that we have human and physical resources capable of delivering cutting-edge products or services. This may be due to:

- Lack of positive examples of Sri Lankan companies producing and successfully marketing such products
- Lack of opportunities for Sri Lankan scientists and technologists to engage in R&D and innovation in industry
- Absence of critical mass of science and technology personnel at decision making levels in industry and business
- Lack of recognition and support for IP patenting and lack of financing for developing innovative and sustainable products
- Lack of policies encouraging local innovation and discouraging transferred technology with a high dependency.

For the expansion of Sri Lankan industries, it is essential to understand the need of increasing the potential of technology, R&D and innovation. The preliminary step in this process is the creation of awareness amongst local industries on the need to invest in R&D in order to retain their competiveness in the market.

It is very important that Sri Lanka recognizes the importance of science, technology and innovation to propel Sri Lanka towards the 'Asia Rising' group. Research and Development lead to innovation. Sustainable industries that innovate are able to gain more market share, create new product markets, and use resources more efficiently. These industries can produce high value-added products and they tend to export more on average (but not raw materials), which is why they can generate higher revenue than other manufacturing industries. Moreover, industrial R&D performed by high technology industries also benefits other commercial sectors by developing new products, machinery, and processes that increase productivity and expand business activities. Hence, an efficient system to connect innovations and technologies to generate and improve products and services that contribute towards doubling the per capita GDP must be established. This should be done in an equitable

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manner, by increasing high-tech value added exports and production for the domestic market.

Adequate funding to carry out R&D is necessary for R&D efficiency, better performance and high output. This includes state and alternative sources like non-state sector investments and self-generated income. However, the difficulty for the Government alone to provide sufficient funding for education, research and innovation poses a great threat to the future of R&D in Sri Lanka. This has created a situation where funding from international bodies is of extreme importance for the country in its journey towards building a knowledge-based society.

Recently, Sri Lanka has also identified the importance of improving undergraduates' soft skills, IT skills, innovation management skills, etc. Thus, all universities have started treating soft skills development as high priority. Special funding schemes, e.g. from the World Bank, have been instrumental in this regard. Between 2011 and 2015, such competitive grant schemes were introduced in universities to promote innovative teaching and innovative research leading to commercialization of products - the World Bank's HETC project. A similar competitive grant scheme has been introduced this year in universities - the World Bank AHEAD project - covering many themes to promote research and innovation culture and to promote modern teaching/learning approaches. The AHEAD project encourages industry-university collaboration in research and development through its grant schemes for innovation and commercialization and for development of research activities. Further, for the last few years, the National research Council (NRC) and the National Science Foundation (NSF) has been providing funding for innovation in research and commercialization.

A great majority of universities have recognized the importance of maintaining partnerships with industry in order to enhance opportunities for graduate employment. Thus, undergraduates are provided internships during their final year to gain experience in the world of work. Many such students are offered employment in those industries soon after graduation. Improvement of IT skills, English proficiency and soft skills are a must for a graduate if s/he is to succeed on the labor market. The UGC has thus provided grants to all universities to improve those skills through innovative teaching/learning activities under HETC grants previously and through AHEAD grants currently.

Quality research activities in state universities have been recognized under many award schemes introduced by the UGC, the NSF and the Ministry of Higher Education. The academic promotion scheme in state universities gives a high credit to research activities. Academics receive a salary increase through research allowance for annual research publications. Also, NSF and other funds give researchers the opportunity to obtain international travel grants to attend conferences and workshops. Top research publications are acknowledged annually through presidential awards. The Quality Assurance process also recognizes and promotes research and innovation in universities.

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Through a decision by the Cabinet of Ministers, the Coordinating Secretariat for Science, Technology and Innovation (COSTI) was established in 2013, with the specific aim of coordinating and monitoring Science, Technology and Innovation activities in the country. It also gears its work towards promoting value addition and commercialization in line with the National Science Technology and Innovation (STI) Strategy of Sri Lanka, which was approved by the Cabinet in 2010. Its mission is to establish a world class national research and innovation eco-system in order to generate strategic and sustainable technologies and innovations to win the economic competition by:

- focusing on areas of core competencies and resource-linked opportunities
- preparing Sri Lanka for a knowledge society through improved scientific literacy
- upholding sustainable principles in all spheres of activity.

With this mission, COSTI has been actively engaged in promoting innovation in university research since 2017, in particular, through initiating and supporting the establishment of Technology Transfer Offices (TTO) and University Business Linkage (UBL) Cells in all state universities and through facilitating/conducting workshops to enhance researchers' and industry partners' knowledge about Intellectual Property (IP) rights and all aspects of commercialization of products developed on the basis of university research. These activities are carried out with the help of the National Intellectual Property Organization (NIPO) and the World Intellectual Property Organization (WIPO). The World Bank's AHEAD project supports the establishment and activities of TTOs and UBLs in all state universities through fund allocations for a three-year period, starting from 2018. With the help of such initiatives, many state universities in the country are now working towards uplifting current research activities towards innovation and commercialization.

PARTICIPATION IN HIGHER EDUCATION

According to the World Bank, Sri Lanka's higher education enrolment rate is 21%, which is below the average rate of 23% for Lower Middle Income Countries (i.e. countries with GNI per capita between $ 996 and $ 3,895). In comparison, the average higher education enrolment rate in Upper Middle Income Countries is 44%. Also, enrolment is insufficient in the disciplines of vital importance to economic development such as the Sciences, Technology, Engineering, and Mathematics (STEM) (http://www.worldbank.org/en/news/press-release).

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GRADUATES' EMPLOYABILITY IN SRI LANKA

E A large number of students are graduating every year from the 15 state universities and from the other public & private degree awarding institutes operating in Sri Lanka (Ariyawansa, 2008; Randiwela, 2012). The output of graduates is not proportional to the number of jobs available in the country, which makes many graduates unemployable (Senarath & Patabendige, 2014). In the year 2015 alone, the state universities together produced nearly 35,000 graduates (17,000 internal graduates, 13,000 external graduates plus the 5,000 from Open University). During the same year 7,500 were awarded postgraduate degrees. There is no annual survey that covers employability of all graduates in the country, but individual universities conduct surveys and collect data on the employability of their own graduates.

In 2012, the Higher Education for the 21st Century Project (HETC) prepared a graduate employment census report covering the graduates in all fourteen state universities (available at that time) who had their convocation on 2012. Summary details are given in the following Table.

Table 1: Employability of the graduates in the year 2012

University	Employed	Under Employed	Unemployed	Sample Size	Duration (months)
University of Moratuwa (MRT)	94.3	0.9	2.7	1035	3-17
Wayamba University of Sri Lanka (WUSL)	81.9	5	11.8	304	4-25
Uva Wellassa University (UWU)	66.5	5	28.6	161	4-15
University of Colombo (CMB)	66	12.7	20.9	2496	4-16
University of Ruhuna (RHN)	61.2	14.1	24.6	1572	3-12
University of Kelaniya (KLN)	58.6	18.7	19.7	1678	1-14
University of Sri **Jayewardene pura (SJP)**	54.2	12.7	32	2946	8-24
University Of Peradeniya (PDN)	53.6	8.9	37.2	2110	2-15
University of Ruhuna (RUSL)	52.7	13.1	34.2	465	8

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University of Jaffna (JEF)	51.5	20.2	26.1	758	6-13
University of the Visual and Performing Arts (UVPA)	48.9	40.5	10.6	378	8
Eastern University Sri Lanka (EUSL)	43.2	19.9	36.6	683	8-22
Sabaragamuwa University of Sri Lanka (SUSL)	41.8	12.1	44.6	505	1-12
South Eastern University of Sri Lanka (SEUSL)	33.9	10.3	55.5	398	1-26
ALL	58.8	13.2	26.9	15489	

Source: HETC Census, 2012

There is a significant difference between the employability of graduates in different disciplines. According to the HETC report (2012), the lowest percentage (32.1%) is recorded for the arts graduates while the highest percentage (94.7%) is for the engineering graduates.

Graduate employment is strongly connected to the discipline and the institute that offers the degree (Perera and Perera, 2009). In Sri Lanka, the rate of employment among medical, technology and science graduates is higher than other disciplines, especially compared to the social sciences. Management graduates have an employability rate of 66% in the state universities (HETC, 2012). The data has been collected on the day of convocation, which may be 6 – 12 month after the completion of their degrees. Therefore, it also reflects waiting time to receive a job.

Employability in the broadest sense covers the preparation of a person to apply for a suitable position, pass a successful interview and remain in the job with emphasis on professional advancement. Most of the graduates in the country, who come from rural backgrounds, are intelligent enough to pick up skills associated to employability faster, provided that they are adaptable. Unfortunately, the private sector and most entrepreneurs underestimate the skills of such graduates or are not prepared to wait until they acquire the necessary skills, especially due to language barriers. The Career Guidance Units of all universities are trying to fill this gap between attitudes of the private sector and graduates skills. The Higher Education for the 21st Century Project (HETC), with the help of the UGC and the Ministry of Higher Education, have attempted to assess the employability of graduates and

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the relevance of the skills in the recent past (http://www.eugc.ac.lk/hetc/). Accordingly, most Departments and Faculties in the state university system have started to revise their curriculum and to introduce new degree programs to improve the quality and relevance of higher education in view of improving the employability of graduates.

The Employer Federation of Ceylon (EFC) is the principal organization of employers dealing with employment and industrial relations issues in Sri Lanka. EFC is a member of the International Organization of Employers and the Confederation of Asia Pacific Employers that affiliated with 31 Business Chambers/Business Associations. The EFC also examines the factors contributing to the employability of graduates in Sri Lanka (http://www.employers.lk/).

POLICY CONTEXT

Traditionally, the universities of Sri Lanka have been training graduates mainly for public sector employment. The country therefore does not have a national policy regarding the employment of graduates. Most of the graduates have a sound knowledge of their academic disciplines. However, they mostly lack employability skills such as general knowledge, computer literacy, communication and management skills and teamwork experience etc. These skills and experience are required for graduates to fit into relevant employment situations in the private sector. This situation has led to the graduate becoming weak, socially non-acceptable, politically dependent for a job, and financially non-supported social being. Local graduates tend to expect the Government to find a job for them. The very same expectation is shared by the parents, too. This situation creates pressure for Government to provide job opportunities to the graduates in the country. On some occasions, the Government engages graduates as public sector trainees through ad-hoc schemes. This has, however, undermined job satisfaction among the graduates who have joined the Government under different schemes and has resulted in low productivity. The graduates who are recruited in this way voice many complaints, such as lack of job satisfaction, non-congenial working conditions, misalignment with the job requirements, absence of job description and list of duties. Between 2004 and 2012, the government fulfilled the employment needs of the public sector through graduate schemes. It granted permanent employment to 51,420 graduates in the state sector as Development Officers (National Human Resource Development Council of Sri Lanka, 2013). This is the highest number of graduates recruited in the state sector by a Government in the Sri Lankan history. Most of the graduates were recruited to divisional secretariat offices in 25 Districts of the country (National Human Resource Development Council of Sri Lanka, 2013). The problem is that the government is not capable of producing jobs every year for all graduates. Since vacancies are limited, graduates have to wait for a considerable time to obtain a job in the government sector.

At present, the Ministry of Higher Education, with the help of the UGC,

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has taken various steps to introduce education reforms to increase the employability of graduates outside the public sector. Graduates from Humanities, Management and Social Sciences (HEMS subject streams) have to wait for a few years after their graduation if they want to get a government job, but they opt not to work in the private sector due to the fact that they lack the socio-emotional and English language skills required to be employed. In order to improve socio-emotional skills, motivation, accountability, confidence, resilience, teamwork, and problem solving, the Government of Sri Lanka has recently introduced three initiatives to improve graduates' employability, whose main objective is to prepare the students for employment in a wide range of occupations:

- External quality assurance and accreditation requirements governed by the UGC. The UGC, empowered by Section 4(2) of the Universities Act No. 16 of 1978, (http://www.ugc.ac.lk/en/policy/universities-act/) formed a standing committee on Quality Assurance and Accreditation that promote new initiatives and good practices to improve the quality and relevance of all undergraduate and postgraduate degree programmes in Sri Lanka. The Standing Committee on Quality Assurance also engages with designing regulatory framework for quality improvement.
- The Sri Lanka Qualifications Framework (SLQF), introduced in 2010 under the World Bank-funded HECT project, aims at restructuring higher education systems and institutions through performance-based targets, in accordance with national goals and objectives. This policy framework also incorporates the development of graduates' socio-emotional skills.
- In 2017, the Government of Sri Lanka introduced the World Bank-funded Accelerating Higher Education Expansion and Development (AHEAD) project. It focuses on the employability of graduates. The AHEAD program prioritizes three results areas:
    - Increasing access to higher education in areas vital for economic development
    - Improving the quality of higher education[1]
    - Promotion of research, development and innovation

Graduates from the discipline of Engineering are employed soon after graduation or even get placements before graduation. The problem with

[1] The second result area primarily focuses on improving the quality of higher education and its two main components are academic and socio-emotional skills development and enhancement of English language skills. Under the great majority of degree programmes in all universities, proficiency in English (at least the first two proficiency levels) is compulsory for graduation. Under the HETC project, English language and communication skills in were given also given a high priority.

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such graduates is that after two to three years of work exposure, most of them leave the country seeking for job opportunities in the foreign market. This creates a severe brain-drain in the country. Unfortunately, Sri Lanka does not have published statistical data on such migration.

ENTREPRENEURSHIP AMONG GRADUATES

The rate of entrepreneurship start-up activity is relatively low among the graduates in Sri Lanka and almost insignificant in numbers. This is due to the fact that graduates' main focus is on finding employment in the public or private sector and not starting their own business. Unfortunately, there is no published data on entrepreneurship start-ups.

Under the direction of the UGC, all universities have established their UBL (University Business Linkage) Cells during 2018 and many universities have established a Technology Transfer Office with an appointed Technology Transfer Director (TTD) for patenting and commercialization of their inventions and innovations. Also, they have established their own policies for supporting such activities. As part of activities under TTDO, those universities have initiated technology transfer activities and have started to establish funding mechanisms for start-up activities.

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Structural factors impacting graduates' employment and employability

STRUCTURAL FACTORS RESPONSIBLE FOR GRADUATE UNEMPLOYMENT

Regional disparity in development is one of the major structural factors for low graduate employability in Sri Lanka. The Western Province – the economic hub, where most established businesses are located – provides most employment opportunities for graduates and placements for internship exposure. The number of employment opportunities and placements is limited in other provinces. The situation can only be remedied if more industries are established.

Structural deficiencies in the economy, too, affect employment. Most of the developmental projects are implemented as tied-aid (loans or grants are provided to Sri Lanka, but the money is mostly spent on goods or services provided by the donor country. Thus, local graduates frequently find it difficult to get good opportunities in these projects, since staff positions for qualified staff in the projects are offered to the donor country.

CURRENT CHANGES IN THE NATIONAL OR REGIONAL ECONOMY EFFECTING ON GRADUATE EMPLOYMENT

In Sri Lanka, building the regional economy is not given much attention yet. Many sectors that could be developed to provide employment opportunities are yet under a deprived state. The agriculture-based economy could be developed at the regional level to provide employment opportunities to graduates in knowledge-based industries. More attention needs to be given to development where knowledge areas such as agriculture, engineering, management and sciences could be connected.

DEVELOPMENT OF THE LABOUR MARKET

While the mismatch in the labour market in Sri Lanka is a significant issue leading to skills shortages, another major issue is the poor English language ability of workers, which hampers labour productivity in the country's growing services sector. Almost one half (48%) of the unemployed university graduates in 2016 were from an academic programme in the arts stream. This indicates a poor return on costly educational investments at the tertiary-level and a source of social distress.

In general, the female labour force participation (FLFP) rate in Sri Lanka is low and has not changed much over time. According to the Department of Census and Statistics' 2015 Labour Force Survey data, only 35.9% of females in the working age population were engaged in the labour market, compared to nearly 75% of males. These percentages have remained more or less unchanged over the years. However, the disparity between the male and female labour force participation rates decreases steadily for those with higher levels of education. The gap between male-female participation in the labour force decreases at educational levels beyond lower secondary. This gap is lowest for those with an education level higher than a degree. According to the HETC census from 2012, the majority of the higher education graduates were females (60.1%). The majority of the graduates (80.8%) were Sinhalese, while 12% were Tamil and 7% were Muslim. The share of Sinhalese among graduates is slightly higher than their share in the overall

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population (which is 74%). A higher percentage of male graduates (72%) were employed compared to female graduates (50%). It should be noted that the percentage of under-employed persons was quite similar across the two genders (http://www.statistics.gov.lk/samplesurvey/).

ACCESSIBILITY OF PUBLIC SERVICES AND JOB-MATCHING TECHNOLOGIES PROMOTING EMPLOYMENT

The accessibility of public services is reduced for those who cannot benefit from the support of an affluent or influential person. This creates a barrier for some graduates to take advantage of job support services to get exposure to job matching or technologies. Universities are responding by creating industry cells (University Business Linkages Cells) for their disciplines and they try to build a rapport with both public and private sectors for collaborative projects so that the students could get exposure to the industries through these Cells.

PUBLIC SUPPORT FOR ENTREPRENEURS

The Government of Sri Lanka provides various types of support to potential entrepreneurs. One type is the recent Enterprise Sri Lanka Concessionary Loan Scheme. In order to boost the SME sector in Sri Lanka, a number of Entrepreneurship Development Programs have been launched by previous governments. Formal training interventions aimed at developing entrepreneurship in Sri Lanka have commenced in 1987, carried out by the Chamber of Commerce. At present, entrepreneurship training is conducted by several governmental, non-governmental and private sector agencies in different geographic scales that include the Industrial Development Board (IDB), the Small Enterprise Development Division (SEDD) of the Ministry of Youth Affairs and Sports, the Employment Investment and Enterprise Development Division (EIED) of the Mahaweli authority of Sri Lanka and the Integrated Rural Development Projects (IRDPs) of the Regional Development Department of the Ministry of Finance and Planning. The National Enterprise Development Authority (NEDA) plays a big role in entrepreneurship development and in the recent past introduced a graduate entrepreneurship programme (Upadidhari Vyasavake Udanaya) as a special project (https://www.neda.gov.lk/web/index.php). The program provides training and seed money for undergraduates and graduates up to five years from the date of graduation. This scheme is becoming popular among students but the number of students that join it is still low and there is no statistics on impact available.

Recently, non-governmental institutions are becoming increasingly involved in entrepreneurship development programmes. An example is the Sarvodaya Management Training Institute (SMTI) of the Sarvodaya Shramadana movement.

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USE OF REGULAR LABOUR MARKET FORECASTING AT NATIONAL OR REGIONAL LEVEL

The Department on Census and Statistics conducts regular labour force surveys (http://www.statistics.gov.lk/page.asp?page=Labour%20Force). The National Education Commission (http://nec.gov.lk/), which is the organization mandated with carrying out education policy, pays attention to these surveys in the policymaking process. However, there is no tangible formal relation between labour market forecasts and the process of national policy making.

REGULATIONS FOR VALIDATION OF KNOWLEDGE, SKILLS AND COMPETENCES,

Student-based learning approaches are being introduced in the university systems to allow for the formal assessment of the results from non-formal and informal learning of a student. The UGC at present encourages such practices in all higher education institutions in the country. Although there are no such regulations, quality assurance standards have been set for the validation of knowledge, skills and competences of graduates in the public sector universities. This process is managed by the Quality Assurance Council (QAC) of the UGC (http://www.eugc.ac.lk/qaa/).

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Factors in the higher education system impacting graduates' employment and employability

REGIONAL DISPARITIES IN ACCESS TO HIGHER EDUCATION

Undergraduate education in state universities is free but entrance is extremely competitive, limited and un-standardized. Fewer than 16% of those who qualify the university entrance get admission to state universities. Admission to university is based on the highly competitive GCE Advanced Level examination. Selection of students is done on the basis of rank order on average Z Scores obtained by candidates at the GCE Advanced Level to replicate a district basis representation (University Student Charter, 2012). Only the top students from each district get admission. Only 20% are selected from the national merit list, while the others are selected based on district merits (University Admission Handbook 2017/2018). Free education policies in the country have minimized the regional disparities in access to higher education over the last several decades.

UNIVERSITY AUTONOMY

The UGC has the autonomy in financing, staffing (mostly the non-academic) and partly academic matters in quality standards. Individual universities do not directly control these matters and they could only propose their budget for each year. Universities have autonomy in offering degrees and in most academic staff matters such as employment, promotions, etc. However, final approval should be obtained from the UGC in many cases.

PUBLIC FUNDING FOR UNIVERSITIES

Public funding is based on intake to the universities. Graduates' employability and other aspects of performance do not play a role in this process. Recently, Performance Based Budgeting (PBB) was introduced in HEIs budgeting systems and the Department of National Budget (NBD) has taken steps to practice PPB with effect from year 2018. (Finance circular No 05/2017).

However, performance-based budgeting will be based on factors such as key functions, outputs against the budget estimates, and outcome & impact of the organization; employability is not considered as a factor (Finance circular No 05/2017).

INDUSTRY FUNDING TO UNIVERSITIES

Universities are allowed to collaborate on projects receiving industry funding if this can contribute to the research output. Success of such collaborations depends on many factors such as the recognition that the university and its staff receive and the need satisfaction of the industry. Academics are always encouraged to engage in research reflecting industry requirements and to start industry-university research collaborations.

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RULES AND REGULATIONS CONCERNING UNIVERSITY-BUSINESS RELATIONS

The creation of University Business Linkage (UBL) Cells is a UGC requirement that has been introduced in order to encourage university – industry relations (UGC Cir. No. 10/2016). In addition, many science-based faculties have their own industry cells working independently of the UBL though officially connected to it. Three universities in Sri Lanka: University of Moratuwa, University of Colombo and Rajarata University of Sri Lanka - have established companies for their outreach activities but some of them have faced legal issues as the Universities Act does not allow such independent units for income generation.

ENTREPRENEURSHIP EDUCATION

The Enterprise Sri Lanka programme of the current Government aims at increasing the number of entrepreneurs by 1,000,000 to achieve a thriving economy based on export earnings. This programme also aims at supporting village-based entrepreneurs to compete in the global economy. The Government recognizes that the creation of new ventures through innovation is a crucial element of the country's economic development.

Hence, all Management Faculties in Sri Lanka focus on entrepreneurship teaching for entrepreneurs, prospective entrepreneurs and entrepreneurial managers. Most of the universities are moving towards entrepreneurship education and identifying it in their strategic plans at present. Almost all universities offer entrepreneurship courses, in particular under management related degrees. The concrete share of entrepreneurship courses among all courses depends on the programme and the university. It varies highly among the programmes depending on the orientation of the degree.

One of the eight goals of the Strategic Management Plan (2013-2017) of the UGC was 'Strengthened research, innovation and entrepreneurship'. Further, one of the objective under this goal was to establish at least 100 'Spinoff Graduate Companies' and 'Spinoff University Companies" by 2016 (p. 17).

STUDENT TRAINEESHIPS AND INTERNSHIPS

Student traineeships and internships are among the requirements of the Sri Lanka Qualifications Framework (SLQF). The latter could currently be considered a legal framework governing student traineeships and internships in Sri Lanka. The SLQF is an important element of the development of the higher education system in country as it provides a transparent and coherent framework that students can use to optimize learning. At the same time, it improves many vital aspects of learning and allows for assessment of the learning process.
In most universities in Sri Lanka, internships/industrial trainings are compulsory requirement for graduation.

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Table 2. Internships/ traineeships requirement for undergraduate programmes

University	Faculty	Programme	Requirement of Internship/ Traineeship)	Number of credits allocated
Peradeniya	Faculty of Management	Bachelor of Business Administration (BBA)	Compulsory (Internship)	660 hours Credits?
Ruhuna	Faculty of Science	Bachelor of Computer Science (General/Special)	Compulsory (Internship)	
		Bachelor of Science (Special/General)	Training Compulsory (Internship optional)	60 days 2–3 months
	Fisheries and Marine Sci. & Tech.	Bachelor of Science in Fisheries and Marine Sciences	Compulsory (Internship)	60 days 2–3 month
	Medicine	Bachelor of Medicine and Bachelor of Surgery	Compulsory (Internship)	One year
	Humanities and Social Sciences	Bachelor of Arts (Special / General)	Compulsory (Internship)	
	Agriculture	Bachelor of the Science of Agriculture	Compulsory (Internship)	
		Bachelor of the Agriculture Management &Technology	Compulsory (Internship)	
		Bachelor of the Science of Agri Business Management	Compulsory (Internship)	
		Bachelor of the Science of Green Technology	Compulsory (Internship)	
	Engineering	Bachelor of the Science of Engineering	Compulsory (Internship and Traineeship)	
	Management and Finance	Bachelor of Business Administration	Compulsory (Internship and Traineeship)	
	Allied Health Sciences	Bachelor of Medical Laboratory Sciences	Compulsory (Internship)	
		Bachelor of Pharmacy	Compulsory (Internship)	
		Bachelor of Science in Nursing	Compulsory (Internship)	

Internship allows students to secure potential job opportunities by

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developing networking skills. Internships are common in almost all four-year special degrees in the country but are not common or mandatory for the three-year general degrees in many universities.

INVOLVEMENT OF EMPLOYERS IN EXTERNAL QUALITY ASSURANCE

External stakeholders play a major role in curriculum development and the introduction of new degree programmes at present. In theory, a demand survey should be carried out among external stakeholders in order to decide if it is in practice this is not done very well in public universities and degrees are often introduced without proper studies. According to quality assurance guidelines, external stakeholders should also be consulted on revising curricula to match their requirements and therefore, they have significant influence on curriculum changes. For any accredited professional degrees offered - MBBS, BSc Engineering, BVSc, BDS - and for all degrees offered by in the area of Allied Health Sciences, it is necessary to follow the quality control guidelines created by respective external organizations. Quality assurance procedures consider a university's services to the wider community and public reporting on such services is carried out. This has some impact on the overall quality of the educational provision at each university. In addition, external stakeholders are official partners of most of the administrative bodies of universities and this is another channel through which they can influence the quality of prgrammes and services of the university.

CAREER GUIDANCE OFFERED TO HIGHER EDUCATION STUDENTS AND RECENT ALUMNI

Career Guidance is offered to students through the Career Guidance Units (CGU) of universities and faculties, respectively. The UGC has issued a special Circular no. 934 to strengthen the Career Guidance Services in universities and higher education institutes. The Career Guidance Units is operated under a Director and the staff consists of Career Guidance Counsellors. In addition, each Faculty is assigned an academic staff member as an 'Academic Career Guidance Advisor' who is responsible for coordinating career guidance activities and to support the Career Guidance Unit in implementing its action plan. Career guidance is not compulsory for most of the undergraduate students and they can engage in it as an optional activity. If recent alumni need career guidance services, they are open for them as well.

INVOLVEMENT OF EMPLOYERS IN CAREER GUIDANCE

In all of the state universities the Career Guidance Unit is by regulation directly responsible to the Vice Chancellor. The advisory board of the CGU is chaired by the Vice Chancellor and therefore, activities are planned under his/her guidance.

Mostly, employers and industry experts participate as resource persons in workshops and training sessions conducted by the CGUs. Most CGUs have developed healthy networks with interested companies and industries.

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USE OF GRADUATE TRACKING SURVEYS OR OTHER FORMS OF MONITORING OF THE CAREER PATH OF GRADUATES

A few universities monitor the career path of their graduates and conduct graduate tracking surveys. However, such activities are not compulsory under the UGC funding rules. Some dynamic faculties of universities do this regularly and use the results in curriculum planning and implementation. However, the universities in general are not that interested in such activities.

The UGC has developed a questionnaire for Graduates Tracer Study that comprises a section on employability. It is compulsory to conduct a survey based on this questionnaire just before the convocation. The universities collect this information and consider it when developing the curriculum and planning graduate attributes. However, the time between convocation and completion of the degree varies among the universities and the academic programme. Therefore, with respect to employability no comparison among various universities can be performed on the basis of this data.

AWARENESS OF EMPLOYABILITY WITHIN THE HIGHER EDUCATION SYSTEM

Awareness of general employability patterns is common. Universities are encouraged to establish close relationships with private sector companies and relevant industries for seeking employment opportunities. However, well planned employability strategies are missing in the system. Even though the UGC encourages universities to produce marketable graduates, graduates' employability is not perceived as a crucial responsibility of universities and is not linked to funding. This is an area that is lacking in the higher education system.

ENCOURAGEMENT OF EXTRA-CURRICULAR ACTIVITIES AND VOLUNTARY WORK IN UNIVERSITIES

Apart from the formal learning process, individual faculties encourage extracurricular activities and voluntary work, including various workshops, seminars, and outbound training programmes. For instance, there is the 'Skills for Work' workshop series organized in collaboration with the industry.

Students' Societies at various levels (University, Faculty, and Department) in the university system in Sri Lanka organize seminars, workshops, field visits, projects and fund raising events. Some of the generated funds are used to provide scholarships for needy students.

Different faculties, societies and clubs at all universities conduct extracurricular activities and provide various services to the wider community. Some of them are regular programmes, while the others are demand-based. This is an important area evaluated in university quality assurance and therefore it is very common in all universities. However, voluntary work is not yet embedded in study programmes at any of the Sri Lanka universities.

Some Award Schemes and Competitions have been introduced for the purpose of encouraging students to take part in extracurricular activities and voluntary work. Some examples from the University of Ruhuna can be mentioned: Vice Chancellor and Deans Award scheme, Dancing and Literature competition, Orator Competition, Active

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citizen programme and projects, etc.

KEY GRADUATE SKILLS SOUGHT BY BUSINESS

In general, the private sector is happy about the academic quality of the graduates in relevant disciplines, but they look for communication skills, attitude and personality. For the purpose of identifying graduate skills sought by the industry, a forum was organized at University of Ruhuna with the participation of 35 industry experts representing different national and multi-national companies. A questionnaire was used to gather the views of industry experts and a fruitful discussion was also held. The industry experts highlighted some important graduate attributes that should be strengthened. They were asked to tick the level of each of the soft skills and competencies that graduates have demonstrated working in their organization, and rate the relative importance of improving them. The scale was used from 'very dissatisfied', denoting 01, to 'very satisfied', denoting 05. The expected level was measured from 'less important', denoting 01, to 'very important', denoting 05. The following table shows the results, including the mean values for both the current level and the expected level. Many graduate skills have been evaluated as being moderately developed. The expected level of development of those skills and competencies in the industry is very high. Therefore, a significant difference exists between the actual level and the expected level.

Table 3. Evaluation of Soft Skills and Competencies: Present versus expected levels

Type of Skills/Competencies	Mean Value		Mean Difference
	Present Level	Expected Level	
Self-motivation	2.90	4.80	1.90
Committed to assigned tasks	3.45	4.70	1.25
Inter-personal relationships	3.20	4.55	1.35
Competent in written communication	2.70	4.50	1.80
Competent in verbal communication	2.60	4.65	2.05
Listen others carefully	2.90	4.50	1.60

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Effective use of body language	2.60	4.40	1.80
Leadership skills	2.95	4.25	1.30
Teamwork	3.05	4.55	1.50
Organizing skills	3.15	4.45	1.30
Ability to work under pressure	2.85	4.80	1.95
Self-confidence	3.20	4.65	1.45
Fit to the organizational culture	2.75	4.70	1.95
Respect organizational values	3.25	4.70	1.45
Competence within the area of expertise	3.25	4.65	1.40

Source: Industry Forum, Career Guidance Unit, University of Ruhuna, 2017

ANALYSIS OF THE CONSTRAINING OR EMPOWERING IMPACT OF THE ANALYSED FACTORS AND DETERMINANTS ON CURRENT AND FUTURE UNIVERSITY STRATEGIES

In general, employability of graduates in all disciplines is a challenge in Sri Lanka unless the government is able to absorb them directly to the government services. Currently, Engineering graduates find it easy to find jobs due to the existing demand. However, degree programmes and student intake in public universities are not based on demand and are not adjusted according to the fluctuating labour market demands. Further, the elected government has not been able to steady maintain long-term sustainable higher education policy. Decisions are sometimes taken on the basis of political considerations rather than on critically analysing the situation. This has created frustrations among both graduates and academics. With the increase of university registrations, unemployment and underemployment rates have been increasing among graduates of public universities except graduates in the medical sciences.

At national level, the main determinants of graduates' employability are the policies of recruitment of MBBS and BDS graduates directly by the Ministry of Health. The government is maintaining a ratio of public officials to general public (about 1:16) which is very high in comparison to most other countries in the world. Entrepreneurship support is another public policy that seeks to fight unemployment. Government has initiated a graduate entrepreneurship promotion campaign through

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the National Entrepreneurship Development Authority and provides seed money and training to increase employability. Publicly-owned banks have also introduced low-interest loan schemes for graduate business start-ups. The national television (ITN) has introduced a new programme to support entrepreneurs. This program is called Eth Pawura and is providing opportunities for micro, small and medium enterprises to accelerate their business with the assistance of investors. In 2010, the University Grants Commission took a policy decision to establish Career Guidance Units (CGUs) in all public universities and this has paved the path to link graduates and employers, as well as to help graduates acquire the required soft skills. These units have started organizing Career Fairs in many universities in order to link their graduates and private sector employers. In addition, several institutions (i.e. the Industrial Development Board, the Industrial Technology Institute, the Institute of Postharvest Technology) and several Ministries (i.e. Ministry of Science and Technology, Ministry of Small Industries, Agriculture, Animal production and Health) provide various services to all the entrepreneurs, including graduates, to start and develop their own business ventures. Most of these services are available to the general public and are free of charge. Despite all positive actions taken at national level, the high rate of government sector employment has created many negative effects on graduates as well. The majority of unemployable graduates as well as the general public believe that the government should employ them regardless of their qualifications and employability skills. This attitude has created a culture of waiting for years for government employment instead of acquiring important employability skills. The country would benefit from discontinuing the practice of government recruitment as it makes the graduates unambitious and dependent on public money, while lacking proper skills. Public university admission to different programmes is not purely based on demand for particular graduates or the interest of the students; it is allocated by the UGC based on internal considerations. This has had negative impact on the employment of graduates. It is advisable to advertise different programmes by the respective universities and accept students who really want to acquire that qualification. The Sri Lanka Quality Framework (SLQF) was introduced by the UGC to guide all higher education institutions in promoting different entry and exit levels. One of the intentions of this innovation is to develop the work skills for graduates. However, this framework is not successfully implemented in public universities due to various difficulties in implementation. Therefore, a system of providing different exit paths and allowing students to work and re-join again for study programmes will enhance their employability in the future. This could be implemented by the universities as the policy framework is already in place.

At the university level there should be a productive discussion on the employability of graduates and short-term and long-term action plans to address the related issues. The public funded universities have no issue of attracting students to their programmes, whether they are

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attractive or not, as the UGC allocate students on a regular basis. This has created an environment in which faculty members and other staff face no challenges in their job. Universities therefore feel no pressure to promote graduates' employability.

Most of the universities do not conduct regular tracer studies in a proper way to assess the current situation. In some faculties, data is collected but no remedial actions are taken. A significant fraction of academics are of the opinion that graduates' employability is not their responsibility and that they only need to look after the knowledge base of graduates, not their employability skills.

Despite autonomy in academic matters, public universities have very strict financial regulations imposed by the government. This limits the opportunities for developing joint projects and ventures between university and employers and thus indirectly reduces graduate employability.

At the moment there is a central Career Guidance Unit at the university and only a few faculties have their own career guidance cells to work on graduate employability. It is advisable to establish such cells in the future and activate links between graduates and the external world of work. Such faculty cells can work with research teams to assess the current trends, review employability status, conduct job fairs and explore means of improving the situation with the assistance of the Career Guidance Unit of the university. The Cells can also publish employment statistics and develop career maps to guide their students well in advance. At the faculty level, systematic and regular curriculum revisions should be done as recommended by the Quality Assurance Unit. This will reduce the gap between university training and the world of work. Further, faculties should incorporate career development into existing curricula as a subject or components to induce and systematically train students for future employment opportunities throughout their regular studies. Alumni networking with students at faculty level will also improve graduates' informal networks, leading to improved employability.

At present almost all universities offer a large number of soft skills development trainings through their Career Guidance Units to improve the employability of graduates. However, the interest of students in public universities to develop such skills is extremely low. This is so even though in the recruitment process industry is looking for them more than for technical skills. This attitude is very common among students enrolled in programmes with very poor employability. Students should move away from government job mentality and get ready to work for challenging private sector jobs with an attractive salary. Although a number of studies have revealed that communication skills, especially in English, are the key skill needed for private sector employment, the majority of students in social sciences are reluctant to develop this skill and focus on the easiest way of getting a degree. One of the most important factors influencing such negative attitudes of students is the student unions' influence and

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education based on external socialist political principles. Therefore, long-term action plans are needed at individual as well as university and faculty level for planning successful future employability.

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