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CCI SRI LANKA Bulletin

THE NEWS PAPER OF THE CHAMBER OF CONSTRUCTION INDUSTRY SRI LANKA
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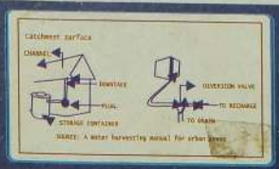
Thank You Mr. John Cooney



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Rain Water Harvesting

Prime Minister Assures Cooperation

A delegation from the Chamber of Construction Industry Sri Lanka (CCI) led by its President Deshabandu' Surath Wickramasinghe met the Prime Minister, Hon. Mahinda Rajapaksa to discuss issues relating to the Construction Industry at Temple Trees on 10th June 2004.

CCI delegation informed the Prime Minister regarding the need to have a National Policy for the Construction Industry with legislative enactments in the form of a Construction Act.

They also noted that the Minister of Housing and Construction Industry, Hon. Ferial Ashraff, has solicited observations of the Chamber in respect of the draft enactments and policy statements.

The delegation stressed that the 'National Strategic Expressway/ High Mobility Plan' be put in place early. With construction activities being carried out by different line Ministries, the need has arisen to have a Cross Sectoral Committee to coordinate activities, to facilitate early implementation and optimum utilization of resources on nationally important Projects.

With the Chamber possessing multi disciplinary professional capabilities, the President stated that the Government should utilize such resources to coordinate activities and obtain guidance.

The delegation reiterated that foreign consultants and contractors operating in Sri Lanka should be subjected to mandatory registration with relevant professional bodies and sought the assistance of the Hon. Prime Minister to ensure that locally funded projects are carried out by the Domestic Construction Industry only.

Prime Minister agreed that all foreign consultants and contractors operating in Sri Lanka should have collaborations with the local counterparts, preferably on a Joint Venture basis.

The Chamber delegation informed the Prime Minister that a Policy Paper has been prepared on 'Fast Tracking' Procurement in the Construction Industry, and presented the document for consideration of the Government.

The Prime Minister's urgent attention was also drawn to the shortage of river sand and consequent hike in sand prices and escalation of construction costs to prohibitive levels. A document highlighting the problem,

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The Minister of Construction invites the Chamber

Consequent to a request made by the Chamber of Construction industry for a formal discussion with the new Minister, the Minister of Housing, Construction, Eastern Province Education and Irrigation Development, Hon Ferial Ashroff extended an invitation to the Chamber for a discussion on the 27th May 2004 at 5.00 p.m. at the Ministry premises. The Hon Minister Ferial Ashroff and the Consultant to the Ministry of Construction Industry Mr. Asitha Perera represented the Ministry while the CCI delegation comprised of, CCI President Deshabandu Surath Wicramasinghe. Vice President Mr. D.D. Wijemanna, Council Members Prof. Chitra Weddikkara, Arch Lalith M. De Silva, Mr Sarath Piyadasa and CEO Mr. Dakshitha Thalgodapitiya. Number of wide ranging issues were discussed.

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Seminar on the Development of Domestic Consultancy Services

CCI President Deshabandu Surath Wickaramsinghe Addressing the Seminar on the Development of Domestic Consultancy Services.

Mr. John Cooney Country Director Asian Development Bank is also in the Picture

Editorial

THE POLICY DOCUMENT REQUIRES VISION

We take this opportunity to commend the new Minister of Housing and Construction Industry, Hon. Ferial Ashroff, for swiftly responding to the request made by this Chamber. We note that the new Minister has referred the draft National Construction Policy and the Draft Construction Industry Act to this Chamber for our comments. We are using this column to re-emphasis that a Construction Policy is required to protect the domestic industry while satisfying the socio economic needs of the country.

The domestic construction industry also includes construction workers. The social responsibility of the industry does not limit to employment generation. It is imperative that the policy statement must include welfare and post employment care of the construction workers. Policy must provide adequate emphasis to the development of an institutional framework that facilitate entry of talented personnel into the industry not only as entrepreneurs but also as professionals and workers. Skills Development and training though have been addressed does not encompass continuous assessment and upgrading, which are essential for maintenance of a cost efficient high productivity yielding workforce.

Productivity is a serious problem that is currently affecting the industry. Therefore, the Construction Policy Statement should specifically address the following issues.

- Environment friendly construction methods
- Improved productivity
- Promote Innovation through Research and Development
- Development of new areas of work
- Improved job satisfaction to facilitate new recruitments
- Capacity and competency building of the consultants and contractors to undertake donor funded large projects and overseas work

Though the policy document deals with optimum utilization of available resources, with the natural resources forming the core of construction inputs fast depleting, development of alternate resources should be given highest priority. Had the Construction policy focused attention on these aspects, present crisis in the industry arising from shortage of river sand could have been well avoided with alternative material being introduced. Restricting the use of naturally scarce local resources, ensuring environment harmony and ecological balance should be specifically embodied in the policy document.

The construction policy on principle must focus on standardization and banning the use of inferior material. All construction material and products used, should strictly comply with pre - determined quality standards. The Policy and the construction act should specifically provide for policing the market to eliminate the presence of spurious material. Eliminating such material imports is an urgent necessity.

Much is stated about the controls of professionals in the industry by appropriate professional bodies, but very little emphasis is given to the assessment and control of contractors. In this respect registration alone is inadequate. It is also necessary to address the presence of a large number of non registered contractors in the industry. Inferior performance of such contractors can totally distort the image of the industry.

Industry today requires a regulating authority which should have powers beyond that of an institute or an advisory council, such as the TRC. A school of thought is to have two entities operating independently. One is an institute for training and development and the other in the form of an authority which should be free of business and professional interests. Such an authority should be managed by a few members who will have both professional competency and experience sans business and professional interests.

Large number of issues that have been time and again pointed out by different stakeholders of the industry would have to be included even if such inclusions, amendments and deletions would cause delay.

A policy that has not addressed all issues adequately or an enactment which is defective would have more serious adverse effects than not having a policy or a Construction Act. Both the Construction Policy and the Act should be for the betterment of the industry. Who requires it and for what purpose, needs an in depth study.

We sincerely hope that the new decision makers will not be misled in their eagerness to respond positively. The aspirations of the people who voted them to power must be embodied in the Policy Statement Policy Initiative needs revision in that context should include new thinking. Certainly the Policy document requires vision!

CCI Council Member *Prof. Lakshman Alwis* to head ICTAD

Prof, Lakshman Alwis, a pioneer in Architectural education, has been appointed as the Chairmen of the Institute of Construction Training and Development (ICTAD). Prof. Alwis holds a Bachelor of Arch. degree from the University of Melbourne. He specialized in Environmental design as a Commonwealth scholar in the University of London, conservation in ICCROM Rome on a UNESCO scholarship. He has worked with British Council, JICA and and also with the British Government.

However his most distinguished services have been in the field of Architectural education where he was instrumental in obtaining national recognition for both the Msc. and the Bsc. in Architecture.

He was the Dean of the faculty of Architecture at University of Moratuwa, which he served as Associate Professor, Professor and Senior Professor for considerable period. In further recognition of his services to the University the Council conferred on him the title 'Professor Emeritus' on his retirement.

Prof. Alwis was associated with the Institute of Architects for well over 20 years, as its President in 1987/88 and 88/89. He was 'the Architect' in introducing the now popular annual sessions, work exhibition and forum for the SLIA .

He represented the country at many and international forum including the Commonwealth Association of Architects(CAA), Architects Regional Council of Asia (ARCASIA) and the Union of International Architects (UIA).

Prof. Alwis looks forward to revitalize the ICTAD in order to serve the building industry with leadership and vigour.
The Chamber take this opportunity to wish him the very best in his new assignment.

Chamber Of Construction Industry Sri Lanka

CCI SRI LANKA

We Strive to...

- Be the voice of the Construction Industry
- Provide Management and skills education and training for the construction industry
- Be the promoter of services and business opportunities for the Chamber Members
- Catalize the formation of construction consortia
- Disseminate information for the Chamber Membership
- Facilitate market research and promote foreign collaboration
- Promote Public / Private Partnership for Infrastructure and related projects
- Initiate the pension, health and retirement benefit plan for the construction industry

Invitation to Professionals in the Industry

The Chamber has Provision in the Constitution to admit Construction professionals who have served the country with distinction, as Individual Members. Eminent professionals like Eng. M. Chandrasena, Dr. A.N.S. Kulasinghe, Prof. Dayantha Wijesekara, Archt. Ranjan Nadesapillai and Archt.V.N.C. Gunasekera, have already joined the Chamber membership. In keeping with the high standards the Chamber follows in its endeavours it would be of immense importance to harness the talents of such individuals to enrich the collective decision making process to render the best possible services to the Industry.

CCI New Member

Vista Engineering & Trading (Pvt) Ltd.
No. 472, Lake Road, Boralesgamuwa.
Tel: 4308377-8
Fax: 2516498
Mobile: 0777-366566
E-mail: vistaeng@slt.lk

Gunathilake Construction (Pvt) Ltd.
No. 421, Rajagiriya Road,
Rajagiriya, Sri Lanka.
Tel: 2873135/6, 2872119
Fax: 2873136, 2887103
E-mail: gunc@diamond.lanka.net

The Myths of Project Management as Practiced in Sri- Lanka Today

By, Prof. Chitra Weddikkara
Department of Building Economics University of Moratuwa &
Miss Menaha Shanmuagam
Lecturer Department of Building Economics University of Moratuwa

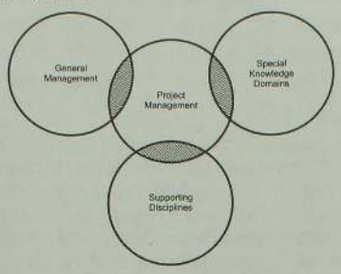
Abstract: Project Management has existed since man built his first shelter, but still there is no universally accepted definition for Project Management. The main aim of this article is to make the construction industry aware what is exactly meant by a project management. What is being understood as project management here in Sri-lanka is either Construction Management or Contract Administration. The main reason for this is the lack of public awareness on this subject. The Project Management in this article refers to the management of construction projects

.A Project: Projects are initiated to bring about change; to attain a desired end result. A wide definition for a project might be: "Any undertaking with a defined starting point and defined objectives by which completion is identified".

A Project Management: There are many definitions for Project Management. In simple terms it is managing the projects from inception to completion. According to one Project Management Institute, the discipline of project management can be defined as *"the art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost, time, and quality and participation satisfaction"*. Because of the nature of a construction project the project management is generally distinguished from the general management of business and industrial corporations. There are sufficient similarities as well as differences between the two so that modern management techniques developed for general management may be adapted for project management. Therefore the management of construction projects requires knowledge of modern management as well as an understanding of the Design and Construction process.

Components of Project Management: Any project has three main components; they are scope, budget and schedule. It is important that all the three must be clearly defined. The term scope represents the work to be accomplished, i.e. the quantity and quality of the work. Since this defines the work to be accomplished it should be the first task in the development of the project, prior to the development of either the budget or the schedule. Budget refers to costs, measured in monetary value. Schedule refers to the logical sequencing and timing of the work to be performed. Therefore in any project the scope, budget and schedule must not only be well defined but also must be linked together since one affects the other, individually and collectively. The quality of a project must meet the owner's satisfaction and is an integral part of project management as illustrated below.

Basic Ingredients of Project Management: For a person to manage a project effectively he should have a working knowledge of general management and familiarity with the special knowledge domain related to the project concerned. Supporting disciplines such as computer science and decision science may also play an important role. These basic ingredients for a project management may be graphically represented as follows:



Functions of Project Management: The functions of project management for construction generally include the followings:

1. Specification of project objectives and plans including description of scope, budgeting, scheduling, setting performance requirements, and selecting project participants.

2. Maximization of efficient resource utilization through procurement of labour, materials and equipment according to the prescribed schedule and plan.

3. Implementation of various operations through proper coordination and control of planning, design, estimating, contracting and construction in the entire process.

4. Development of effective communications and mechanisms for resolving conflicts among the various participants.

When to start Project Management?: Most of the clients in the industry use the word Project Management loosely. Therefore as academics it is important to make the construction industry as a whole which includes clients, corporate public and the general public, aware what is defined as Project Management. Managing the project only during its execution cannot be referred as Project Management. It can be said either construction management or contract administration. The project management should start the very moment a project is initiated by a client. The appointment of a project manger should be done at the very beginning so that he will utilize the expertise to get the work done in time, within budget and at required quality.

What to manage under Project Management?: Having properly managed certain manageable areas a project manager can ultimately manage the whole project. Basically he should look into the following areas.

Project Integration Management: The effective coordination between various project elements is ensured by integration management. The efficient utilization of labour, material and plant should strongly be pursued in a good Project Management practice. Improvement of labor productivity, material handling and the use of new equipment and innovative methods has made possible wholesale changes in construction technologies and thus create a cost reduction.

Project Scope Management: This is to ensure that all the work required and only the required work is included under scope. Defining the scope for a project is not a simple task which should be done very carefully. Failure in properly defining the project scope will result in project failure.

Project Time Management: Time management refers to provide an effective project schedule. Scheduling is very important because it brings together project definition, people, cost, resources, timing and methods of performing work to define the logical sequence of activities for the project.

Project Cost Management: This identifies the resources needed and maintains budget control. Budgeting is important because it establishes the amount of money the owner will spend to obtain the project and the amount of money that the design and construction organizations will be compensated for performing the work.

Project Quality Management: The process is to ensure that the project would satisfy the needs for which it was undertaken. Clients expect their building to achieve a minimum standard of quality. Success of the project, which basically refers to satisfaction of client's needs, is achieved only through a proper quality management. The needs of the client can be defined in terms of function, safety, economy, running or maintenance cost, flexible to uses time and quality.

Project Human Resource Management: Construction industry is an industry where many personnel from various disciplines are involved. Managing those human resources is really a challenge for a project manager. It is his responsibility to effectively employ project personnel and make them coordinate with one another without any disputes.

Project Communications Management: The effective communication between the stake holders is very crucial for a project to be successful. That is why the communication management exists which is to ensure effective internal and external communications.

Project Risk Management: The process concerned with identifying, analyzing, and responding to project risks. In an effective risk management process the risk factor, the indicators, the impact on project are to be identified and action has to be taken to avoid or to mitigate the impact.

Project Procurement Management : This is to obtain necessary resources from external sources. It is vital that clients make the correct choice of building procurement method in an increasingly complex situation, with wide range of objective criteria and procurement systems. It is also necessary to select the appropriate system to suit the project requirements.

Project Information Management: Construction projects inevitably generate enormous and complex sets of information. Effectively managing this bulk of information to ensure its availability and accuracy is an important managerial task. Poor management will lead to project delays, uneconomical decisions, or even to the complete failure of the desired facility. With better information, a manager can identify the potential problems at early stages and can take alternative actions to overcome such issues. Both project design and control are crucially dependent upon accurate and timely information, as well as the ability to use this information effectively. At the same time, too much unorganized information presented to managers can result in confusion and paralysis of decision making.

Who is a Project Manger?: The project manager is a person with the above special skills in management with a multi-disciplinary team supporting him and advising him from inception to completion on the various aspects of the project so that aims and objectives of the project that is Time Cost and Quality are maintained at all times.

Conclusion: Having discussed the essential of Project Management in construction it is important that the clients, public or corporate, envisaging the use of Project Management as a mode of managing their project know the avenues available for them to get the right kind of information. The Institute of Project Managers in Sri Lanka and the Association of Project Management of the Sri Lankan Institute of Architects (SLIA) are contact points for clients if they are to gain knowledge on the practice, the personnel or the companies that practice project management in Sri-Lanka.

Alzheimer's Foundation Appeals for help !

The Sri Lanka Alzheimer' foundation has sought the good office of the CCI to get their message across to our membership and to other concerned individuals with the view of conducting a shramadhana activity to renovate, construct, equip, and furnish the National Center for Dementia Care.

Alzheimer is a decease connected to ageing. It is estimated that there are 18 million people, around the world who suffer from this ailment and the late American President Ronald Reagan was one of those. The population in Sri Lanka is ageing rapidly with probably one of the highest incidents of ageing in proportionate terms in the world. 250-300 persons celebrate their 60th birthday, every day. It is possible that 10-15 of those persons will be afflicted with ARD,

Alzheimer's vascular dementia, a sickness associated with memory loss during advancing years, affects the physical brain which results initially in short term memory loss. Dementia is meant to cause an epidemic globally over the next 40 years. America and Australia have publicly declared the epidemic status. It is rather an epidemic of ageing than of dementia rising exponentially with old age. It affects about 5% of people over the age of 65;

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Construction Minister invites professionals to be more participatory in 'Policy making'.

"It is true that ever since the independence we have had invisible walls around us. We are very comfortable in the rooms that we have built for ourselves. Isn't it time that you came out to involve yourselves in the Policy Making process of this country? We, from the Ministry of Housing, Construction Industries etc. etc. sit there awaiting your response, your support, to bring this country to a better standards and also expecting that you would one day take the chair that I am in now", observed the Hon. Minister of Housing, Construction Industry, Eastern province education and Irrigation development addressing the forum that followed the Annual General Meeting of the Chamber of Construction Industry.

The Chamber of Construction Industry held its first - post incorporated, Annual General Meeting followed by a Forum on the 11th of July 2004 at the Sri Lanka Institute of Architects auditorium. Hon Ferial Ashraff the Minister of Construction, Housing, Eastern Province education & Irrigation development graced the occasion as the Chief Guest while Mr. John Cooney, the Country Director of ADB was the Guest of Honour.

Hon. Minister Mrs. Ferial Ashroff in Conversation with Eng. Sarath Piyadasa during the fellowship that followed the AGM - Forum. Also in the Picture are Mr. S. N. Wijepala, Arch. R.Widyalankara, Arch. Lalith De Silva and Prof. Balasuriya

The notice convening the Annual General Meeting was read by the Honary Secretary at 5.30 pm and the President commenced the AGM welcoming the Council, Individual and Corporate members of the Chamber to the first post incorporated AGM of the Chamber. Mr. Rukshan Vidyalankara, the Honorary Secretary, then presented the Annual report detailing the progress made by the Chamber during the past one and a half years. The report was adopted. The audited Accounts of the Chamber from 1st Oct.2002 to 31st March 2004, which were circulated to the members in keeping with statutory requirements were then presented and adopted by the membership. Messrs Wijeratne & Co were retained as Auditors for the next financial year.

The Forum commenced at 6.30 pm with the arrival of the Chief Guest, the Guest of Honour and the special invitees. The distinguished guests, the special invitees and the council members inaugurated the forum by lighting the traditional oil lamp. The CCI President Deshabandu Surath Wickramasinghe then addressed the gathering and the full text of the President's speech is reported in page -7. The Hon. Mrs Ferial Ashraff, addressing the gathering further mentioned that, " As the Minister In charge of the subject of Construction Industry, I am happy to have been able to initiate close links with the Chamber through discussions which we have already commenced. I was fortunate to meet a representative delegation of this Chamber at my Ministry, where a very open discussion was held. The chamber raised a number of issues pertaining to the Construction industry in particular and National Development in general.

As the first step in this regard, the Ministry has commenced formulating a National policy on construction. The draft is now ready and it will be put to the think tank of the ministry before it is presented to the Cabinet. I am glad to say that we have also included this Chamber in the think tank of the ministry by making provision for a representative. The need for a regulatory mechanism in the construction industry has been a long felt one and this will be addressed by getting the Construction industry Act by passing a bill in Parliament in the near future. We also noted your request to have your Chamber represented wherever possible in committees & statutory boards relating to the construction projects.

We, of the Ministry find this to be a very reasonable request and since we also believe in involving the private sector in our projects I am happy to say that we are making all efforts to accede to this request. We also recognized the fact that the members of the domestic construction industry, more specifically the consultant's and Contractor's interests should be safeguarded and possibly be given preferential treatment in locally funded projects. We also brought to the notice of those concerned about the big contracts being awarded to the foreign constructors at the expense of the local constructors.

Your suggestions to tackle this issue without affecting foreign investments will be most welcome. It is true that the construction industry has enormous responsibility by the people and the government has an equal responsibility in helping to develop the construction industry. If the goals set by the government are to be achieved, the private sector and the public sector have to be combined in improving the standards of our constructors. In other wards capacity building of constructors is another aspect in which the Ministry is very much interested and we are making all efforts to get more teeth to act in this regard.

We have already taken up the matter of separate banking facilities for the construction industry. As a start, we have already made arrangements to have a representative from the financial sector included in the think tank whereby we would be able to give more material to the government to set up this facility.

The crisis situation in obtaining river sand for construction was also another issue taken up by the ministry at your request. I am glad to say that we have obtained the approval of the authorities concerned to look in to the feasibility of obtaining alternatives, also as a immediate measure of relief the ban on river sand mining has being lifted temporally. Here, I request you to examine the possibility of off shore sand mining and provide us with suitable recommendations for implementation as a long term sustainable project. Ladies and gentlemen, I must state that the State recognizes the important role of the Construction industry in general and the role of your chamber in particular is playing in the national economic development of our country.

Construction as we all know is a forerunner of economic development and therefore the importance of industry needs no emphasis. May I also at this point of time remind you of the social responsibility of the industry and request you very seriously to look in to the possibility of setting up a Zest fund for the homeless thousands in Sri Lanka and also helping in setting up a training facility to develop the construction related jobs to a much higher level. On behalf of the Government I take this opportunity to reiterate the importance we attach to your industry and are commitment to the domestic consultants and contractors. This has been made clear by Her Excellency the president by creating a Ministry for the Construction industry this time.

These, as you know, I have written out my thoughts and have been reading it all out to you but having listned to Mr. John Cooney today I think I have to go a little beyond this paper and share my thoughts with you. The picture that was given to us about the development of this country specially, about the infrastructure development and how we have done almost nothing after the independence, specially in the economic hub of the country.

I was very interested to note the details, statistics Mr. John Cooney was giving us. I would like to address you on this regard. Being a politician it was nothing but right for me to say something in this regard and I feel, it was very nice to hear him telling you all this, but I would like to pose this question, what do you intend doing about it?. Isn't it time you came out to involve yourself in the policy making process of this country? It is true that ever since independence we have left politicians a side, the professionals aside, the villagers a side, the ordinary man a side and in my humble opinion, I feel a man who comes up as a legislator is a person who is going to take the country forward and should be some body who has met the basic needs, who has the basic needs as we call them, the social needs, the emotional needs and all that completed, then he comes up to help the country forward. But look at what is happening here in Sri Lanka.

The people who have all these needs met, are quite comfortable where they are and they are going further making themselves more and more comfortable whereas we find people coming in as legislators who do not have the basic needs and who come up to that position in order to fulfill the basic requirements. I mean isn't this, what is happening in Sri Lanka and are we all not, ladies and gentlemen responsible for this. How could we sit a side and listen to these details be given to us listen to all these statistics, go home sit there on comfortable chairs and criticize whoever is preparing our policies.

Isn't it time that we brought in an attitudinal change in ourselves, not in others. Let us change ourselves, let us change the attitudes we have towards our country. We all love to tell each other that we love our country very much. But, think of what we have done for our country in return. It is true that we have got good education, most of it free we are very comfortable ourselves, our children are doing well and we look forward to even looking after our grand children but what have we done in terms of our country.

It was very sad for me to sit here and listen to the details, statistics being given by Mr. John Cooney. I mean he was telling us about the infrastructure development, it is true that we are unable to bring agricultural produces of our farmers to the cities, to the town close by, because we do not have the facilities to bring them there. We do not have roads, it is true the Mahawelli Development brought about some roads but, is that all we need. So think about it. I think I will take this opportunity to invite all of you to look further in to this problem. You can not keep away from this arena of politics any longer. You can not afford to sit back and say, well we do not belong there and it is for somebody else to do it. And then you elect the people we elect the people who go up there and then it is not right to sit here and criticize. So, once again this as a politician I invite all of you. Who have come up in life, you have something to give this country in return, join up where the policies are being made.

In this construction Industry a highly male dominated area as the Minister there I am a woman and the chief accounting officer, my secretary also a woman. We sit there awaiting your response, your support to bring this country up to better standards and also expecting that you would one day take the chair that I am in now. So that you are able to bring better results for this country to see and let us all again get together to build a better and peaceful Sri Lanka".

The Hon. Minister speech was followed by brief address by Mr. Peters Spirig Managing Director of Holcim Lanka Limited, strategic partner of CCI with a video presentation titled "Power of the Dream". The AGM/Forum concluded with cock tails and fellowship.

CCI ANNUAL TECHNICAL SESSIONS & TRADE EXHIBITION - 2004

9th and 10th of August 2004

HOTEL COLOMBO PLAZA

Trade Stall - in the Atrium Area -100 Sq Ft Rs. 40,000/=

Trade Stall - in the Grand Ballroom -250 Sq Ft Rs. 100,000/=

Sessions:

9th August 2004: Alternatives to River Sand for Construction Purposes

10th August 2004: Suitability of Concrete Roads for Local Traffic & Weather Conditions

NOTE: 2000 Guests are invited from the Domestic Construction Industry and Infrastructure Development Sector to visit the Trade Exhibition

Inquiries: Ms. Kosala Wijeratne
Tel: 2577812, 2577815 or 2577816
Fax: 2577816
E-mail: dakshi@sri.lanka.lk

The CCI President Calls for Urgent Attention to avoid an *'Urban Nightmare'*

The CCI President Deshabandu Surath Wickrenasinghe addressing the forum which followed the AGM said that "The time is opportune to alleviate the quality of life of urban and rural poor. The latter involves cross sectoral initiatives, several of which are within the expertise of our membership and could be undertaken by them. The former needs the Government's urgent attention to avoid an 'urban nightmare'". Excerpts of Mr Wickranasinghes speech are given below, "On behalf of the Chamber of Construction Industry, Sri Lanka, I am delighted to welcome our Chief Guest Hon. Ferial Ashroff, Minister for Housing, Construction Industry, Eastern Province Education and Irrigation Development".

I wish also to welcome Mr. John Cooney, Country Director, Asian Development Bank and all our distinguished guests and members.

Our Chief Guest Hon.. Ferial Ashroff, we welcome her for several reasons.

1. She is the first Minister for the Construction Industry to attend a function of our Chamber and the first Lady Minister to do so.
2. She also inaugurated today the first Forum of the Chamber.
3. We found that in this short period she is genuinely trying to promote the Construction Industry.

Mr. John Cooney needs little introduction to the members of the Construction Industry since he is closely associated with us on several projects. Mr. Cooney supports our Chamber and has confidence in the competence, skills and expertise of our membership.

One good example is his endorsement of the decision to employ local contractors to rehabilitate and reconstruct the A-9 Road deviating from the traditional tender procedure. Consequently today the A-9 Road is a reality. The projects supported by him are wide and varied and range from housing to soft and solid infrastructure not only in the South but also in the North and East and in the rest of the Country. John is scheduled to leave Sri Lanka shortly and no doubt Sri Lanka and the Construction Industry will miss him, and we wish him good luck and best wishes in his future endeavours.

The Chamber of Construction Industry is the apex body of the Construction Industry. It has brought together all stakeholders of the Construction Industry under one roof, becoming its single voice, the objective for which all Institutes and Associations of Construction Professionals started this Chamber. It is a unique Chamber representing the Allied Professional Associations of Consultants comprising Surveyors, Valuers ,Insurers, Quantity Surveyors, Architects, Town Planners, Consulting Engineers, Contractors of the National Construction Association of Sri Lanka, Suppliers of Building Materials, Manufacturers of Building Materials, and other Service Providers to the Construction Industry.

The Chamber of Construction Industry is under 3 years in existence. During this short period, we have achieved considerable prominence and recognition, not only by the Government, Private Sector and Multilateral Funding Agencies, but also from both the Print and Electronic Media who seek our views and comments regularly. Today it enjoys Consultative Status with multi-lateral development banks and donor community as well as Government and para-statal Agencies. We have succeeded in convincing the authorities to recognize the Construction industry as an important economic activity.

Our corporate membership presently stands at 120 which is a considerable achievement far exceeding the regular membership of several business and trade chambers.

I wish now to take this opportunity to thank two of our founder member associations, particularly the Sri Lanka Institute of Architects and the National Construction Association of Sri Lanka and the Presidents and Councils of their respective associations for giving the Chamber not only financial assistance, but also support and encouragement in numerous ways to establish a "Business Chamber" for the Construction Industry.

The Construction Industry plays an important role in the national economy and employs a work force between 700,000 to 1,000,000. Yet the Construction Industry has had a rather traumatic period for the past 8 to 10 years with less and less work. Both Consultants and Contractors, particularly the Contractors, have had a rough time. They have bought Machinery and Equipment worth millions of rupees and these remain under utilized. In addition payments due from the government for work done several years ago have also not been settled.

We in the Construction Industry are at present therefore concerned regarding our future. We have been engaged in the process of facilitating the Government to formulate a National Construction Policy and relevant legislative enactments encompassing the needs of the Industry and its stakeholders. This Chamber has a fundamental responsibility to safeguard the interests of the members of the domestic Construction Industry. It is committed to ensure optimum utilization of its resources to develop an efficient and sustainable Construction Sector, an objective of this Chamber.

We feel that through continuous representation, we have now succeeded in initiating a creation of an environment conducive to the growth of a vibrant domestic Construction Industry. We have identified the need for capacity building and institutional development of both Consultants and Contractors. We are actively pursuing this exercise for which we did receive assistance from the ADB for the upgrading of domestic consultancy services. We are hopeful that the ADB will also come to our assistance by supporting a similar program for the benefit of the Construction Contractors.

We do recognize that the private sector has to be socially responsive. We recognize that we have a social responsibility towards employment generation and poverty reduction. If Sri Lanka is to achieve the millennium development goals, the Construction Industry has a definite role to play, which obligation we wish to discharge with particular reference to housing, water supply and sanitation and road transportation.

The Chamber has also recognized the need to look after the large labour force attached to the Construction Sector, towards their welfare. We have introduced an Insurance Scheme which provides multiple benefits at very nominal cost.

Since the Construction Sector is not considered to be a qualifying industry for SME and concessionary financing, we have also advocated the need to establish a Construction and Infrastructure Development Bank. The requirement here is not confined to issues of Guarantees, Provision of Overdrafts and Loan Facilities only. What we require today is an investment/development banking facilities capable of generating new projects to facilitate National Development and benefit the domestic Construction Industry.

This Chamber has assimilated data and information regarding finding solutions to the problems of shortage of sand for construction purposes. We have advocated strategies to suit the needs of each Province. However, we find that as a long-term solution for problems of sand particularly in the Western Province, there is no other substitute for off- shore sand mining through mobilization of dredges. We wish to advocate that a specialized Dredging Agency be promoted as a Public Private Partnership to undertake dredging activities.

The Chamber of Construction Industry is fully aware regarding the prevailing economic situation of the country. We are also aware that the Peace Process is an essential prerequisite for the Multilateral Funding Agencies and the Donor Countries to make available their financial pledges.
It is tragic that while the minority communities in the North and East are uniting, we in the South are splitting hairs and squabbling over minor matters. The people in the South must also be united and speak with one voice to strengthen their stand on the Peace Process. As a way forward, we believe that the Government and the Opposition or the Opposition and the Government should arrive at a consensus in a very short time span of 3 to 6 months to jointly work towards recommencing the Peace Process with a serious commitment to find a solution. It is only then that a lasting solution could be found. This will lead to a consensus and a final solution for the well being of all Sri Lankans and Sri Lanka.

Having said these, we wish to draw the attention of the new Government to a serious issue of professional disenfranchisement occurring to the detriment of the domestic Construction Sector. This is about the illegal infiltration of foreign personnel in local Construction Projects Will the government give marching orders to the foreign Consultants and Contractors who are openly abusing the laws of the country and under false pretenses obtaining jobs due to the local counterpart at a time when there is a scarcity of jobs. Can we for example go to their countries, whether it be Singapore, UK, China or any other country and work without Work Permits. NO! We would be locked up.

We therefore appeal to the government to take immediate action to deport these fly-by-night professionals and contractors. They are not good for Sri Lanka and not good for the Construction Industry.

There is a case of an Architect who arrived in Sri Lanka during the tail end of the Twin Towers Construction as a Site Architect a few years back and now advertises in the web as being responsible for its Project Management. He has also given information to the BOI that he is going to export Professional Services in the areas of Project Management, Architecture, Environmental and Engineering from Sri Lanka. To make matters worse our BOI has stipulated that provided 70% of the Professional Services are exported, 30% local work is permitted. There are several others carrying out businesses in Sri Lanka illegally, both Consultants and Contractors. They get away very often due to their very strong and very high political connections.

We must now look at alternative paradigms for kick-starting the Construction Industry. The most fundamental is that of Solid Infrastructure.

We are happy that the new Government has assigned high priority for the Power Sector. It is equally fortunate that the Southern Expressway will continue to receive its fullest support until its completion. We urge that the work of the Committee of Experts which was appointed to prepare recommendations for the development and improvement to the National High Mobility Network be required to complete its assignment. The time is also opportune to alleviate the quality of life of the urban and rural poor. The latter involves cross-sectoral initiatives, several of which are within the expertise of our Membership and could be undertaken by them. The former needs the government's urgent attention to avoid an 'urban nightmare'. Even our friendly neighbour, India, has in its Common Minimum Program committed to a comprehensive program of urban renewal, paying particular attention to the needs of slum dwellers. This is the positive way forward for our cities. Most developed countries and the new developed countries like Singapore and Malaysia have achieved their success through Urban Regeneration. Unfortunately in Sri Lanka, the politicians and the bureaucrats have not yet given Urban Regeneration the due recognition.

With Urban Regeneration, Urban Sprawl reduces, jobs are created and new business opportunities emerge. More housing gets built particularly in relocating slums and shanties without any cost to the government. The security and problems of traffic, parking and transportation are improved. Environment with open spaces for leisure and recreation are created and the environmental pollution will also be drastically reduced. These are some of the benefits that the cities would enjoy through regeneration.

Our Chamber stands firmly to work in Partnership with the Government in delivering upon its development program. We too share in its commitment to bring tangible benefits to the people of this country as the Construction is the sector is that provides the most rapid way to employment, skills and incomes. I wish to conclude by once again thanking our Chief Guest Hon. Ferial Ashroff and Mr. John Cooney and all of you for having accepted our invitation to attend this inaugural Forum of the Chamber of Construction Industry, Sri Lanka.

Prime Minister Assures Cooperation

Cont... from Page 1

on a provincial basis giving alternative sources of sand with a proposal to establish a specialized company to undertake dredging as a Public Private Partnership, was forwarded to the Prime Minister at this meeting.

The Prime Minister also agreed to consider Construction Industry as a distinct industry, eligible for concessionary funding and to set up a specialized financial institution for Construction and Infrastructure development to provide financial support for generation of work and growth of the Construction Industry.

The Hon. Prime Minister offered his fullest cooperation to the Construction Industry and requested the Chamber to maintain a dialogue and follow up the issues that were raised and meet on a regular basis.

What is Work?

Jayadeva de Silva
M.Sc,MBIM,FITD,FIPM

Mr. Jayadeva de Silva obtained Master's degree in Science from Russian Friendship University Moscow and Diploma in Personnel Management from National Institute of Business Management. He is a fellow of both the Institute of Personnel Management and Institute of Training & development. He is also professionally qualified in training systems & curriculum design with an ILO fellowship.

A strong advocate of Human Talents Development, Mr Jayadeva de Silva is the principal consultant of humantalents unlimited, a professional practice that provides training & consultancy in Management.

Work is the use of energy, skills or personal resources to bring about desired results in an undertaking, enterprise, endeavor, or job. All work can be meaningful, if you approach it with the right attitude (with respect for work). Some people may feel that they have wasted time in unrewarding work-related tasks. It does not have to be that way, if you can find the meaning that position may hold for you. Often, when we have a job we don't particularly like, we become depressed. Many people think it is "beneath" them to perform the menial tasks in life. But all work is valuable, and perhaps you were meant to have that experience, so that you could learn a skill or personal quality that will be helpful to you in the future.

Buddha said, "Right livelihood is work done consciously with pure intent and service." The work that is performed is a direct reflection of society's standards and values, which gets filtered down to the individual we do the work that is available, which is the work that is viewed as important. For instance, we used to think that manufacturing products was a priority. Now we think servicing customers is a priority. As society's values become more complex and differentiated, people are deciding for themselves what work needs to be done and then creating their own opportunities. I think it is safe to say that work in the 21st century is in the process of re invention. For example, for a long time "society" did not think conserving and preserving our natural resources was important, but now tens of thousands of people have created their life's work based on environmental issues.

In the Industrial Age, the richest person in the world owned natural resources. In the Information Age, the richest person in the world owns information/knowledge. And the business of retrieving, storing, and disseminating information is what our high-tech, cyber world is all about. From the farms to the factories, work meant long hours and hard labor in exchange for the feeling of a job well done and a paycheck. Today, people are getting very rich who have put in very little (if any) blood, sweat, or tears into their daily work. Thanks (or no thanks) to the Internet, companies are going public at The blink of an eye and twenty-one-year olds are becoming instant millionaires. Obviously, this new worker has put to rest the old idea of "working hard pays off."

Now more than ever, what is work? is an interesting question because all of our ideas about what is important and how to "make it" in the world of work are changing. Our ideas about how one should earn a living are changing. In the "good ole days," it took a long time to earn a fortune. Nowadays, we live in a get rich quick world, where people spend millions upon millions of dollars on lottery tickets and hope to get on game shows with ordinary people becoming instant millionaires.

What is Your Concept of Work?

Defining 'what your concept of work' will enable you to create your life's work. Stop and think about the who, what, where, when and why do you want to work? And try to consider what would be a healthy fit for you? Be sure to consider your life vision and life purpose statements when you answer these questions.

Who do you want to work with?

Children, teenagers, adults? Upper, middle,/ or lower class? Similar or different background?

What kind of work do you want to do?

Self Employed: Work at home or at an office? Travel?

Organization Employed: Small, medium, large? Corporate? Non-profit?

Project-Employed: Free-lance? Contractor? Consultant?

Where do you want to work?

Inside or outside? For a small company or a big company. In a big city or small town?

When do you want to work?

Day or night? Full-time, part-time, or temporary? Year round or seasonal?

Why do you want to work?

For the challenge? Money/benefits? Opportunity to share your gifts?

Of course keep in mind your overall lifestyle. How much money do you need to earn in order to live the kind of life you want? The smart thing to do is to live within your means and create a career that allows you to have the time to enjoy other things in life.

What Most People Need From Work are:

A sense of meaning in the work they perform

Appropriate challenge and stimulation

A work environment that adds to their overall life happiness and balance between autonomy and support

The opportunity to apply their KSA's (knowledge, skills, and abilities)

Appropriate feedback and recognition (either from a supervisor or customers)

Fair pay, benefits/perks

Enjoyable work activities

Professional development opportunities

Do You Work to Live or Live to Work?

What kind of worker are you? Someone who has a balance between working and living? Or are you a workaholic? As spiritual beings, we are meant to seek happiness. Fulfillment comes from many sources, work is simply one of them. Is it important not to let society's standards of the 50-60 hour work week dictate how you work.

We as executives need to learn to relax without feeling guilty about it All work and no play is making us dull. Due to overwork and more time constraints, we are not fully living or working at our peak potential. . We want to direct our destiny and be the master of our domain, which can be helpful in most cases. But when we go against nature, we go against ourselves. When it comes to modern career development, We advocate "becoming," which is a lifelong process of following your intuition and keeping your skills updated as the best way to stay employed. But most career development programs and counselors focus on what "job" or "title" you want to hold. Just look at the pressure we put on children to be productive, and to make major decisions and choices. It is somewhat frightening that as early as nine or ten, we ask what little Nimal or Seetha wants to be when he/she grows up. Some of the most interesting people we have met who are in their 50's and 60's still haven't figured that one out!

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School is another place where career plans and expectations are forced on young people. Having worked with university students, I cannot tell you how many of them choose majors and careers because of parental pressure, rather than basing it on what felt right to them. What is going on here? Does it really matter if you don't know exactly what you want to do in the world of work while you are still in school? It is a time for exploration and discovery, not limiting, premature career/life decisions. The fact is most people will not be staying in the same job they had when they first got out of college. But if they haven't learned how to become, then they will continue to believe they have to choose one thing. Sad to say, grownups don't get much of a break either. Adult students, who enter in to university to finish a degree, seldom do so because they want to broaden their horizons, but rather to get "a better job." The mindset here is that a better job leads to a better life, which may or may not be true. Believe it or not, it is o.k. not to have everything figured out about life! The best we can do is to stay centered in who about life! The best we can do is to stay centered in who we are and what we have to offer, and feel positive about the uncertainty of life. We put too much pressure on ourselves to know exactly what we want and how to get it to have all the answers. What we should be cultivating in our children is a different focus. Instead of concentrating on what they want to be, or what we want them to be, let's focus on helping them realize who they want to become. The question really comes down to not the "how" of work, but the "why?" There are two main applications.

1. The Practicality of Work

When Humans are at Work, we work:

To provide service to others

To provide sufficient financial support to live our lives comfortably

To create products and services for our consumption

Because the world is changing and we are experiencing shifts in demographics and economics, and becoming a more global society with an emphasis on technology we have to consciously decide what kind of world we want to leave our children and grandchildren .People who work with half a heart and/or only for the end result (the pay-check) are not only doing a disservice to themselves, but to others as well.

2. The Spirituality of Work

When our Spirit is at Work, we work:

To express our soul

To elevate the state of society, so we can enjoy the fruits of our labors

To move us forward on our path towards enlightenment

Where there is a large majority of underemployed people, it negatively impacts on society as a whole. Human beings need to feel they are giving and sharing with others in a meaningful way, which means all people have an inherent need to do some kind of work. People who work with passion and presence are soulful workers because they share their full selves with others, no matter what work.

Ralph Waldo Emerson once said, "The one thing in the world of value is the active soul." In other words, a person who is actively living, working, and loving in this world is making a real contribution. How can we contribute to a better workplace? How can we bring more of our Spirit to our work? By sharing more of our real selves with others, by being aware of what our purpose is, and by doing our work in a loving way. If part of our mission is to evolve to a higher level of awareness of being by learning important lessons, then we need to become more aware of the power of choice. Sometimes we may choose to learn our lessons the easy way, sometimes the hard way. In work, we have inevitably learned our lessons both ways. When we consciously create our life's work, our soul has the opportunity to learn more meaningful ways to express itself.

As enlightened beings, we will not confuse our job or titles with who we really are. We will know that our Spirit is meant to learn and experience many things, and that everything in life is temporary as Lord Buddha said (even a bad job or situation). We will realize that

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Thank You Mr. John Cooney

By CCI Editor

Mr John Cooney, the Country Director of the Asian Development Bank, who is no stranger to those of us involved in the Construction Industry, is leaving us after having rendered yeoman's service to this country for a period of over four years. The CCI could not have invited anybody more appropriate to deliver the key note address at its AGM held on the 11th of June 2004. Having obliged the CCI, the Country Director of the multi lateral funding agency made full use of the occasion to deliver a message that could be called a 'telling reminder', not only to the entire construction community in particular but also to the country and its leaders at large . What is unique in Mr. Cooney's speech is that it covered the entire gamut of what we call are the 'pressing problems ' of this country in relation to the construction activity and the development of basic infrastructure. It is not that the Chamber and the professionals in the local construction industry had not been mindful of these facts but it was Mr. Cooney's logical presentation convincingly linking different crisis areas of the country to the development of infrastructure in the country that made his speech so unique.

Foreign investment is often perceived and pursued as a solution to the country's problems in solving the lack of employment opportunities and technology update. We have enacted a number of laws with sometimes unbelievable tax concessions to attract foreign investments. Yet our success rate in attracting foreign investment has not matched the efforts, different Governments have made in earnest. The key here as Mr. Cooney rightly pointed out, is that our infrastructure is not as attractive as those of our competitor's namely Thailand, Malaysia, Indonesia and even Cambodia. "I am a strong believer in the fact that Construction is the basic component of our civilization and if you don't have a viable act towards the construction sector there is nothing much else works from that point onwards". "All countries need good infrastructure. Sri Lanka for whatever reason, reasons of history has not invested wisely. East Asia gave its people free education and free infrastructure, and Sri Lanka Gave its people free education and free rice: so we see the price now" observed Mr. Cooney.

The cost of power in Sri Lanka is three times that of the countries in this region and those countries are in the process of making their electricity still cheaper. The cost of power certainly affects the cost of production of goods in factories in the country making our produce non competitive ,cost wise, in the export market vis a vis those of our competitors. It is even more heartening to note that when you compare such costs of electricity in a country that records 25% poverty, very soon electricity too may be categorized with goods that are called 'luxuries'. What is worst is in spite of repeated warnings by the experts, no initiatives are in sight to remedy the situation on a sector which normally takes 6 years to deliver the goods from the point of taking the initiative.

"Any decision taken today to build a power station is at least 6 yrs. away from generating power that will reduce the cost of power to something sensible", meaning that the cost of power today in Sri Lanka is 'non sensible'. This indeed is a very poor record for a country that was in the fore front of generating hydro electricity some sixty years ago. All this, just for the want of decisions by the powers that be.

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The road network which bears 94% of the country's transport requirement, has not been revamped in keeping with the country's divergent needs. For an emerging country the importance of 'mobility', whether it be people or freight, needs no emphasis. The existing inadequate transport network is making the distance between the point of produce and point of sale, or export, that much longer adding to the cost and hassle. "No matter what the Government, for that matter any Government may do, to alleviate poverty in the UVA province. Nothing will change until those areas are made more accessible". It is estimated that nearly 30% of the agricultural produce of farmers is lost during the transport to the market place. "That level of post harvest loss is due to poor infrastructure spanning other reasons".

The statistics on road safety, produced by Mr Cooney is indeed 'chilling'. To admit that the cost of road accidents in Sri Lanka is half the cost of the conflict in the North East is to admit that the National planners have no sense of direction where the country is heading. We could find ourselves in the middle of more trouble that we did not bargain for in the future. However it is truly tragic that we have split so many hairs and expended so much money in alleviating poverty and ending tragic deaths due to conflicts while we have been neglecting our infrastructure thereby becoming a contributories to the very situations we have been trying to avoid. "Yet nobody notices the fact that nearly 1 ½ to 3 % of the national income is getting disappeared due to road accidents, it is a huge social costs and you look at the comparative figures for Malaysia, 5 people to every 10000 vehicles, Thailand is about 12, Australia 1, Scandinavia is about 5 and in Sri Lanka it is 20. In other words 2500 people per year are killed on the road due to poor infrastructure and poor policing". This is in a country where 94 % of the transport is carried on by the roads.

"The railway based on the statistics I have here with me, it is probably today the most inefficient system in the region. Its wage bill alone is more than the ticket sales, leaving aside the fuel and leaving aside everything else. It is completely beyond redemption on its present management structure and has to be completely restructured. Yet there is tremendous potential. As a public private partnership the rail particularly the urban rail and some freight make a lot of sense".

"The conflict in the North/East may not have been there, or it would have been a lot less if Jaffna was 3 or 4 hours and not 24hours from Colombo". How true! As it is non accessibility that creates non familiarity, it is time that we measure accessibility and thereby the distance in times of hours instead of miles. "There is a distance of mindset and mindset of distance as against the reality of distance".

Mr Cooney made his suggestions for the structural changes and pointed the direction industry has to evolve, " When I first came here in the 1990's I notice one thing that I hadn't noticed in other countries that I had worked in the region. It is that we had a very week private sector and a very dominant state sector and all the work is being done by the international contractors. To me it did not seem a viable way to carry an economy forward and it still does not seem a viable way. It has come a long way since then but yet there is still a long way to go. We from the ADB has helped as much as we can and as Surath mentioned Jaffna Kandy highway through the LTTE controlled areas between Vavunia and Palalai is a case in point where the domestic construction industry has been tasked with what has been an extremely challenging activity…. That was well done by the domestic contractors working under very trying conditions".

Being forthright and candid in his observations and comments, the Construction Bank proposed by the CCI apparently did not find favour with the Country Director, "What we won't do though what we call 'feather bedding'. With respect to Surath we will not be supporting a Construction Bank, for example. Successful economies don't have them. India does not have them and India has got construction coming out of the ears at the moment. Thailand, Cambodia, Vietnam, what you need is lots of money, lots of opportunities. Float around in the work and the rest will pretty well take care of itself."

The most important issue Mr. Cooney was however trying to drive home is the need to come out of short term political decision making cycles and he in his wisdom realized that this is the biggest 'bogey' of Sri Lanka at the present moment. As the pay back period of infrastructure is generally long term, spanning 15-20 yrs., it would not be possible for 'time serving' political leaders to implement long term national projects. "Those are not the only issues. Long term political will and decision making is required. The investors have to be certain that in 15 yrs time the environment will be the same. We have to move away from, and every successful country has moved away from political cycles where everything is erased as never existed and the whole process starts all over again There has to be very active deregulation, including in the labour market, and an improvement in governance".

On the other hand if 'short term' political cycles are inextricable with Sri Lanka, Mr. Cooney suggest that we adopt the Indian National Highway Authority model where the executive authority on national projects works independently of changing political currents.

The ADB Country Director projected that, if the country is to absorb its unemployed and move forward the minimum growth rate required would be a GDP rate of 8%. "Difficult? But China is managing. China is now running 8 to 10 % growth rate on an economy that encompasses something in the order of 20% of the world population". However to achieve and maintain an 8 %growth rate an infrastructure improvement of 12 % will be required and that is the challenge Sri Lanka faces right at this moment.

The fact that Mr. Cooney spoke for 40 mts when what he was expected to take was only 15 minutes, turning his speech almost in to a plea, signifies his sincerity and enthusiasm to propel the authorities in this country to do what has to **be done hear and now**. ***It is infrastructure first, infrastructure second and infrastructure third.***

He concluded his speech thus, "In my own perspective, allow me to be personal, and these have been the most fascinating 4 1/2 years of my carrier and I really don't think that I will be engaged in anything as interesting as it has been in my life during the past 4 ½ years". Coming from a man of his caliber we take that as a gloving compliment to the people and this country. Therefore let us take this opportunity to wish Mr. John Cooney all the very best in life. Thank you John for your dedicated services during the past 4½ years, your constructive emphasis, projections and suggestions, which are taken note of and thank you again for the compliments.

RAIN WATER HARVESTING

A blessing from the sky

By Falitha Senanayake

It is human tendency to discount what is available free without realizing that the best things in life and environment have always been free. Rain Water is one such resource that is generally taken for granted but ironically not made the fullest use up to now by society.

Water, no doubt is the essence of life. It is from water that the most primitive forms of life sprang centuries ago and to this date water is associated with the basic forms of life that we may sometimes call 'germs' or 'worms'. Therefore water is a raw material on earth that is in so many ways, interwoven with life to a point that it is difficult to say one from the other.
However environmentalist and scientist are now beginning to realize the potential of 'rain water' which is a form of water often made available to your doorstep and hence there is 'rainwater harvesting' now. What is meant by this is, that rain water is going to be made more 'organized in use for human needs' as against the traditional attitude of allowing rain water to take its own course.

King Parakramabahu the great, had a declared ideal to 'Use every drop of water from the sky before it eventually flows down to the sea'. In translating this ideal in to deed ,the King made a network of reservoirs to collect water for irrigation and other uses. These reservoirs were built across rivers and therefore it may appear that that was a system of utilizing 'river water'. Yet rivers on their own have no water if not for the springs caused by spurts of underground rain water aquifer. Hence rain is the only source of water and there are no such waters as 'river water', 'lake water' etc. Having said that it should also be acknowledged that there is some degree of rain water harvesting already, although this may be in a secondary form and may not be directly from the rain.

Rain spatter the earth, fills ponds, lakes brim, rivers heave but the monsoon is also brief. On an average basis we receive most of the rain in just 100 hours out of the 8760 hours in a year. This however is enough to meet the water requirement on the planet including all the human needs in all their forms.

Why Rain Water

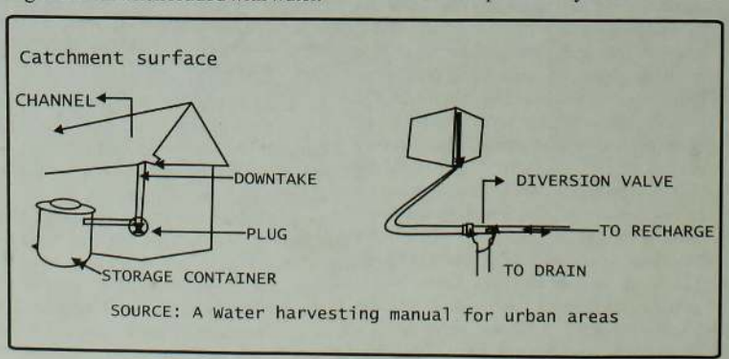
Rain water offers advantage in water quality for both irrigation and domestic use. Rain water is naturally soft, unlike well water, contains almost no dissolved minerals or salts, is free of chemical treatment, and is a relatively reliable source of water. In Sri Lanka apart from the wet zone where there is considerable rainfall throughout the year a greater part of the country is having only periodic monsoonal rain. Apart from districts such as Ratnapura and Kegalle where the thought of the RWH may appear superfluous, the rest of the districts tend to experience water scarcities at some time or another with Puttlam, Hambanthota and Mannar recording extreme conditions. This is despite all these districts recording a rainfall sufficient to meet the needs of the districts. In India drinking water is pumped to some cities from a distance of 95 km and from the depths of 500 meters, all the while these cities receive enough rainfall. It also makes ecological and financial sense not to waste a pure natural resource available in large quantity at ones door step or roof top in this case. Ground water resources are increasingly getting depleted or are getting polluted . Bore wells are either silting up, getting short of water or, are drawing polluted water. RWH system also encourages water conservation and self reliance. private purchase of water from unreliable sources could be risky and expensive.

A rainwater harvesting system comprises components at various stages of its process from the point of collection to the purported use. It should have, methods of collection, methods of transporting the collected water, filtration, storage in tanks and preservation, all arranged to a methodical sequence to achieve best results in harvesting. Storage however is the most important aspect of this operation because even under normal circumstances rain water is not made use of due to the inability to 'store and use'. However water by itself doesn't become 'dirty' due to mere passage of time unless it is exposed to pollutants. The water that spurts out from springs may have remained underground for months or years. Yet it is the most purified water you could find on earth. Therefore rain water, suitably collected and stored could be as fresh as those from the springs.

The common components of an organised 'rain water harvesting system' could comprise stages such as **Catchments, Conduits, Filtering, Storage & Rechargeable facility.**

Catchments

The catchments of a rain water harvesting system is the surface which directly receives the rainfall and provides water to the system. It can be a paved area like a terrace or a courtyard of a building, or an unpaved area like a lawn or open ground. A roof made of reinforced cement concrete(RCC), galvanized iron or corrugated sheets can also be used for water harvesting.. In the case of collecting from the roof, channels all around the edge of a sloping roof may collect and then transport rain water to the conduit. Gutters can be semi circular or rectangular and could be made using locally available raw materials such as plain galvanized iron sheets (20 to 22 gauge), folded to required shapes. Semi circular gutters of PVC material can be readily prepared by cutting those pipes in to two semi circular channels. Bomboo and betel trunks could also be adopted for this purpose. The size of the gutter should be according to the flow during the highest intense rain. It is advisable to make them 10 or 15 % oversize. Gutters need to be supported so that they do not sag or fall off when loaded with water.



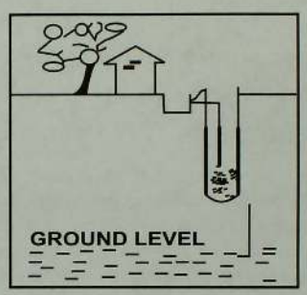
SOURCE: A Water harvesting manual for urban areas

Conduits

Conduits are pipelines or drains that carry rain water from the catchments or roof top area to the harvesting system. Conduits can be of any suitable material like Polyvinyl chloride (PVC) or galvanized iron(GI) or any other suitable and non toxic material. There are tables prepared on empirical evidence that will give the size of the conduit depending on the rainfall and the roof area. 'First flush' is a device that has to be built in to the conduit to ensure that runoff from the first spell of rain is flushed out and does not enter the system. It is a valve and this needs to be done since the first spell of rain carries a relatively larger amount of pollutants from the air and the catchments surface.

Filtering

The filtering is used to remove all types of pollutants from rainwater collected from a particular catchments area. We may often have a settlement tank at the entrance to the filtering unit to remove silt and other floating impurities. A settlement tank is like an ordinary storage container having provision for inflow and outflow. Generally the mechanism of this is somewhat similar to the 'septic tank'. In case of excess rainfall the rate of recharge, specially of bore wells, may not match the rate of rain fall and in such situations the settlement tank may act as a buffer.



The filter proper is a chamber filled with filtering media such as fibre, coarse, sand and gravel layers to remove debris and dirt from water before it enters the storage tank or the recharge structure. Charcoal can be added for additional filtration.

(!) Charcoal Water Filter

A simple charcoal filter can be made in a drum or an earthen pot. The filter is made of gravel, sand and charcoal, all of which are easily available.

(!!) Sand Filter

Sand filters have commonly available sand as filter media. Sand filters are easy and inexpensive to construct. These filters can be employed for treatment of water to effectively remove turbidity (suspended particles like silt and clay), color and microorganism.

AcquaSure, a consortium of three specialist Netherlands based companies, has developed a system for the conversion of rain water to drinking water in the form of a Rain Water Purification Center. Rain PC is developed by scaling down the multi staged water treatment method (MST), Which involves screening, flocculation, sedimentation and filtration and incorporating existing technologies like upward flow fine filtration, absorption and iron exchange. Coming in a small compact 26kg unit, Rain PC offers an affordable solution by converting rain water in to drinking water.

Storage Tank

This is the most important aspect of the RWH system because the essential prerequisite in making rain water utilitarian is in making it available when it is needed. There are various options available for the construction of these tanks with respect to the shape, size and the material of construction. Shapes can be Cylindrical, Rectangular and square. Material of construction is either Reinforced Cement Concrete(RCC), Ferro cement, Masonry, Plastic (polyethylene) or Metal(Galvanized iron) sheets commonly used. Depending on the space available these tanks could be constructed above the ground, partly underground or fully underground. Some maintenance measure like cleaning and disinfection are required to ensure the quality of water stored in the container.
The volume of the storage tank can be determined by the following factors.

- Number of persons in the household: The greater the number of persons the greater the storage capacity required to achieve the same efficiency of fewer people under the same roof area.
- Per capita water requirement; T[illegible] varies from household to household based on habits and also from season to season. Consumption rate has an impact on the storage system design as well as the duration to which stored rain water can last.
- Average annual rainfall
- Period of water scarcity; Apart from the total rainfall, the pattern of the rainfall- whether evenly distributed through the year or concentrated in certain periods will determine the storage requirement. The more distributed the pattern the lesser the size required.
- Type and size of the catchments; Type of roofing material determines [illegible] selection of the runoff coefficient [illegible] designs. Size could be assessed by measuring the area covered by the catchments

Dry season demand versus supply approach

In this approach there are three options for determining the volume of storage.

(!) Matching the capacity of the tank to the roof and rainfall

(!!) Matching the capacity of the tank to the quantity of water required by its users.

(!!!)Choosing a tank size that is appropriate in terms of costs, resources, and construction methods All rain water tank designs should include as a minimum requirement; A solid secure cover, A coarse inlet filter,

An overflow pipe, A manhole, A sump and a drain to facilitate cleaning, An extraction system that do not contaminate the water e.g. a tap or a pump, A soak away to prevent spilled water from foaming poodles of water near the tank

Capacity of the storage Tank

(Liters)	Df.
5,000 to 6,000	2.4 m
7,000 to 8,000	2.7 m
9,000 to 10,000	3.0 m

See Page - 16

UNITED TRACTOR & EQUIPMENT

Success cannot be measured by the "Bottom Line" alone.

The post-independence era has seen the best and the worst of times for Sri Lanka. We have seen governments come and governments go. We have seen a nation torn asunder by a protracted conflict and we have also seen brave hearts struggling to build it.

For a company 57 years steeped in history we can say that United Tractor & Equipment (UTE) has seen it all. More importantly, as a true Sri Lankan Company, it has remained steadfast as a true champion of Sri Lanka's development drive, come what may.

UTE has emerged, over the years, as a showcase of Sri Lankan ingenuity and resilience. Engineers and able hands have worked shoulder to shoulder under the UTE banner, providing the backbone for Sri Lanka's early development initiative and then continuing the company's journey of excellence well into the modern era of rapid transformation and growth. Today, the company continue to provide the tools of progress to industrial Sri Lanka.

It is not easy to be in the forefront of an industry exposed well and truly to the country's ever-so volatile political landscape. Everyday of the past 57 years they have hustled into their offices and workshops excited by the prospect of being a vital cog in the country's wheel of development…even on days when all they had was their collective resilience and determination to see them through. It is not easy to motivate one self when you are in an industry that is running well below par with development activity taking a back seat, giving way to political turmoil.

But at UTE they were unfazed and undeterred. Instead of murmuring and bickering over things we couldn't change, their people focused on things they could control. Where there was even the slightest of opportunity to help develop the local industry they were there.

The 57 year-old history of UTE is laced with remarkable stories of success, as an industrial giant and as individuals driven by a passion to develop their own skills.

Honesty, hard work and unity were an integral part of their work ethic as they set in motion a culture of excellence that has seen UTE being propelled to the forefront of industrial infrastructure as a pace and standard setter.

UTE's legendary after-sales relationship with customers is not a mere occurrence. It is the rich harvest of a long journey dedicated to setting standards of the highest order, evolving and offering industrial solutions and world-class products beyond compare and above all, being true and holding steadfast to familial values that have made UTE a true winner.

Rain Water Harvesting *Cont... from Page 14*

Recharge Structure

Rain water may be charged in to the groundwater aquifers through any suitable structure like dug wells, bore wells, recharge trenches and recharge pits. Various recharge structures are possible- some which promotes the percolation of water through soil strata at shallower depths(e.g. recharge trenches, permeable pavements) whereas others conduct water to greater depths from where it joins the ground water (e.g. recharge wells). At many locations, existing structures like wells, pits and tanks can be modified as recharge structures, eliminating the need to construct any structures afresh. In Madya pradesh in India the wells were traditionally constructed within the households and during the dry season they run out of water although there is deluge during the monsoon. The residents have now developed the technology to collect rain water to recharge the water table so that the wells remain full most of the year.

QUALITY OF STORED WATER

The best initial step to protecting water quality is to ensure good system design. Water quality will generally improve during the storage provided sunlight and living organisms are excluded from the tank and fresh inflows do not stirrup any sediments. The design should include.

- Clean impervious roof made from smooth, clean non toxic material. Overhanging branches above the catchments surface should be removed.
- Taps or draw off pipes on tanks should be at least five centimeters above the tank flow(more if debris accumulation rate is high).A tank floor sloping towards the sump could greatly aid tank cleaning as will a manhole.
- Wire or nylon mesh should cover all inlets to prevent any insects and other creatures from entering the tank. The tank must be covered and all light excluded to prevent the growth of algae and other organism. The grill at the terrace outlet for rainwater arrests most of the debris carried by the water from the rooftop like leaves, plastic bags and paper pieces
- A coarse filter and/or foul flush device should be fitted to intercept water before it enters the tank for removing leaves and other debris.
- There are several types of treatment possible, the most common being chlorination, boiling, filtration and exposure to ultraviolet or natural sunrays.

Water is life on earth and it is available in abundance. Yet more than five million people, most of them children, die each year of illness caused from drinking unsafe water. Also less than 2% of water on earth is fresh water suitable for human consumption. These statistics may speak for themselves as to the need to improve the water hygiene on earth. Rain Water Harvesting System is a significant, if not the most significant, step in that direction.

The Minister of Construction *Cont... from Page 1*

The Hon. Minister agreed to pursue the following:

- Formulation of National Policy on Construction and the proposed Construction Act.
- CCI representation on all committees, forums and Statutory Boards relating to formulation of policies and management of construction related projects.
- Consideration of the proposal made by CCI on adoption of a policy paper for 'Fast Tracking Procurement' in the Construction Industry. regarding overseas consultants and contractors to be subjected to mandatory registration with appropriate professional organization/ associations.
- Favourably consider participation of CCI in construction skills upgrading programmes.
- To evaluate the proposals from Chamber regarding alternatives to river sand for Construction purposes.

The President CCI *Deshabandu* Surath Wicramasinghe thanked the Hon. Minister for making it possible for the Chamber delegation to meet the Minister at such short notice and extended an invitation to Hon. Minister to attend the CCI, Annual General Meeting and the Forum on the 11thJune 2004 as the Chief Guest at the SLIA auditorium.

Alzheimer's Foundation Appeal ... *Cont... from Page 04*

20% over 80 and 30% over 90. In some rare instances people under the age of 65 have been afflicted with dementia.

Sri Lankans are living longer. Over the last 60 years the average life expectancy in Sri Lanka has doubled. Therefore with people living longer the risk of being subjected to this sickness with the attendant financial responsibility is now beginning to assume tangible levels in the family circles. Action is needed TODAY to care for the people who will not remember TOMMOROW.

The Sri Lankan Alzheimer's Foundation is an approved charity incorporated as a company in March 2001. It is an NGO set up for the specific purpose of addressing the family burden, by raising the level of Awareness, supporting and training care givers and other similar services to ease the life of the patient as well as the immediate family members. The significance of the activities of this foundation should be appreciated in the light of the fact that 'elderly care' is not considered a national problem such as poverty or unemployment

Organisations and individuals are welcome, to donate materials, to do construction work, Equipping and furnishing activity, landscaping and other services needed for the Center. The contact tel. no. of the Alzheimer's Foundation is 2583488,at No. 19, Havelock Road, Colombo-05.

River Sand Crisis

A Comprehensive Analysis of Causes Effects and the Alternative Sources.

River sand is a basic construction raw material. The Industry experienced difficulties in obtaining sufficient supplies of this raw material from time to time and even at this present moment the price and availability of river sand is having a constraining effect on the construction activities. Although this situation has received the attention of different organizations and institutions from National Planners through environmentalist down to the small time house builder, each ones concerns in this regard have been limited to their own disciplines scope and what has been wanting is a coordinated activity at National level towards an integrated solution. The CCI is attempting to do just that by coordinating the various research projects in order to achieve the desired results.

1. Demand

National demand for Sand for Construction purposes (estimated on the basis of cement consumption) in the year 2001 is said to be 7.3 Million cu. Metres. However with a 10% approximate provision per annum for the average increase in the use of cement the current demand for sand by province could be projected as follows:

Province	% Use	Sand Volume (Cubic Metres)
Western	40%	2,930,000
Central	12%	880,000
Southern	15%	1,100,000
Northern	02%	150,000
Eastern	04%	290,000
North Western	10%	730,000
North Central	07%	510,000
Uva	03%	220,000
Sabaragamuwa	07%	510,000
Total	100%	7,300,000

Demand for Sand in 2001 by User

End User	Sand Volume	Percentage of Total
Home Builders	3,800,000	52%
Ready mix	250,000	03%
Contractors	2,600,000	36%
CBI's	100,000	01%
Government	550,000	08%
Total	7,300,000	100%

1. The Use of Sand

The sand used in the Construction Industry can be categorized as follows.

(a) * Road Surfacing;
* Road and Harbour Construction and Reclamation land fill;
* Bedding Material
* Building Construction.

In road construction, river sand is used for sealing bituminous roads, however the estimated consumption is small. According to the Road Development Authority (RDA) specifications (HSR 2000), a surface sealing coat should be applied for the main roads once in every 2 years. The total sand requirement for this purpose for the whole country, is estimated to be 0.5 million m3 / year.

(a) For building construction sand has been used for following purposes.
* Making Concrete;
* For block work and mortar:
* In internal and external plastering and rendering.

2. Available Sources of Sand

2.1 Dune Sand

Wind blown accumulations of sand heaped into dunes occur along about a fifth of the coastal line in Sri Lanka. Their best development occurs along:

- The East Coast near Batticoloa
- The North East coast between Pulmoddai and Point Pedro;
- The West coast intermittently between Ambakandawila and Kalpitiya Peninsula;
- To the north of the North east coast between Mannar Island and Pooneryn Peninsula
- The South east coast between Ambalantota and Timitar

2.2Sand from Heavy Metal Mining

Investigations have been conducted by private operators into the possibility of winning rutile and ilmenite from the dune sand deposits north of Puttalam.

The operation is unlikely to start, in the foreseeable future, at least before 2006. Sand from this source might be used for special purposes such as making plaster, because it is fine. It is less suitable for normal concrete manufacture, although it can be used with a carefully mixed design.

Sand is also available from Lanka Mineral Sands, Corporation. Inland dunes are being mined at Pulmoddai North of Trincomalee and facilities are being installed to truck the sand to Warakapola in Sabaragamuwa Province for final washing and extraction of the heavy metals. The maximum quantity of material available from this source is of the order of 9,000 cubic metres per year. This is a relatively insignificant quantity in terms of overall demand.

There are significant deposits of sand in relict dune systems in the North of the Country. On the west coast these dunes are extensive to north of Chilaw. On the east coast they are extensive to north of Trincomalee. This sand is available for local construction. It is not viable to transport this sand to the main areas of demand because of the high transport costs.

2.3 Deepening of some lagoons

It would be possible to deepen some of the coastal lagoons to provide sand. The most obvious of these is Negombo Lagoon because it is close to the main center of demand. There would be significant environmental changes, if such an option were to be implemented, and therefore a major environmental studies would need to be undertaken before such an option could be put forward as a viable source of sand.

2.4. Catchments Upstream of Reservoirs

Any sand that is in the rivers upstream of the dams will eventually find its way into the reservoirs and will reduce their capacity. There is no need to restrict river sand mining in the catchments upstream of the dams, except in specific areas where there might be localized erosion or where structures such as bridge piles or roads might be affected.

2.5. Manufactured Sand.

2.5.1. Quarry dust

Quarry Dust is a by product of the quarry industry. Quarry dust was a waste material until the cement block manufactures started to use it as a partial or full replacement of river sand in producing cement blocks. At present the demand for quarry dust is very high since there is big demand for cement blocks.

The block makers are using most of the quarry dust that is produced. Several studies have shown that the quarry dust can be used as a partial replacement of river sand in producing concrete as well. It was found that there is an increase in strength of concrete with quarry dust compared with river sand. Quarry dust is also suitable for concrete and plaster, if it is washed to remove the finest of the dust. It is then termed 'Manufactured sand'

2.5.2.Quartz Sand

Quartz sand is a fine aggregate, produced by washing, crushing and screening natural rock for commercial requirements. The crushed and mechanically ground quartzite, a common rock with more than 90% sand making mineral is the best available environmentally sound sand alternative.

The proposed rock for manufacturing sand is available in ample quantities in Sri Lanka and hence can be produced in anywhere in Sri Lanka. Furthermore the microscopic studies of manufactured sand (in laboratory) revealed that the surface of sand grains are fresh and binding qualities with cement would be very much better than sea sand and even river sand.

In manufactured sand there wouldn't be any black beads, clay mica or organic matter, which are commonly found in sea and river sand often causing problems in cement products.

2.6 Sand in the Flood Plains and Lateritic Soils

Theoretically, sand should be available in large quantities surrounding the lower reaches of the rivers, on the flood plains and in relict river channels and meanders. In some countries, this source of sand forms a significant part of the supply of fine aggregates. Studies on washing lateritic soils to extract usable sand have been limited in extent. However they suggested that an acre of land (0.4 hectare) would produce 3500 cubic metres of good sand after washing. It is feasible to get some sand from this source.

North of Negombo in the area of Kochchikade there are numerous pits where clay has been mined for many years for the manufacture of bricks and tiles. Gradually the clay has been depleted and in some places there are workable sand deposits near to or below the clay. This sand is now being used by several suppliers for delivery to Ready-Mix (concrete) companies in Colombo. The sand can be mined relatively cheaply but the main problems are that supply is inconsistent and some of the sand has significant silt or clay inclusions.

The main area of mining at present is adjacent to the Maha Oya. Here the river banks and old river channels are being mined on several fronts with earthmoving equipment. The operation has only being conducted for the last few years but already there are several large lagoons left in mined out pits. It is not clear at present what is the extent of this resource, but it is clear that it is being mined very quickly. A survey needs to be undertaken of the total extent of the sand deposits near the river and of the environmental consequences of existing practices. Initial indications are that this source of sand is limited.

2.6 Offshore Sources

The only option that provides a large source of sand that is practically inexhaustible is offshore dredging of sea sand.

There are large deposits of sand offshore. However there is not sufficient information at present about the characteristics of the individual deposits. Before any large scale mining of the sand is undertaken, a national survey should be carried out to plan for the sand extraction for all purposes. As an example, it would be unfortunate if the sand that was best suited for beach nourishment was used for roadway fill or for general construction.

3 Recommended Strategy for the Country

3.1 Central Province

The Central Province uses about 900,000 cubic metres of sand a year. The current practice of taking sand from the rivers can continue in the short to medium term as sand extraction could assist in reducing siltation of reservoirs.

3.2 North Central Province

The North Central Province uses about 500,000 cubic metres of sand a year. Sand can safely be extracted from the rivers feeding into these tanks with little environmental impact.

3.3 Northern Province

There is comparatively little sand being used in the Northern Province, only about 150,000 cubic metres per year. There are several rivers with catchments upstream of dams in the province and there are large deposits of relict dune sand in several areas. It will be important to undertake a detailed survey to rationalize the use of existing sand deposits. It appears likely that there will be sufficient deposits of sand, particularly in relict dune systems, to cater for any probable construction needs. However a marked increase is envisaged for post conflict rehabilitation activities.

3.4 Eastern Province

The Eastern Province uses about 300,000 cubic metres of sand a year. This volume is relatively insignificant. It is presumed that most of that sand is used in Trincomalee and Batticaloa. There are relict dune deposits north of Trincomalee that can provide sand. The morphology of the lower reaches of the mahaweli Ganga have not been investigated but there is erosion occurring now near the river mouth which may be due to limited sand coming down the river since the hydroelectric schemes were introduced.

Near Batticaloa there is a sand belt up to 6 km wide along the coast and this is adequate to supply sand from pits onshore for the foreseeable future. It is probable that when peace is restored, there will be an increase in the volume of sand used in the Eastern Province, particularly near Trincomalee. At that time a detailed investigation of sand sources should be undertaken. Any sand moving up the coast towards Trincomalee from the south is lost offshore into the Trincomalee Canyon at Foul Point. The investigations should include studies of possible ways to trap and use that sand.

3.5 UVA Province

This province uses around 220,000 cubic metres of sand a year. About half of the rivers running through the province are dammed and so there is no harm in taking sand from the rivers and in the catchments upstream of the dams. Four of the proposed super quarries are located in Uva Province.

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River Sand Crisis

Cont... from Page 17

3.6 Southern Province

The Southern Province is the second biggest user of sand after the Western Province. At present the demand is for about 1,100,000 cubic metres per year. The rivers are generally short and only the Walawe Ganga and the Kirindi Oya are dammed. There is a need to find alternative sources of sand other than the rivers for this province.

The proposals to construct an addition to Colombo Harbour called Colombo South Harbour, includes the provision of new facilities at Galle to export rock to Colombo for the breakwater. If this project proceeds, there will probably be large sand resources produced in the quarrying process. These could be used for local construction.

A third potential source of fine aggregate is a by product of the construction of the Southern Transport Road Corridor. The construction of this road will necessitate the establishment of several large quarries. Manufactured sand from these quarries may make a significant contribution to the sand needs of the province.

3.7 Sabaragamuwa Province

This inland province uses about 500,000 cubic metres of sand a year. The main source of sand is the Kalu Ganga and its tributaries. This is a serious problem because the river mining of this river is one of the direct causes of the erosion along the coast from Kalutara northwards.

It is not practical to bring sand from offshore into this province and so the only real alternatives are quarry sand, washing some sandy soils or using material excavated as part of the gem mining. Five of the proposed super quarries are located in this province and two further ones are located in the Western Province near the Kalu Ganga. The aim would be to provide sufficient alternatives to Kalu Ganga sand so that future extraction from Kalu Ganga and its tributaries can be avoided.

3.8 Western Province

This province uses about 40% of the total construction sand in the country, about 2,900,000 cubic metres per year. Sand for this province is extracted from the main rivers north and south of the capital. The four main rivers, the Kalu Ganga, the Kelani Ganga, the Maha Oya and the Deduru Oya are all badly affected by sand mining. Mining in these rivers is responsible for the serious erosion that is occurring along the coast. There are no real options for the Western Province other than to bring sand in from offshore. The issues associated with offshore sand are discussed in the following chapters.

3.9 North Western Province

The North Western Province is one of the larger users of sand, with the amount being estimated to be around 750,000 cubic metres per year. However in addition to its own use, the province is supplying a large percentage of the sand now used in the Western Province.

There are sand sources in the province, particularly in the deposits that have accumulated west of Mundal Lagoon. There are also older sand deposits on the eastern side of Puttulam Lagoon, north east of Kalpitiya. It is probable that these sand sources and some sand from the upper reaches of the rivers, would meet the needs of the province if sand is not exported to the Western District.

4. Sea Sand Mining - Off Shore Dredging

(a) Construction of the Katunayake Expressway between Colombo and the airport An amount of 4.5 Million cubic metres has been dredged from a borrow area offshore in 20 25 metres of water, pumped to a stockpile at Muturajawela, near the Shell Gas Plant.

(b) 500,000 cubic metres of sand for the expansion of the South Asia Gateway Terminal in the Port of Colombo.

Large sand deposits north of Colombo have been delineated for the two projects, the Katunayake Expressway and the SAGT Port Terminal. Present indications are that there are very large resources of sand north of Colombo that would provide sand for the foreseeable future. However there has not been a comprehensive survey of the whole of the offshore area north of Colombo.

5. Dredging Methodology

A trailing suction hopper dredge with a capacity of 8000 cubic metres to pick up sand offshore in 15 20 metres of water, sailed to a depth of about 9 metres where it hooked up to a pipeline. Sand was then pumped 3 km though the pipeline to a stockpile at Muturajawela near the Shell Gas Plant on land leased from the Sri Lanka Land Reclamation and Development Corporation (SLLRDC). The pipeline 800 mm dia, with a 11,000 HP booster pump on line. There was a return line of the same size to deliver excess water to the sea, bypassing the adjacent Hamilton Canal.

The dredging operation would be considerably cheaper if the sand were brought closer to shore using a smaller dredge and then just pumped onto a stockpile on the shore. The sand could then be removed by front end loader and truck to other private storage areas in the city.

Establishment of a National Dredging Corporation.

Sea Dredging

Sri Lanka has not ventured into sea dredging except for few projects carried out by foreign contractors. Potential for sea dredging is very much larger in terms of dredging quantity than that of inland dredging. Sea dredging for mining of off shore sand for construction sector is important than ever before. Apart from the use of sea sand, preferably after washing, for infrastructure works its use is emphasized with particular reference to ambitious expressways, highways, road sector development, that are envisaged.

Sea dredging is of vital importance for reclamation hydraulic filling of low lying marshy areas, along the Western Sea coast helping the low income community for improved housing and living conditions. Sea dredging is also important for beach nourishment, minimizing sea erosion and fisheries community. Being an island, it is environmentally important to have a programme for coast protection. Master Plan for Beach Erosion Management envisages 2 million cu meters of sea sand being required for next five years to maintain the present boundaries.

programme for coast protection. Master Plan for Beach Erosion Management envisages 2 million cu meters of sea sand being required for next five years to maintain the present boundaries.

Sea sand is undoubtedly a better material for reclamation in terms of compaction and load bearing capacity with sources of laterite being virtually exhausted, sea dredging appears to be the only source of fill material in the Western Province.

Apart from these it is important to carryout a continuous regular maintenance of harbour dock basins, Lakes, lagoons, waterways etc. With more Ports and Fisheries harbours to be constructed sea dredging is considered to be an imperative exercise.

Acquisition of dredges is an expensive task. Dredging itself is a specialized technology. Inland dredging for reclamation was introduced in 1979. For construction of the capital city at Sri Jayawardenapura. Dredges have been owned by the Ports Authority, Irrigation Department, Fisheries Harbour Corporation and the Sri Lanka Land Reclamation and Development Corporation from time to time. Considering the long term benefits of sea dredging, the need has arisen to establish a Dredging Corporation in Sri Lanka as a commercial entity, sponsored by Sri Lanka Land Reclamation and Development Corporation. If the country continues to deploy sub contractors on a project to project basis, the cost of construction will undoubtedly go up in terms of sand prices, as when compared to the prices that prevailed for sea sand few years ago.

This subject has been taken up with the Government of Sri Lanka on a number of occasions, where technical and financial feasibilities have been examined and Cabinet approvals have been solicited as far back as in late 80's and early 90's. We strongly suggest that a specialized agency for dredging be established as a public private partnership which will provide a cost effective, long term sustainable solution for:

- Sand for Construction Purposes
- Filling Material for Highways
- Development of Urban Infrastructure
- Reclamation of Low Lying Swampy Marshy Areas
- Coastal Protection
- Lagoon de Silting
- Ports and Harbour Construction etc.

What is proposed now is to purchase a Trailing-Suction Hopper Dredger.

Funding from the Asian Development Bank, JBIC, EC are definite possibilities.

What is Work?

Cont... from Page 08

Oliver Wendell Holmes was right when he said, "Every calling is great, when greatly pursued."Buddha taught that the only reality is impermanence and change. And that it is best not to resist. (No wonder that the westerners say Buddha looks so relaxed!) The way we choose to approach our life's work impacts on how fulfilled we feel, and our overall effect on others. The more we can bring our Spirit into our work, the more soulful the experience for all. When we care about the work we do, no matter how menial the task, we pay attention to the details and take pride in our craftsmanship.

When you are doing your life's work, it will feel almost like play because it will be so enjoyable and rewarding. It's as if your work is your hobby and your hobby is your work. When you are sharing your gifts and talents, time flies! Unlike when you have a job, the time drags, and you have to know exactly the "right" way to do something.

Your life's work, like your entire life, does not have a specific direction or map. It just shows up and you have to follow it. I know that when I am called to write, I simply must do it. I don't really know where I'm headed with it, but I'm not concerned. The next step in my process comes from my intuitive self, and I follow my inner guide. The "message" flows naturally and effortlessly as a result. This quote from an unknown author sums up how you will surely feel when you are doing your life's work:" A master in the art of living draws no sharp distinction between his work and play, his labor and his leisure, his mind and his body, his education and his recreation. He hardly knows which is which, he simply pursues his vision of excellence through whatever he is doing and leaves others to determine whether he is working or playing. To himself, he always seems to be doing both. "In conclusion let me list the

Top Ten Skills Required For the New World of Work

1. Communication
The ability to effectively communicate your thoughts and ideas in person, on paper, and over the telephone. To listen to others and be open to other viewpoints and opinions.

2. Creativity
The ability to think and act "out of the box." To discover new and innovative ways of thinking and doing things.

3. Technology
The ability to understand and utilize computer systems, the latest software, etc. To use the computer in your daily life and on the job.

4. Team Work
The ability to work effectively in a team situation. To be able to utilize the right people to get the best results. To be willing to lead and to follow.

5. Flexibility
The ability to "go with the flow." To change on an as-needed basis. To become multi-task oriented, to be able to change hats frequently.

6. Information Management
The ability to know where to get needed information. To be able to search, locate, and retrieve information. To utilize various resources, whether they be people, printed materials, or the vast world of technology.

7. Self Management
The ability to manage oneself in personal and professional situations. To be able to respond appropriately to stressful situations.

8. Customer Care
The ability to care about the needs and concerns of other people, especially those you serve. To "go the extra mile" for your customers or clients.

9. Character
The ability to project a positive image by acting in a manner that reflects trust, confidence, honesty, and integrity.

10. Personal Development
The ability to continuously improve upon one's skill set. To be dedicated to lifelong learning.

Are we ready for the modern world of work? What skills do you and I possess that make us marketable? What skills can we develop?

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