

ශ්‍රී ජයවර්ධනපුර විශ්වවිද්‍යාලය, ශ්‍රී ලංකාව
ஸ்ரீ ஜயவர்தனபுர பல்கலைக்கழகம், இலங்கை
University of Sri Jayewardenepura, Sri Lanka.

41 වන උපාධි ප්‍රදනෝත්සවය
41 வது பட்டமளிப்பு விழா
41st Convocation

උපාධි ප්‍රදනෝත්සව දේශන
பட்டமளிப்பு விழாவின் சொற்பொழிவுகள்
Convocation Addresses

පටුන
உள்ளடக்கம்
Contents

1. **උපාධි ප්‍රදනෝත්සව දේශනය - පළමු සැසිය**
සේවාර්ජිත මහාචාර්ය ඇස්. බී. හෙට්ටිආරච්චි මහතා
பட்டமளிப்பு விழா சொற் பொழிவு - முதலாவது அமர்வு
கௌரவ ஓய்வுநிலைப் பேராசிரியர் எஸ்.பி.ஹெட்டிஆரச்சி
Convocation Address - 1st Session
Emeritus Professor S.B. Hettiaratchi
2. **උපාධි ප්‍රදනෝත්සව දේශනය - දෙවන සැසිය**
සේවාර්ජිත මහාචාර්ය ජයන්ත ජයවර්ධන මහතා
பட்டமளிப்பு விழா சொற் பொழிவு - இரண்டாவது அமர்வு
பேராசிரியர். ஜயந்த ஜயவர்த்தன
Convocation Address - 2nd Session
Emeritus Professor Jayantha Jayawardana
3. **උපාධි ප්‍රදනෝත්සව දේශනය - තෙවන සැසිය**
ජනාධිපති නීතිඥ, අතිරේක සොලිසිටර් ජනරාල් සරත් ජයමානන් මහතා.
பட்டமளிப்பு விழா சொற் பொழிவு - மூன்றாவது அமர்வு
ஜனாதிபதி சட்டத்தரணி, மேலதிக சொலிஸ்டர் ஜெனரல் திரு. சரத் ஜயமான்ன
Convocation Address - 3rd Session
Mr. Sarath Jayamanne, President's Counsel, Additional Solicitor General
4. **උපාධි ප්‍රදනෝත්සව දේශනය - සිව්වන හා පස්වන සැසිය**
ආචාර්ය ජයලත් මනෝරත්න මහතා.
பட்டமளிப்பு விழா சொற்பொழிவு -
நான்காவது மற்றும் ஐந்தாவது அமர்வுகள்
கலாநிதி திரு. ஜயலத் மனோரத்தன்
Convocation Address - 4th & 5th Session
Dr. Jayalath Manorathne
5. **උපාධි ප්‍රදනෝත්සව දේශනය - හයවන සැසිය**
සමමානිත මහාචාර්ය නිමල් ගුණතිලක මහතා.
பட்டமளிப்பு விழா சொற் பொழிவு - மூன்றாவது அமர்வு
கலாநிதி திரு. நிமல் குணதிலக
Convocation Address - 6th Session
Emeritus Professor Nimal Gunatilleke

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சமூக வ்ஞ்ஞான பீ஁ம்

Faculty of Humanities
&
Social Sciences

Venerable Chancellor,
Venerable Mahāsaṅgha and the clergy of other religions,
Vice-Chancellor, Deans of the Faculties,
Members of the University Senate and Council,
Members of the Academic and Non-Academic Staff,
Ladies and Gentlemen, sons and daughters who are here today as Graduands,

Strengthening the intellectual community for sustainable development

I consider it a singular honour to be invited by the University of Sri Jayewardenepura to deliver the convocation address. This is not a stereotyped expression made in order to respect the conventional ethos, but a duty bound response by a person who has graduated from this University and obtained a Ph.D. overseas under its sponsorship and in turn worked for its development for more than forty years under trying vicissitudes in different capacities as a teacher, Head of Department, Dean and finally the Vice-Chancellor.

Dear Graduands,

What has been demonstrated by an alumnus becoming a Dean and the Vice-Chancellor of his Alma Mater-Vidyodaya and the head of a Sri Lankan mission abroad for the first time in history from among its alumni is not due to his individual skills and ability but the spirit of all his colleagues. This is a bench mark by which the skills of the alumni are respected, recognized and has led to the transfer of the university administration from those outside to those within, creating a tradition hitherto unseen. The galaxy of these alumni is swelled today by you being embedded therein. I welcome you all with immense pleasure. My unequivocal conviction is that you will never be deprived of the spirit of the dictum that “you are the salt of the earth. But if the salt loses its saltiness, how can it be made salty again? It is no longer good for anything, except to be thrown out and trampled by men.” (Mathew, 5.13) “All academics, sages and elders wait for the money-maker at his door-step.” (Vyāsakāra, canto 17) This Sanskrit saying spoken thousands of years ago is perhaps much more relevant to our lives today than ever before. There is no need to go into its details as this well versed congregation is fully aware of its implication.

The money-makers manipulate to degrade the savants of the intellectual society bidding them for a cheaper rate; the members of the spiritual order whose responsibility is to set forth for an evil-free society have been made inactive. This social imbalance is being fuelled happily for their benefit by the selfish and parochial political cronies under the pretext of patriotism and nationalism.

The destruction of human life and the environment thus began in the last century owing to mega development projects by industrialized nations in the world has now reached its peak. Environmental pollution has become a major threat. Illicit felling of trees and deforestation for the mega schemes have led to desertification. Fruits, vegetables and other food commodities contaminated with toxins are in abundance in the

open market with total disregard for food security. The market is flooded with dangerous narcotics too. Anti-social activities have increased. Issues such as increase of poverty, unequal distribution of wealth which come under the purview of the government have not been addressed satisfactorily. The consumer society is also equally responsible for this deterioration. Natural catastrophes such as acid rains and the destruction of the ozone layer are such dangers. All these are impossible to overlook and have become increasingly unacceptable. In particular, poverty has become rampant day by day threatening the lives of developing countries and Least Developed Countries (LDC), in particular. Some of these problems are local while some are global.

The UN General Assembly having realized this heavy deterioration of the human environment and natural resources established the **World Commission on Environment and Development** (WCED) in 1983 which brought to light at the end, the **Programme of Sustainable Development**. The Chairman of the Commission was Gro Harlem Brundtland. She, formerly the Prime Minister of Norway was chosen due to her strong background in the sciences and public health. The Brundtland Commission's mission was to unite countries to pursue sustainable development together. The Brundtland Commission officially dissolved in December 1987 after releasing **Our Common Future**, also known as the **Brundtland Report**, in October 1987 signed by 23 countries, a document which coined, and defined the term 'Sustainable Development'(SD). **Our Common Future**, report won the University of Louisville Grawemeyer-Award in 1991. **The Center for Our Common Future** was started in April 1988 in place of the Commission.

It is true that the present debate on Sustainable Development was begun with the Brundtland Commission but the concept of Sustainable Development neither derived from this nor from Europe. There is evidence to show that the concept of SD is enshrined in the path of ancient wisdom. The aborigines of Australia lived in harmony with the environment for more than 40,000 years. Egyptians maintained their own technology with due regard to the environment for more than 30,000 years. The sinology reveals that China produced environment friendly remarkable goods for thousands of years. Sri Lanka too had a proud pre-historic culture of unique features of which the main characteristic was the environment friendly wattle and daub houses and the likes.

In addition, the canon of different faiths is not wanting of passages with regard to SD. Since Sri Lankan society has been influenced mainly by Buddhist ethos, it is appropriate to have a glance at what they are. The Sanskrit saying that 'all are not good being old and all are good being new,' is not applicable to Buddhist teachings as they are timeless and have derived from *Dharma* — cause and effect.

Nonetheless, from the industrial revolution a remarkable progress of science and technology came into being resulting in the change of priorities in society. Therefore except for the fundamental matters, all new developments cannot be interpreted in terms of the ancient path of wisdom. On the other hand, the ancient path of wisdom should not be tested using the base of modern science and technology because one is spiritual the other is physical.

Poverty alleviation has been included as the first item in the list of 8 Millennium Sustainable Goals 2000 to achieve sustainable development and in the list of 17 Goals mapped out by The United Nations Conference on Environment and Development (UNCED), also known as the Rio Summit held in Johannesburg, (Rio+20/2012) and approved by the UN in 2014. This has been given the same significance in the **Zero draft of the outcome document for the UN summit to adopt the post 2015 development agenda** by the UN going to be discussed in September, 2015.

Although Sri Lanka has launched programmes such as ‘Cultivation War’ (*Waga Sangramaya*) and Janasaviya before 2000 aiming at addressing the issue of poverty and hunger since this has been recognized as the number one goal that has attracted global interest.

As a whole, Buddhist economic philosophy is human friendly as well as environment friendly, hence to end poverty and hunger is included in his ‘agenda’ of Gotama about two millenniums ago in view of meeting a number of targets. The 26th Sutta, i.e. **Cakkavattisihanāda Sutta** of the **Dīghanikāya**, for example, advocates that from good not accruing to those devoid of goods, poverty becomes rampant, from poverty being rampant, stealing becomes rampant, violence, killing, slander, sexual misconduct, abusive idle talk, covertness and ill-will, false views of life, wanton greed and perverted lust, the ten immoral courses of conduct will flourish excessively.

The **Kūṭadanta Sutta** of the same Nikāya explains in order to eradicate crime, humans must be supported by providing facilities to engage in their economic enterprises. It says:

Those involved in economic production, particularly in agriculture and industry should be provided with all what they require - seed, cattle, manure, land, water, irrigation implements etc. Trade and commerce should be encouraged by providing the essential capital, and all other amenities to those engaged in such activities. The state should also supervise such trade and commerce and see that under no conditions the workers or the consumers are exploited in any way by those engaged in trade and commerce. The officials serving the state, as well as all professionals should be encouraged by the grant of a satisfactory remuneration, promotion, leave, incentives and other privileges so that they would be contented at their respective work-places and not be lured or be attracted by bribery or corruption, nor alienated from their work. The state should extend its support to all those engaged in the sector of spiritual development. When people are thus provided for with opportunities to earn sufficient wealth, they will be contented, will have no fear or anxiety, and consequently the country will be free from crimes.

According to Buddhist economic philosophy wealth should be generated not for the purpose of accumulating means but to share them with the co-members of the society. Such wealth invariable will increase.

Likewise, this economic system aims at reconciliation of the people to unite as one group respecting equality in caste, social status and gender and other differences.

This group does not limit either to the nuclear family, joint family or household group but the whole society including teachers, clergy, friends, domestic hands and all others. To realize this, it says, wealth should be equally distributed. When all the rivers converge at sea their waters become salty with no possibility of separate identification. Similarly, when the humans enter the Sangha all turn to be one single Sangha. Social equality has now become a major goal to achieve in SD.

With regard to wealth and other requisites discontentment can cause mental suffering and physical harm according to the **Aggañña Sutta**. At the same time it teaches us how to manage the accrued wealth.

Out of the three elements of sustainable development, environmental protection draws particular attention today. All our religious leaders spared no pains to advocate the importance of environmental protection not by word but by deed. The fundamental events of their lives are closely connected with farms, gardens, forests and so on and not with luxurious mansions or palaces.

There are 30 articles of the **Universal Declaration of Human Rights** proclaimed by the UN in 1948. Professor L.P.N. Perera, who studied these articles from a Buddhist perspective, published the book titled **Buddhism and Human Rights** (1991) in which we read: "...the basic principles of the Declaration are supported and reinforced by these religious traditions, and among them the contribution of the Buddhist tradition, to say the least, is quite outstanding." To support his argument he compared and contrasted all the articles with the passages enshrined in the Buddhist canon.

This speech can not afford to deal with all the Buddhist examples of sustainable economy, environmental protection and social equality. I invite the learned members of this assembly to further the discussion from where I have thus left off.

Traits of sustainable development in ancient Sri Lanka influenced by the ancient path of wisdom

From May to September, South West (SW) winds bring rain to the South West region and the western slopes of the central hills and from December to February, North East winds bring rain to the North and Eastern regions and the eastern slopes of the hill country. In addition, convection activity during inter-monsoonal (IM) periods brings substantial amount of rainfall spread over the entire country. Rainfall received during SW monsoon and second IM share more or less equally.

Though the above is the general long term pattern, there is wide fluctuation in the actual rainfall periods causing sometimes prolonged droughts over certain parts of the country. Heavy rains accompanied with strong winds are also experienced in all parts of the country due to cyclonic activities in the Bay of Bengal. Sri Lanka is generally considered to have adequate supplies of water though not everywhere all the time. There is much disparity in the monthly and geographical distribution of rainfall received

annually. The wet zone experiences drought conditions during the months of January to March while the Intermediate Zone and Dry Zone experience drought conditions during the months of May to September.

The famous motto in ancient Sri Lanka that 'In every possible way grain must be stored in mass; not even a little that water comes from the rain must flow into the ocean without being made useful to man,' was intended not only to achieve the goals of an agricultural economy but to show a profuse profundity aimed at building a hydraulic civilization based on the concept of tank and thupa. The strategies introduced to realize this proved to be the best examples of sustainable development that prevailed in ancient Sri Lanka. Out of all, what is outstanding is the irrigation works and water management schemes and the techniques applied. One significant feature of this is the use of local material and technology.

Using this irrigation system, ancients having tilled every possible inch of the land; reaped crops three times a year for their stores making the country self sufficient in food. There is no need to underline that 'The Granary of the East', a designation of Sri Lanka, clearly demonstrates the success of an agrarian economy of the day. In their cultivating process, they did not use agro-chemicals like pesticide or inorganic fertilizer which are in total disharmony with the environment, bio-diversity and the earth. The crop was free from arsenic and water was not contaminated with heavy metal. Therefore, food security was ensured.

The theoretical wisdom with regard to this flourished in the Buddhist temple was freely disseminated by the erudite members of the Mahāsaṅgha. The words on technical skills expressed by some historical figures, as they are recorded in the chronicles written by monks, illustrate nothing but the profundity of this education system. The technology of making non porous bricks with levitated clay recorded in the **Thūpavaṃsa** which emanates from a dialogue between King Duṭṭhagāmaṇī and a brick-maker is such an example. Certain Buddhist viharas evolved into international centers of learning consisting of faculties. It is significant that our excavations brought to light evidence to suggest a certain faculty at Abhayagiri to be named the 'Faculty of Science and Technology'.

The well-known saying that 'learning gives discipline' is not merely a statement but a working programme incorporated in education, kingship and monastic establishment.

The indigenous technology of managing rain water fall on to the area of the gigantic thupas and their terraces was also preserved in the temple premises. Some of these areas are more than three hectares in extent. When the monsoon is activated this area receives a large volume of water. It was in fact a challenge faced by an ancient architect but he had a unique technique to arrest it. He let the water flow smoothly from the pinnacle down to the upper basal terrace through the surface of the dome. The Upper basal terrace interrupted the force of the current and slowly the second terrace received it. In turn by the third and then took its course to the stone paved terrace. On the four cardinal

directions, there were drainage systems to empty the impounded water in the stone paved terrace and allowed it to run to the sand strewn terrace located about one meter below. Then on the four directions of this terrace there were four catch pits to hold the water. The water after silting in the catch pit flew through its aperture to the corresponding pond. So there were four catch pits and corresponding ponds in the respective directions. The utility and the practicality of this water management scheme are manifold. The *thupa* was protected from water stagnation; surroundings became environment friendly; room for mosquito breeding was minimized. In fact, our architect turned 'a negative to a positive'.

It is expected that the adult literacy rate towards the close of this year will rise to 100%. However at present it is 98.1 %. This is a significant higher rate when compared with many Asian countries and even with some Western countries. But the index of literacy rate does not essentially indicate the rate of intellectual capacity. This is just like the so-called 'Certificate'. The indicator of an intellectual society is good behavior and good acts.

The capping stones of the said catch pits have been cannibalized by the so called civilized people today to make fire places. So they are fully exposed to the air and full of imperishable waste. Ponds are by no means exceptions. All the aquatic species are being endangered and will disappear for ever just as what has happened to our traditional fish varieties such as *Lūlā* (*ophiocephalus striatus*) and *Kāvayyā* (*Climbing Perch/ Anabas*)

The alms bowl was glazed by monks with black pigment of gingerly oil seasoned in the fire. This local craft is petering out now. Instead the bowl is painted with black paint by the traders for commercial purpose; or otherwise the bowl is made of stainless steel; more vulnerable is using aluminum for the purpose. Ancient Sri Lanka was rich in the glaze industry which was free from arsenic substances. Is this not yet another good indicator of sustainable development the country had in the past?

So then, I beseech you to judge yourself, where are you? Please share your experience with your neighbour. Assess whether you are doing justice to your proud forefathers. Your responsibility, at this hour, is to put your effort to enlighten yourself to keep up the heritage that the ancestors bequeathed you, intact. You are the members of a knowledge institution capable of responding to social needs. You turn yourself to be a self appointed 'Ambassador' for the purpose.

A National Action Plan for Haritha Lanka Programme 2009-2016 was mapped out in 2009 and a high powered organization named the National Council for Sustainable Development was established of which the Chairman was the President. The programme has been brilliantly worded out though its progress is uneven and did not keep pace with it.

Out of 10 missions included in this programme, the last one entitled Knowledge for Right Choices is relevant to the matter with which we are dealing today. To quote them: 1. Disseminate information periodically on sustainable development to the political

sector. 2. Promote behavior of students in support of sustainable development. 3. Integrate physical and other environmental sensitive policies and practices within the school education systems. 4. Incorporate sustainable development aspects in the curricular of Universities. 5. Incorporate sustainable development aspects in the curricular of Technical Colleges. 6. Promote behavioral changes amongst youth towards sustainable development. 7. Promote women to become change agents towards sustainable products. 8. Promote sustainable production & consumption practices amongst the general public. 9. Disseminate knowledge on sustainable development among the private sector and other professional bodies. 10. Ensure environmental concerns are adequately incorporated at the project planning stage of all projects. In my view, the programme should include the aspects of the traditional path of wisdom which exert their influence to achieve the targets of sustainable development.

Venerable Chancellor,

In conclusion, it may be underlined that industrialized countries induce the consumer society to indulge in 'wrongdoing' under the pretext of development and then to find a solution; they seem to have no concerns over non repetition of such misdeeds. This is entirely a physical exercise based on the money market. The traditional path of wisdom, instead, advocates prevention and restoration based on spirituality and the structure and function of society aimed at enhancing the mental capacity of the humans. The intellectual community must be strengthened to realize this in true perspective and share that knowledge with others and help transform Sri Lanka into a knowledge intensive society. I strongly believe that this is the only premise where we can accelerate the process of economic, environmental and social development of our nation. I invite particularly the young faculty to join this movement.

Professor S.B.Hettiaratchi
Emeritus Professor , History and Archaeology
University of Sri Jayewardenepura

வெஜ்ஸ் விஜ்ஸ் கீடீஸ்

மருத்துவ விஞ்ஞான பீடம்

Faculty of Medical Sciences

Convocation Address – University of Sri Jayewardenepura - 2015

Good evening. Venerable Chancellor, Venerable Maha sangha and the clergy of other religions, Vice Chancellor, Deans, Professors, Academic staff, Registrar, Administrative and non academic staff, graduates, parents and distinguished invitees. It is a pleasure to offer my warmest congratulations to all the USJP graduands who completed the degree programmes successfully. It is the culmination of many years of hard work, dedication and commitment. Your achievement is also a reflection of the high level of support provided by your teachers in school and university and your dear parents. There is no doubt that today is a very happy and memorable day for all. The parents too may be proud and happy to witness the results of many years of sacrifice and hard work. Though obtaining the degree is an end to your education as an undergraduate, it is the beginning of another long journey with plenty of novel experiences, challenges, excitement and achievements as well as setbacks.

I am aware that In this audience there are two categories of graduates, namely medical graduates who will directly enter the medical profession after 12 months of internship and graduates in other disciplines many of whom will also enter professions such as being academics, researchers, managers, teachers etc or with further training even become accountants or lawyers. All graduates are expected to have generic skills and are capable of adapting and performing a variety of jobs. Some may prefer to be self employed and become entrepreneurs and end up becoming job providers rather than job seekers. A few may even end up as politicians who formulate policy! No matter which category you are in you are expected to serve the public, and a resolution you should make with yourself, is to extend a devoted service to your country men, who afforded you the opportunity of receiving free education, all the way from pre-school up to the university level.

The destinations that lie in front of you and the pathways to reach each destination are many fold. You need to steer yourself through this long journey with or without the help of others. It brings us to the question as to what should be your destination and how you should select it. Initially you may not have much of a choice, but select a job that comes in your way. Doctors for example will have to do the internship in the hospital you are assigned to and on completion, work as a grade medical officer in a government health care institute chosen based on your position in the merit list or very few may join the private sector or a university. Other graduates may have to take up to diversity of jobs in the state or private sector. However, with the passage of time there will come a day for you to select your career.

A career is what you choose as a profession which almost always last a life-time. Selecting a career takes much more motivation and forward-thinking effort than a job. It is best to follow your interests, skills, and talents to find the career that will bring you success. Success means accomplishment of one's goals. It is important that it should go beyond financial gains and personal image boosting. You should believe that often the most satisfying pursuits in life are those, where your actions lead to the benefit of the citizens of the country especially the vulnerable and the poor. Therefore success should be viewed as, in addition to making yourself happy, contributing to make this world a better place for everyone else. It is therefore, very much about achieving not merely contentment in a material sense but some degree of spiritual satisfaction. Mahathma Gandhi, stated that "The best way you can find yourself is to loose yourself in the service of others".

The career destination will not be the same for all. One should decide what career to be pursued keeping three points in mind. They are your personal interests or aptitude, opportunity to achieve

financial stability and opportunity to excel and reach the top. The choice is yours. What are the options available to select a career based on these three points? The available career options for medical graduates are managerial, administrative, clinical, diagnostic, research and teaching. For other graduates too, it is similar and it may be positions such as managerial, administrative, planning, teaching, research or entrepreneurial.

To be successful in the selected career, it is often necessary to obtain further training and to inculcate professionalism. Postgraduate qualification may be a pre-requisite for some professions while lifelong learning is needed for success in any career. In Sri Lanka by statute the centre responsible for postgraduate medical education is the Postgraduate Institute of Medicine which was established in 1980. It conducts about 150 postgraduate training programmes which include Doctor of Medicine, Master of Science and Postgraduate Diploma degree programmes. These will include almost all specialties and finer specialties which will cover all five carrier options mentioned earlier. So think fast, wisely, keeping the three golden points in mind, prepare adequately and select one carrier path early. Thereafter sit for the selection examination and enroll in one of the postgraduate training programmes at the earliest opportunity. However to be selected you will have to compete with medical graduates of all state universities and foreign graduates. Hence the selection examinations and the process will be highly competitive. At the completion of the training programme, which will also provide you an opportunity to receive special training overseas in countries such as United Kingdom, Australia, Singapore and others, you will be conformed a Doctorate in Medicine or MD and Board Certified as a Specialist in the selected carrier path.

The other graduates too may require postgraduate training at different postgraduate training institutes such as the Postgraduate Institute of Management, Postgraduate Institute of Science, Postgraduate Institute of Humanities & Social sciences etc or in Faculties of Graduate Studies in various Universities or in Professional Institutions such as the Institution of Accountants, Financial analysts, Engineers or Architects. This training could be on a fulltime or part time basis which will qualify them to obtain such postgraduate qualifications as PhD, MPhil, MBA, MA, or Professional qualifications such as ACA.

According to Abraham Maslow, “the top most rung in the hierarchy pyramid of human needs is self actualization”, which means understanding what a person's full potential is and working towards the realization of that potential. This is not something that could be achieved instantaneously within a short period of time. Reaching this status will certainly be a long journey with dedication, sacrifice and commitment. However, you must remember that you cannot expect smooth sailing all the way through. Learn to accept with courage and dignity the setbacks, disappointments and sometimes even failures. Cultivate the gift of converting your failures to success by persevering with an extra determination and courage. The courage and cheerfulness will not only carry you over the rough patches in your life, but will bring comfort and console you in the sad hours.

To be successful in the selected career and to be admired and accepted by all, the postgraduate qualifications, technical knowledge and skills alone are not sufficient. It is essential to instill the values of professionalism into your character. The term *professional* and professionalism are discussed in many fora. But what exactly does it mean to be a professional? Qualities of a professional include; ensuring client's satisfaction and wellbeing, being expert in your specialty, doing more than expected, doing what you say and saying what you can do, communicating effectively, sticking to a set of guiding principles, praising your peers in success and not yourself, sharing your knowledge, acknowledging and appreciating other's contributions however trivial

they are, being punctual and being properly attired, a long list indeed. To add to this there is another key element; which is, continuing in further education to keep abreast with the constantly evolving advances in lifelong learning.

You have to be conscious of another expectation of the general public which makes professionals different from others. That is the acceptance of responsibility to the public on issues which go beyond the narrow confines of your discipline. We have a duty to express our views on national issues which may have an impact on the public. We should not be reluctant to disagree when some blatantly wrong measure is suggested even if it comes from above ie from our administrative and political masters. In doing so we may incur the risk of losing our position and perks, and even be criticized and ridiculed by interested parties. We should be immune to such criticism as long as our conscience is clear. Unfortunately in the present times the role played by the professionals and educated elite has not been courageous and adequate to achieve good governance. There is a perception that the country could have been a better place than what is today if we did so. Therefore it is time before it is too late to revisit this area of social responsibility. In doing so we should be conscious of the laws of the country, traditions and common sense. I believe that if common sense prevailed and was valued, many of the problems we are facing today could have been prevented.

We all know that you are the elite of the educated youth, so let the nation, specially the helpless, vulnerable and the poor benefit from you the products of USJP or "Vidyodaya" University which has a proud heritage. Once more; remember to hold onto your values, your work ethics and most importantly your values on humanity. It is these qualities that will guide you further on your journey and be an honest, but a down to earth person who will be admired by others. Referring to honesty as stated by Mahathma Gandhi "Even if you are in the minority of one, truth is the truth". Your time on earth is limited so don't waste it living someone else's life. Don't be trapped by dogma, which is living with the results of other people's thinking. Don't let the noise of others' opinions drown out your own inner voice, heart and intuition. Finally, as you step out into this exciting world, may I remind you to keep the larger picture in mind. You should aim high, set your own goals and not only achieve them, but surpass them.

I wish to thank the University for the Invitation extended to me to deliver the convocation address and convey my best wishes, success and all the very best to all the graduates in their future endeavors.

Thank you. Have a pleasant evening.

Prof. Jayantha Jayawardana
MBBS, MS, FRCOG, FCCGP, FSLCOG
Emeritus Professor of Obstetrics & Gynaecology
University of Sri Jayewardenepura.
Professor of Obstetrics & Gynaecology
General Sir John Kotelawala Defence University.

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Faculty of Applied Sciences

Most Venerable Chancellor,
Venerable members of the clergy,
Vice Chancellor, Deans of-Faculties, Registrar,
Heads of Departments,
Professors,
Lecturers,
Graculands,
Ladies and Gentlemen,

PROGRESSION IN SCIENCE FROM AN ANGLE OF LAW

During my educational life, the Faculty of Applied Science of the University of Sri Jayawardenapura sheltered me; therefore it gives me limitless pleasure to have been invited to address the annual convocation. It is a very momentous occasion in my life as it is a rare opportunity that! am bestowed with. Therefore, I must first-and foremost extend my heart felt gratitude to Dean and the Faculty,

As I approach the microphone there is one person that comes to my mind. And that is none other than Alexander Graham Bell, if not for his experiment I would not be speaking, to you all through this microphone. His extra ordinary creation which changed the world was due to his imaginative ability. If not for his in-depth study, modern technology would not have been this advanced. With all gratitude towards him I must also mention another scientist namely Elis Grey who did the same invention of telephone. However, as she delayed by half an hour to register her invention at the Patent Office, Alexander Graham Bell became the inventor in the eyes of law for the invention of telephone.

Thus, as you can see that the wisdom of scientists itself is not sufficient but they too need assistance of law in order to protect their intellectual rights. Therefore, it's clear that their wisdom should be collaborated with law for them to reap the maximum benefit of their creation. History gives us many such examples as to the collaboration and connection between law and wisdom.

Pythagoras is the first scientist that comes into our minds when talking of the miracles done in Mathematics. The theorem of Pythagoras is well known in the scientific world. Next scientist that comes into mind is Archimedes, who is well, known as the Father of Science. The King had an issue as to whether a crown made of gold was completely gold and had to come up with a solution without destroying or damaging the crown. While struggling to solve this, one day he got into the bath tub and water overflowed. It was due to his body mass which gave him the answer which made him understand the connection between water overflowing and the body mass. As a result, he ran along the road screaming 'Eureka'. This shows us the importance of science in the betterment of society and in resolving legal issues.

Now it is time to visit the thinking of another one of the greatest philosophers, Socrates was a classical Greek Philosopher whose thinking was based, on 'Universal Knowledge',

According to him, universal knowledge is found in 'mankind and had no great faith in his senses. In another words, it appears he had not greatly believed, in science, Plato who was one of his faithful students followed his foot path to show that wisdom is found in the universe, One can also argue that the idea of universities were made based on Plato's Educational Institute known as the 'Academy', However, Plato's best student Aristotle followed a different direction to that of Plato, According to him, knowledge obtained from the senses is an exceptional knowledge. He was the first to make a distinction between zoology and botanical science which are both natural sciences. He believed knowledge obtained from the senses is the best. Therefore, Aristotle is known as the father of bio science,

Aristotle's views are still in place even 1500 years later in the thinking of two British philosophers such as John Locke and David Humes, They too stated that the knowledge obtained from senses of the human physical body was the greatest.

It is believed that our law was evolved from common law, Although law was originally introduced in Italy, later it developed in England.- The British jurist Sir James Fitz Stephen played a prominent role in developing principles relating to common law; By looking at his principles it can be seen that his ideas were greatly influenced by philosophies of John Locke and David. Humes. One of Sir James Stephen's greatest work is the drafting of the Evidence Ordinance which was later introduced to India, a colony of Britain in 1872. 23 years later an almost the same Evidence Ordinance was introduced to Ceylon in 1395 where Ceylon was a colony of Britain, The Evidence Ordinance is a marvelous creation containing the Jaw; The fundamental purpose of it is to determine what types of person can come before courts and give evidence. The backbone of the Evidence Ordinance is that a person can give evidence before court only if he has perceived facts through his physical senses. Generally, witnesses are not allowed to express any opinion on facts. Accordingly, a person who feels something in his mind or believe something through universal knowledge is not allowed to give evidence in a court.

Therefore, it is not an exaggeration if i were to argue that the Evidence Ordinance is based on science and it is an extension of science. The journey begun by Archimedes and Aristotle have greatly influenced the development of law. An eye witness is allowed to give evidence in the court. As the scientist was not present during the crime, he is required to visit the crime scene later and collect necessary trace evidence such as finger print, blood, hair, parts of tools, cartridge, saliva, vomit, sperms etc. Similarly, he must examine the, suspect later and obtain similar evidence from the suspect, Thereafter, the scientist must come to the conclusion whether there was a connection between the suspect and -the crime scene. Science can be used either to corroborate his evidence or to demolish his evidence. Such scientific evidence can be brought before Court only by a person who has the knowledge in the specific field of science. . In such a situation, although the expert has not witnessed the crime, if he can scientifically prove the connection between the samples then court can consider the evidence. In such situation, expert express opinion in court according, to the evidence found at the crime scene which he felt through his senses, sometimes it is natural for scientists to use equipment to come to such conclusion.

For an example, we only see a certain frequency of light or hear a certain frequency of sound, but,, scientific equipment allow us to see "more than the range nature allows. In such situations scientists use their physical senses to perceive observation divulged by equipment.

Just because an expert gives evidence a court cannot convict an accused on that alone. Because courts will look into the minds of the accused or victim and the credibility of witnesses which goes beyond the realm of science. For an example, in the case of assassination of the High Court Judge Mr, Sarath Ambeypitiya empty bullet cartridges found near the incident which matched with a gun that was. later recovered from the suspect, • This matching was done by way of scientific analysis. If a suspicion has arisen as to whether the empty cartridges were replaced by the police, then the accused cannot be convicted for murder. Let us consider another example. The van used for the crime had been dumped at a different place and if finger prints were found at the back of the van, finger print experts could have concluded that the finger prints belong to the suspect, If the defense counsel take up the position that the accused had touched the van with others when people gathered to look at the van. Evidence given by scientists is not capable of convicting the accused as accused has given a valid explanation.

Another important principle of the Evidence Ordinance is Cause and Effect, The result of act of shooting is leaving empty cartridges at the crime scene. Therefore, evidence regarding the empty cartridges can be produced at the court trial. The main theory regarding this principle was however initially introduced by Sir Isaac Newton. While he was resting under an apple tree, an apple fell before him. And he then used the right side of the brain instead of merely looking at the apple, He then went into his own imaginative mind and answered the questions popped up in his mind, And this led to discovery of Newton's Findings on gravitation. He further continued to find principles on motion and introduced a theory that every action has an equal but opposite reaction. Isn't this cause and effect? This is the back-bone of our Evidence Law too. Therefore to all those graduating and entering the real world tomorrow I passionately request not to heavily depend on certificates but to go further and use your mind to open up doors of innovation. Scientists that have been recognized in the world did not only use the left side of the brain, but they also used the right side in order to make a difference. Albert Einstein was used to dream at all times, and this was the reason that he saw things which others did not foresee. We must also not forget the fact that some of these well recognized scientists are university dropped out students,

It was a coincidence that Bill Gates was born in 1945 was the same year in which Albert Einstein left the world. He is regarded as a very dynamic inventor in the modern world. He is a dropped out of the Harvard University which, is one of the prestigious universities in the world. Soon after leaving the university he started working with few friends to create.the Microsoft Organization, At present he is regarded as the wealthiest person alive. Thirty years later, after leaving Harvard University he was invited to receive an Honorable Degree. At the convocation Bill Gates addressed his Father who was seated at the audience and sarcastically said, "Dear Dad, this certificate is of great value to me.

And I can produce this certificate at my next job interview," The Apple I Phone you are lovingly holding today was created by Steve Jobs another dropped out of university. The collaboration of his enthusiasm towards calligraphy and the knowledge of computer technology of his friend led to the innovation of masterpiece of apple iPhone, Therefore, I earnestly request you not to limit yourselves to certificates only. Although receiving certificates give you great satisfaction and pleasure it is not sufficient enough to be a great person in the world.

As I mentioned before, although we have reached to a society of advanced technology, the protection of law will be needed to reap the full potential of science. I will bring more examples to show the development of science in connection with law in modern world. Most importantly a debate has arisen internationally to determine the continental shelf and legally permitted resources and permissibility of access of each country to the resources of sea. Usually a country have access to resources available in up to 200 Nautical Miles from its coast, Sri Lanka is a unique situation as there is no other country located beyond 200 Nautical Miles we have argued that Sri Lanka should be allowed to obtain resources at least up to 350 Nautical Miles. Scientists have assisted in developing the legal argument by having their expert knowledge on the subject.

In the same breadth every country has the right to access and have the maximum utility of minerals and other resources found underground, and in land and sea. However an issue has arisen as to whether a person can drill into land vertically and thereafter more horizontally to another country under the sea in order to drill mines. Generally, the belief is that minerals are not confined static to one place and it keeps moving from one point to another. Therefore if minerals are grabbed by one country the right to ownership belongs to that specific country only. However whether such minerals are truly dynamic or static can only be determined with the help of scientists.

The next issue that is of great importance is whether a country has the right to commit cyber-attacks on another country by destroying computer systems/The legal justification advanced by the respective country is the security and privacy concern. The contribution of science in deciding the non-existence of justification is very important whether a country can attack a computer network of another country based on security reasons or whether the country being attacked can replace and retort. Science is also very helpful in unearthing whether any criminal offence was committed through the computers such as computer frauds,

Sri Lanka is also a proud owner of local indigenous herbal medicine found in forests. When some foreign scientists come in the guise of research to Sri Lanka and visit forests such as Sinharaja they test our indigenous herbal plants to obtain genetic patterns. Once they go back to their countries there is a danger that they sell genetic patterns to companies and register the patent right. Therefore, there is a threat that benefit of local heritage would be grabbed by multinational companies and corporations. In such situations protection of law is also equally important to development of science and preservation of national heritage.

Unlike other Universities, University of Sri Jayewardenepura is always been a step ahead when I entered. When I entered the university, although I was an Advanced Level bio student, I was advised by the University to follow the streams of Biology, Mathematics and Physics. I, myself as a student who never thought out of the box. University made me think- differently although initially it seemed like swallowing bitter medicine. Today, when. I look at myself and. the things I have achieved in sphere of law, I must once again thank the Faculty of Applied Science for making the "change deep inside me. This I say because even Einstein thanked the other scientists almost 100 times a day for the benefit he gained by help he received, Newton too mentioned at all times that if not for the other scientists he would not have gone that far. My' Dear children, at the end of my speech I would like to draw your attention to a statement made by Sir Isaac Newton. He stated that he is like a. small child collecting sea shells on the beach. He had made a similarity between his scientific knowledge and the sea shells collected on his palms. He says that when comparing the amount of sea shells in the sea to that in his palm shows that he has acquiring very little knowledge. Therefore to all those graduating today, think of Sir Isaac Newton's statement and try to unravel the wonders that have not been discovered so far..

Let the energy and blessings of the University be with you in your journey to achieve greater heights.

I wish you all the very best from the bottom of my heart.

Sarath Jayamanne
President's Counsel
Additional Solicitor General

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Faculty of Management Studies

&

Commerce

Convocation Address by Dr Jayalath Manorathna - 2015

The most Venerable Chancellor,
Venerable Maha Sangha and the Clergy of other Religions,
Vice-Chancellor,
Deans of the Faculties,
Members of the Council,
Heads of the Departments,
Members of the Academic, Administrative and Non-Academic Staff,
Graduands,
Distinguished Guests,
Ladies and Gentlemen,

The Beauty of Managing Life

Today is an extremely happy and an unforgettable day for you and, for me.

Your happiness is, having spent four years on this beautiful campus, making innumerable sacrifices and working very hard to study the important subject of Management theoretically and practically and having acquired a high level of subject knowledge and earned a highly recognised degree, you are stepping into a new society and embracing a new way of life from tomorrow. My happiness is the honour accorded to me by the invitation to address you at this most distinguished event. Allow me to pay my utmost gratitude and respect to the University of Sri Jayewardenepura for giving me this opportunity.

You, who have mastered Management Studies and Commerce in the familiar surroundings of your lecture halls, will have to apply your learnings, from tomorrow, to managing life successfully in the unfamiliar surroundings of 'society'. It means that you are no longer a student or an undergraduate, but a fully-fledged citizen with social responsibilities and importance.

In managing our lives successfully, we draw inspiration mainly from religion and/or philosophy. It is widely accepted that our lives can be beautifully shaped by applying the teachings of religious leaders such as the Lord Buddha, Jesus Christ, and the Prophet Muhammad Nabi and the theories of philosophers such as Socrates, Plato, Aristotle, Nietzsche, Bertrand Russell, Krishnamurthy, and Lu Xun.

There is also another very important source from which we can draw inspiration in managing our lives effectively and meaningfully: *art, literature and aesthetics*. What is art? How did art originate? What is its purpose? Is it only for the sake of amusement? Or is it for the sake of the progress and the celebration of the superiority of mankind? What

is its contribution towards creating a new man, new society and a new world? are some of the questions one can ask in order to better understand the role played by art in shaping human lives.

But art is not a simple process. It is an extremely intricate, deep and vast discipline and an evolving phenomenon with its purpose and definitions being subject to revision from time to time.

The earth, which we inhabit, is estimated by geologists to be four thousand six hundred million years old and it was millions of years later that the earth became suitable for human habitation. Thus it can be safely assumed that the current species of human beings are about two million years old.

In the human civilisation thus originated and developed, the *human activity* and *thought* were two very important factors closely associated with the origin of art. In the beginning, man used activity solely for his survival and he made use of his body to get food, accommodation and clothing. However, it can be assumed that as evolution continued, man used imitation too to fulfill his various needs. Imitation may have originated especially in association with man's reactions to the unforeseen forces in the physical world that were out of his control or the various mishaps, ailments, fears and terrors posed by the metaphysical world. He may also have resorted to imitation as a means of communicating to the tribesmen the encounters he had had with the wild beasts on hunting expeditions. However, later on imitation was used rhythmically and acoustically and thus it can be assumed that imitation is related to the origin of creative art. One exploring the historical roots of art may also find a close link between the use of human labour and the origin of art.

The second most important factor in the human evolution, *thought* played a much bigger role in the origin of art. The beauty of Nature surrounding the man inspired him and evoked in him aesthetic thoughts.

Man is different from other living beings due to his capacity for labour, thought and language skills in communication. These distinctive qualities and capacities of the human brain may have inspired and been instrumental in producing art or aesthetic expressions.

It should also be remembered at this juncture the existence of the belief that art or aesthetics is not a creation of man, but a gift of the God. The idealist belief that not only art, but also man is a creation of the God was later challenged by the Theory of Evolution put forth by the scientific school led by Charles Darwin. The Theory of Evolution proves on scientific and historical evidence as well as rational thinking that man evolved from the ape at some point of history. If man is a result of the process of evolution, so is art of the same process is a fair assumption.

It is widely believed that if there is any creation other than what has been created by Nature, it is invariably the result of man's activity and thought. Various forms of imitation used by man to project his feelings and experiences to other men have been developed into various media and laid the foundation for art to be born. Some historical artifacts that validate this view are 25,000-year-old cave paintings at Altamira in Spain, 17,000-year-old Lascaux cave art in Southeast France and expressions used to release exhaustion in hard labour, such as folk poetry (*paru kavi, nelum kavi, karatta kavi, pel kavi*) of ancient Sri Lanka.

Setting aside the numerous notions about the origin of art, let us now briefly examine the purpose of art, which would be very useful in understanding its importance in managing life. India's Bharata Muni representing the Eastern view pointed out that the purpose of art is to generate sentiments. Greece's Aristotle representing the Western view saw the purpose of art, with special reference to the theatre, to be the imitation of a task in progress. Marxist aestheticians described art as a symbolic expression of culture. According to Marx, art is a socio-realistic expression of the physical world. If the same view is analysed from a different angle, art can be defined as the aesthetic reflection of Nature in the human mind.

According to Russia's greatest novelist Leo Tolstoy, art is a human process by which a man infects others by evoking in them feelings he himself has experienced, with the use of certain external indications. *'To evoke in oneself a feeling one has once experienced, and having evoked it in oneself, then, by means of movements, lines, colors, sounds, or forms expressed in words, so to transmit that feeling that others may experience the same feeling - this is the activity of art.'*

The prominent Western critic of the twentieth century I. A. Richards stated that art is the pinnacle of communication. Pablo Picasso, a foremost painter of the modern art, indirectly expressed his view on the purpose of art in his famous quote: *'I paint objects as I think them, not as I see them.'* Ingmar Bergman, the world-renowned film director implied his view on art as follows: *'To shoot a film is to organise an entire universe.'*

Mahagama Sekara, Sri Lanka's greatest poet of the twentieth century, presented his impression about art in his collection of poems 'Prabuddha' in the following lines;

*'O, Lord Buddha,
why did you forsake art?
Art is truth and illusion.
Truth is Nature.
Man can never create anything as beautiful*

as Nature.

Art is for the novices

who cannot see that beauty...

All these expressions are based on one distinctive concept – that is, art is life.

There is also an entire gamut of different views on art put forth at various stages of the human history: art is for the sake of life; art is for the sake of escape from life's trials and tribulations; art is for the sake of resilience and enjoyment in the face of life's trials and tribulations; art is for the sake of service; art is for the sake of self-expression; art is for the sake of amusement; art is for the sake of gratification of senses; art is for the sake of art.

I assume that the Management subject you have mastered for four years have close links with art as well as science. It is in fact referred to as a 'science'. I think it opportune to share with you an important quote by Leo Tolstoy on the relationship of art and science: *'Science and art are as closely bound together as the lungs and the heart, so that if one organ is vitiated the other cannot act rightly.'* What other proof convinces you better that art and science go hand-in-hand with each other?

In exploring the possibilities of using art in managing life, one needs to be aware of the classification of art. Among diverse classifications, art can be classified into fine arts and utility arts; natural arts, folk arts and commercial arts; and also contemporary arts, abstract arts and visual arts.

However, art is an all-embracing term that includes painting, sculpture, carving, photography and architecture under the broad category of 'visual arts', dancing, music, theatre and cinema under the broad category of 'performance arts' and various forms of prose such as novels and short stories and poetry such as ballad, quatrain and free verse under the broad category of 'literature'. However, this too is not an exhaustive list because with the advent of computer and mobile technology, art is produced in various forms and formats.

It is clear that all these media of art are involved in a communication process – where one's experience is shared among a number of others. This experience may not necessarily be one's own; it could be someone else's too. It could also be an assumed/imagined experience. It is quite common for human beings to share their experiences with others. It is a behaviour that comes quite naturally to us to present and share our experiences with others at funerals, weddings, market, on the road, at home or on any other social occasion. It is also one of the conditions ensuring the smooth functioning of society.

Though the same communication process takes place in art, the difference is that the act of communication in art is not made directly. In other words, communication does not

take the form of direct reporting. Human experiences are presented to others through art in an implied or indirect manner, in a different form, by translating emotions to sentiments imbued with aesthetic delight. In short, experience, when presented through art, is given 'a shape'. In the absence of directness in expression, this shape may vary according to the medium through which it is channelled. The receiver of such shapes too is transformed into another person due to the shock produced by the arousal of feelings and sensations in him. This is the moment an ordinary spectator, reader or listener is transformed into an ardent 'fan'.

An important fact that should be emphasised here is that the experience presented by the artist should by no means be an ordinary one. We acquire experience from the morning to the night and from the childhood to the old age. But all these experiences may not be of interest to others. Hence, an artist should select only the exceptional, acute, sensitive and singular ones out of the multitude of experiences. An acute experience, one that is received through the five senses – eye, ear, skin, nose and tongue – and synthesised by the mind into a self-expression is given a new shape by the imagination of the artist to create an original artistic expression.

'Original' means unprecedented. A person who sees, reads or hears an unprecedented thing is first amazed; then seized by powerful sentiments of horror, humour or compassion. The essence of all these sentiments is aesthetic delight. '*Aesthetic delight is nothing but the overwhelming feeling of wonder*', said Prof. Sarathchandra in his book '*Kalpana Lokaya*'.

As I have already mentioned, any play, film, song, poem, novel or short story takes experience as its subject matter. This is called the 'content' – *what is told* ('experience'). *How it is told* is the 'format' ('form'). There is something to be told; there is a way that something is told. Content and format are experience and form respectively.

Content contains *meaning* while the format contains *sentiments*. Meaning addresses our intelligence and sentiments arouse our feelings. Meaning is perceptual while sentiments are sensational. Therefore, a person who associates great works of art or literature indulges himself both in meaning and sentiments.

Experience (content) is mostly a reality or a truth about society or life and the format in which this truth is conveyed is adorned with beauty. Thus we have truth and beauty collaborating in art!

Therefore, it is believed that the truth presented by the realist or naturalist artist is more beautiful and complete. On the other hand, there is also the belief that art and truth need not have any collaboration, on the premise that truth too is a relative thing and there is no consensus as to what truth is. For example, one person may hold a particular a religion

or a belief as true, while another may think otherwise. Something upheld as true at some point of time may be proved otherwise later. However, one can see that as far as art is concerned, truth of a work very much depends on the respect and recognition accorded to its creator. On the other hand, one must not forget that the truth presented by art is not a private truth but a socially justifiable public truth.

Hence, this context may give rise to a number of questions relating to art and its role. What is the role of art and literature in managing life? Is art only for the sake of amusement? What is our objective in seeing a play or a movie? Why do we read a short story or a poem? What is our need to listen to a song or music?

The simple answer to these questions is ‘amusement’, but ‘joy’, ‘happiness’ and ‘delight’ too are possible answers. There is nothing wrong with these answers and one must not doubt their sincerity. But it is important to see whether art is purely for the sake of amusement. Amusement, of course, may be the primary purpose. The next and the most important purpose is the imparting of new experience, new knowledge and new vision through amusement. In short, broadening of the horizons of wisdom.

A work of art broadens the horizons of wisdom in an implicit, indirect and unconscious way. But one must take note that it is this excellent quality that should be the ultimate purpose of a great work of art.

Thus it is quite clear that providing a definite, straightforward and single answer to the question ‘what is the purpose of art?’ is no simple task and it explains the various theories, arguments, beliefs and concepts that have come into existence around this question for hundreds of years. However, our reading about the purpose of art is that it is not purely for the sake of amusement; rather for ushering of wisdom required for creating a new man, new society and new world through imparting of new experience, new knowledge and new vision to the reader, spectator and listener by the means of amusement, with aesthetic delight serving as a catalyst.

Let us now look at how the German playwright Bertolt Brecht, who is considered to have turned the world upside down, hinted at the purpose of art in the following artistic self-expression.

*‘... what is the use of music
that doesn’t awaken men?
We don’t want the poem
that doesn’t have the message of mercy.
Let’s turn our back on the novel
that doesn’t show us a way out.*

*Let's object to the play
that doesn't provide us direction for action...'*

Before concluding this speech and as a summary of it, permit me to place before this distinguished audience a real-life example as to how a distinctive and acutely-felt experience of an artist blossomed into a great work of art.

[The true experience related to the song 'Sudu Neluma Ko...' written by Ratna Sri Wijesinghe and sung by Dr Pundit Amaradewa, is presented to the audience very briefly with the lyrics.]

Reiterating that delivering a speech at this convocation is a most cherished moment of my life and paying my utmost respect to the University of Sri Jayewardenepura for the opportunity, I extend my heartiest wishes to you - the graduands for a great future with good health and wisdom.

Dr Jayalath Manorathna

பஞ்லா஢ீ ஁பா஢ி அ஢ிபபபப பீ஢ிப

**ப஢்஢ப்பின்ப஢்஢ க஢்கைககள்
பீ஢ம்**

Faculty of Graduate Studies

An Inter-disciplinary Endeavor towards Environmental and Human Well-being

The Vice Chancellor, Dean of the Faculty of Graduate Studies, Deans and Faculty Members of other faculties, Distinguished invitees, Graduands, their family members and well wishers.

I am greatly honored to have been invited to deliver this convocation address today to the recipients of post-graduate degrees from the Faculty of Graduate Studies at the University of Sri Jayewardenepura.

First, let me congratulate each and every one of you graduands for reaching this second milestone in your academic progression in a university. Your tertiary education may have commenced several or more years ago, either from this or any other University in Sri Lanka or even overseas. You are obtaining this post-graduate qualification after two or more years of intense course work and research. During this time, some of you may have concurrently been engaged in your carrier related work, as well as your family responsibilities. Naturally, it would indeed have been a different experience compared to the period you obtained your first degree. Then you followed the standard course modules in a chosen field and completed the respective examinations on them successfully. Furthermore, that phase in your life would have been far more carefree compared to what you may have undergone while reading for your post-graduate degree program. Having endured all the difficulties and obstacles you may have had, you have successfully completed your post-graduate degree. I admire you for your commitment, perseverance, and fortitude.

The undergraduate degree programs you followed years ago provided you a relatively broad spectrum of knowledge in your chosen field of study. On the other hand, the post-graduate degree program, as you have already experienced, has placed you on a higher pedestal in a specifically focused area, moulding you to become a more qualified professional in your chosen field of specialty. As I learnt from browsing through the Faculty of Graduate Studies website of the USJP, each of you is graduating through one of six boards of study.

According to its website, your Faculty of Graduate Studies aimed to impart upon you the following key capabilities, among a host of others, which I thought would be useful to reflect upon at this convocation address. One of them is to direct all the post-graduate degree programs towards contribution to national development and the second is to strengthen a 'multi-disciplinary approach' to suit the current needs of the country.

The respective post-graduate program each of you followed has moulded and motivated you to engage in, and benefit from, the skills you may have gained towards contributing

to the national development while following a multi-disciplinary approach in your endeavors. For those amongst you who are about to enter the job market with your newly earned post-graduate degree, the experience and confidence you acquired over this period would stand you in good stead to secure an appropriate employment. On the other hand, those already employed and graduating today, have the opportunity to secure a higher professional qualification like an MBA - for which this University holds a great reputation both within and outside Sri Lanka. Such a qualification would destined take you even higher in your promotional ladder.

In today's fast developing world, you as professionals have a responsibility to contribute to national development for which you have been well groomed by this Faculty of Graduate Studies. Do not sit back on your laurels and leave the responsibilities to others. Be confident and apply the knowledge and experience you have gained to uplift the standards of the institutions you serve and the country you eventually choose to live in. As you may be well aware already, most public and private sector institutions are now becoming increasingly multi-disciplinary and look out especially for so called 'team players' to be hired. Individually we may not have the knowledge to understand and solve a given problem, but do get engaged with those who have the expertise in other fields and discuss with them how best to go forward. Be open to the ideas of others, and collectively the outcome will be far better than one's own. Such interactions not only widen your knowledge but enable you to see the many facets in a problem and make better decisions in solving them.

Needless to say that the skills that you have gained in addressing developmental problems of national and even regional or global importance through a multidisciplinary approach will undoubtedly become very valuable indeed. It is very encouraging to note that the FGS of USJP publishes a journal on multi-disciplinary studies and have international conferences on multi-disciplinary approaches. No doubt that by graduating from this faculty, you are among the beneficiaries of this multi-disciplinary approach in problem solving in your chosen field of study.

Let me also dwell upon a few issues of global importance, which all of us need to be concerned about and at the same time must draw the attention of all of us. They are i) the decline in biodiversity and ii) human induced climate change resulting in threats to food security, water scarcity, pollution and associated health problems. These globally important issues are being increasingly addressed in an inter-disciplinary and/or multi-disciplinary manner rather than in piece-meal approaches. Biodiversity decline and climate change impacts affect our very own survival and well-being.

Having recognized these serious global impacts arising from globally important issues, the United Nations mandated the preparation of an evidence-based assessment report on them. Over 1400 scientists of global repute in a multitude of disciplines were called upon

to examine all published scientific information relevant to these issues. Its outcome was the land mark report in 2005 known as the Millennium Ecosystem Assessment (MEA - Annex 1). This is truly an inter-disciplinary effort at a global scale. It underscored unequivocally the inter-dependence of environment and human well-being. The MEA examined the effects of environmental change on ecosystems and human well-being. An ecosystem, for those who are non-biologists in the audience, is a community of plants, animals and smaller organisms that live, feed, breed and interact within a defined environment as in the case of a pond, stream, garden or a forest.

The MEA viewed both natural and man-made ecosystems through the lens of services that they provide to society, how these services in turn benefit humanity, and how human actions alter ecosystems and in turn the services they provide. Ecosystem service is a typical inter-disciplinary concept. Do give some thought to it for a moment; understanding nature is a part of ecology, understanding the service values it provides to humans is part of economics. In a world where virtually everything revolves around money, it is acknowledged that it would be far easier to convince policy makers if these ecological service values are measured in a global currency of economic valuation. This is exactly what the MEA strives to do; it showed how ecosystem services are critically important for our well being, in other words our 'health, wealth and happiness' and the need to be valued as such.

The MEA identified four categories of ecosystem services that contribute to human well-being, viz., provisioning services, regulating services, supporting services, and cultural services. These service categories directly or indirectly affect human well-being. Provisioning services include the food we eat, water we drink and the fresh air we breathe. A variety of other goods, such as timber, fire wood, medicinals (*e.g. weniwelgeta, kotalahimbutu, masbedda, etc.*) aromatics (*walla, dummala etc.*) and a host of other products extracted from our natural as well as agricultural ecosystems, are also represented in this provisioning category. There are also the ecosystem services that are taken for granted and considered as 'free lunches'. These are processes that humans (and animals, too) benefit from. They include the regulation of climate, floods and disease, purification of water and air, and waste disposal. Supporting services include the functional processes (water and nutrient cycling, conversion of atmospheric CO₂ with energy from sunlight to carbohydrates, soil formation and conservation), within ecosystems. It is on these processes that the very survival of the multitude of organisms (the obvious flowering and non-flowering plants, the less obvious algae, bacteria, fungi *etc.* that live on plants, in litter and in soil, as well as all terrestrial and soil animals) in the ecosystem depends. Furthermore, it is this biodiversity collectively that also maintains the physical features of the environment. The last of the services are the cultural services; that is the aesthetic, spiritual, educational and recreational value of ecosystems.

Needless to say that Sri Lanka's resplendent landscapes and waterscapes have made the island a leading nature and culture-based tourist destination in the world. The concepts of ecosystem services and human well-being form a link between nature and the economy. This requires the collaboration among ecologists, economists, sociologists and scientists from other disciplines to have a common dialogue to facilitate inter-disciplinary research and to understand how dependent humans are on a wide range of ecosystem services.

Fortuitously in this context, I was pleased to see a news item recently that the USJP has signed a MOU with the Sri Lanka Tourism Promotion Bureau to provide novel marketing insights in this technologically advanced market place of tourism promotion - a laudable move towards supporting national development. With an inter-disciplinary approach, these marketing strategies could be developed without going beyond the carrying capacity of the ecosystems and landscapes - what is known in common parlance as - 'without killing the goose that lays the golden eggs'. The Millennium Ecosystem Assessment indeed, provides an excellent conceptual framework for such initiatives. No doubt that most of you have been given a good grounding on balancing nature, culture and economics during your post-graduate training here at the FGS of the USJP.

Inter-disciplinary research has shown that certain crucial life supporting systems are on the verge of collapse unless timely remedial action is taken by the global community in a collective and socially responsible manner. Each year, people consume more than 1.3 times the natural resources the Earth can replace. As Sri Lankans, we too have our share of collective social responsibility towards this global concern, irrespective of our own professional specialties. Conservation of natural resources cannot any longer be treated as an independent and isolated entity, but it is very much inter-dependent with socio-economics, thanks to the Millennium Ecosystem Assessment and its follow-up activities.

Sustainable development in the 21st century recognizes that both social and economic development is very much dependent on the resilience of ecosystems and the services they provide. Sustainability calls for a decent standard of living for everyone today without compromising the needs of future generations. The United Nations Conference on Sustainable Development met for the second time in 2012, twenty years after the landmark Earth Summit in Rio de Janeiro, Brazil. At this conference known as 'Rio+20-The Future We Want', the world leaders, scientists, private sector and civil society organizations discussed and finalized a document on two themes:

- i. how to build a green economy to achieve sustainable development and lift people out of poverty and,
- ii. how to improve international co-ordination for sustainable development.

Consequent to this, new thinking on green development, green economy, green GDP and green growth have emerged. This thinking is not only now entering today's portals of International Donor Agencies such as the World Bank, Asian Development Bank and others, but even in to the Systems of National Accounts in an increasing number of countries. An UN-led study 'The Economics of Ecosystems and Biodiversity' applied economic thinking to the use of biodiversity and ecosystem services (TEEB 2010). This study called for national accounts to be upgraded to include the value of changes in natural capital stocks and ecosystem service flows, thus capturing their true value in the economic analysis.

This has been further strengthened by the introduction of the 'Triple Bottom Line' concept that takes in to account the social and environmental performance in addition to the financial performance. Therefore, a business's success is measured on its economic sustainability, as well as its ecological and social sustainability. The need for inter-disciplinary approaches in addressing these issues cannot be understated. On the other hand, failure to account for the full economic value of ecosystems and biodiversity has been a significant factor in their continuing loss and degradation. These issues are now being addressed the world over. One of the major challenges in this is finding a common unit of measurement. How does one measure the social capital and environmental health? Inter-disciplinary research in sociology, economics and ecology is indeed essential in finding answers to these questions. Our earnest hope is that some amongst you graduating today may engage yourselves in a noble mission of addressing such pressing issues in the interface between ecology, economics and sociology to save this planet, for the future generations to live in sustainably. Incidentally, Sustainability Science is an emerging field of inter-disciplinary science designed with novel curricula and appropriate research agenda in Universities the world-over, also including research journals dedicated to this field.

So far I have dealt with the pivotal role played by the environment on human well-being and how its misuse or unsustainable exploitation has affected ecosystem services. Furthermore, how this in turn has impacted on the global and local economy. To address these issues, the global community has introduced the principles of green economics.

Besides the global institutions like the UN agencies that mandate or advise (as the case may be) the member states and governments, there is an important role for each and every one of us to play in reducing or offsetting our carbon (ecological) foot print and strive as far as possible to be carbon-neutral in our daily activities as individuals, community groups, business corporations *etc.* Carbon footprints measure how much carbon dioxide (CO₂) we produce just by going about our daily lives. Ninety-eight percent of atmospheric CO₂ apparently comes from the combustion of fossil fuels.

Therefore, my second appeal to you is to be conscious of the carbon/ecological footprint of yourself, your family, neighborhood, work place and in any activity you would be engaging in. It is a commitment that each one of us has to make for the sake of the well-being of not only our generation, but future generations as well.

As you may have already realized, most of these environmental maladies have come about with our life style changes with advancing technologies, leading in particular to pollution and waste disposal problems. As a solution, there is a great reawakening in traditional farming systems and life styles. These are considered much suited for smaller countries like Sri Lanka with a rich heritage in natural resource management, while giving due respect to maintaining healthy ecosystem services. Two of the best examples Sri Lanka could proudly offer the world are its i) '*Ellangawa*' or cascade irrigation system in our dry zone reservoir country ("*Wewbendirajya*"), and ii) spice gardens in the Kandyan villages. Both are shining examples of how our ancestors maintained ecosystem services and how ecology and socio-economics were elegantly interfaced to usher health, wealth and happiness. There is evidence that they maintained healthy ecosystem services and their own triple bottom line of sustainability. It is gratifying to note that there is an increasing trend in developing models emulating these life styles. They are becoming popular among visitors to this country who are looking even for a momentary change in life style of solitude. However, we should be mindful in, not killing the goose that lays golden eggs and more importantly preserving our cultural values.

In this address, I have strived to place before you the environmental challenges that all of us are facing in the 21st century and a pointer towards why we should collectively address them by making key changes in our life style patterns irrespective of our professional inclinations. Finally I appeal to you again young graduands, as you journey on translating your education to realize your full potential, do make this country and the world a better place for all of us and our future generations. Give due consideration to Sri Lanka's ecosystem services that this island is so richly blessed with. Contribute to a greener growth in your own unique ways taking a cue from our own heritage. Thereby you will reduce your ecological footprint and be carbon neutral, making a significant contribution to the well-being of our society.

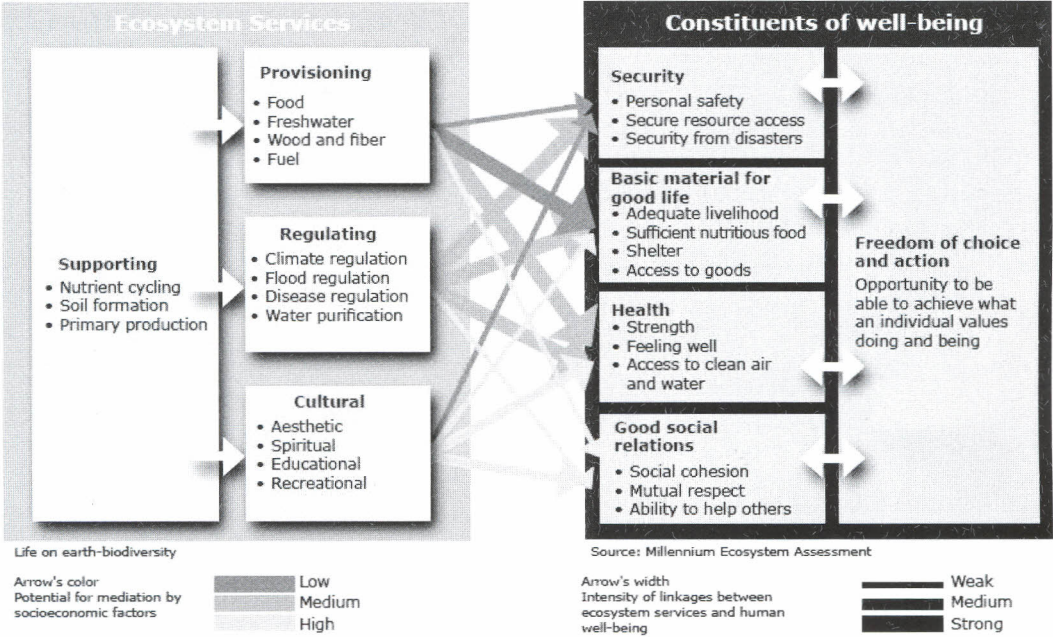
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Focus: Consequences of Ecosystem Change for Human Well-being



ANNEX 1

Ecosystem services and their linkages with human well-being (from MA 2005)