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A National Cleaner Production Centre for Mauritius



Mrs. D. Lan Ng Yun Wing, Ag. Director, Department of Environment, Mr. Anil Baichoo, Minister of Environment and National Development Unit and Mr. Jean-Noël Humbert, NPCC Chairman at the launching ceremony of the workshop

Mauritius produces 21 million cubic metres of industrial waste and 2.7 million tonnes of greenhouse gases annually. If this trend continues, it won't be long before our environment, public health, and socio-economic development, which relies heavily on tourism, are jeopardized. Consumers, suppliers, governments and the market at large are increasingly demanding

environmental responsibility by the business community and businesses ignoring this trend and rejecting the opportunity to improve their environmental performance may find themselves left behind in the highly competitive global marketplace. The Ministry of Environment and National Development Unit, conscious of these disastrous consequences for the country, has entrusted the National Productivity and Competitiveness Council (NPCC), which has a national mandate of ensuring a Better Living for the Nation, the responsibility to host a National Cleaner Production Centre.

A two-day workshop was jointly organized by the two institutions on 21st and 22nd July 2005 to identify major actions that could be undertaken to sensitise the different stakeholders, namely the citizen, consumer, community and enterprises, on their role in enabling Mauritius to achieve sustainable cleaner production and to develop an action plan on the strategy and functioning of a national cleaner production centre. The participants were grouped into five panels with each panel focusing on one of the main objectives of the National Cleaner Production Centre – promotion of information, education and communication related to cleaner production; promotion of the utilisation of clean technologies; formulation of appropriate legislations / standards and their enforcement; capacity building in cleaner production; and promotion of an integrated approach to cleaner production development - as identified by the Steering Committee set up after a brainstorming session on the establishment of a national cleaner production centre.

The participants had also the opportunity to hear presentations from two foreign consultants who delivered on sustainable consumption and production and on the African experience in establishing national cleaner production centres. Representatives from the Ministry of Environment and National Development Unit and of the University of Mauritius on their part focused their intervention on the national environmental policy, the legislation framework dealing with cleaner production, and the application of cleaner production in Mauritius through the presentation of case studies. ■

Clean Technology

Read an outstanding, concise, and easily intelligible introduction to the growing CleanTech investment sector by Diana Propper de Callejon, Mark Donohue and Rob Day by [clicking here.](#) ■

Setting up a network of SADC National Productivity Organisations



In the context of the globalisation of the world economy, the Heads of State of the Southern Africa Development Community (SADC) member states adopted in August 1999, a Productivity Declaration, which recognised the importance of productivity and competitiveness enhancement as a means to improve the living standards for all their people. The Declaration called for the following actions:

(1) facilitation of the establishment of National Productivity Organisations (NPOs) in all member states.

(2) establishment of a mechanism for cooperation, sharing of experiences, know-how and information among NPOs in the region.

(3) establishing benchmarks for productivity improvement. ■ ■ ■

“Let every individual and institution now think and act as a responsible trustee of Earth, seeking choices in ecology, economics and ethics that will provide a sustainable future, eliminate pollution, poverty and violence, awaken the wonder of life and foster peaceful progress in the human adventure.”

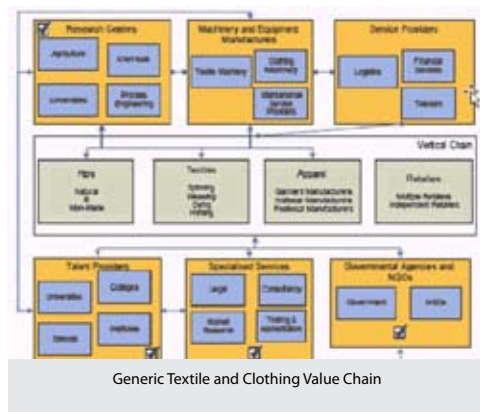
John McConnell, founder of International Earth Day

Following various initiatives at the level of the SADC secretariat and a meeting of chief executives of NPOs of the SADC region in May 2004, consensus was reached on the type of regional productivity organisation that would be set up. No super regional organisation would be created. Rather there would be a network of NPOs in the SADC and East African Community (EAC) region, which would play the role of coordinator, catalyst and facilitator for collaboration and information sharing. The NPOs network would have a lean secretariat that would be hosted in turn by each NPO holding the chairmanship.

The first priority identified by the network is the need to reinforce the capacity of existing NPOs. Accordingly, a NPO Capacity Building Project has been initiated with financial assistance from the Commonwealth Secretariat. NPCC, Botswana National Productivity Centre and South Africa's National Productivity Institute contributions to the project will be through the provision of expertise. A team comprising of representatives of these three NPOs will design and conduct a survey to assess the capacity building needs of SADC-EAC countries with regard to development of NPOs. The team will present its report at a regional seminar later this year. ■

Clustering issues for the Textile and Garment Sector

As industries mature, the industrial structure changes. Competitive industries become dominated by highly dynamic, innovative and flexible smaller enterprises. These enterprises can compete as effectively as larger ones if they have access to formalised systems of industry support at each step in the value chain.



The diagram above provides an overview of the Textile & Clothing Value Chain. Manufacturing enterprises are at the core of the value chain. These comprise firms involved in making fibers (natural or synthetic), textile manufacturing enterprises (converting the fibers into cloth), apparel manufacturers (converting the cloth into finished garments), and eventually retailers responsible for sales of the finished

products to end customers. While enterprises may be vertically integrated and carry these functions internally, the same operations may be performed by individual and independent operators, who collaborate along the value chain. In certain situations, the manufacturing value chain may span over a number of countries based on cost and resource availability.

Well organised and competitive industries draw their strengths from the provision of appropriate support services and facilities to enterprises of the industry like for instance, good academic and vocational school support, high skilled manpower, good logistics, good machinery makers, availability of state of the art manufacturing machinery, good networking, R & D support, public sector support, active unions, chambers of commerce etc. Big industry players and vertically integrated firms are best positioned to acquire the support of these players, having key roles in value creation and competitiveness of the overall value chain. But this is not usually the case of small individual units of the sector.

Through clustering, individual manufacturing units may come together to benefit from the economy of scale of a large company. Without requiring it to sacrifice its flexibility, clusters improve competitiveness by

- increasing productivity of companies based in an area;
- driving the direction and pace of innovation, which underpins the future productivity growth;
- stimulating the formation of new businesses, which expands and strengthens the cluster itself.

For each member of the cluster, even the smallest one, the ability to tap into the necessary outside support facilities leads to

- productivity improvements through
 - access to specialised inputs & services
 - ability to source from cluster companies
 - joint projects / cluster branding / marketing
- innovation improvements through
 - good supply chain interaction (proximity)
 - proximity to universities and research centres
 - good / ease of knowledge transfer
- new business formation – incubation through
 - better information on opportunities, niches, etc.
 - good support system for financial information

In the context of Mauritius, prosperity depends on the ability of firms to reinvent themselves and remake their industries. This calls for new businesses, new ways of organising and

managing existing ones, and services that are more appropriate for a dynamic and competitive textile industry.

The above is extracted from the report “Enhancing enterprise competitiveness through clustering in the textile and garment sector”, May 2005 which is available for consultation at the NPCC. ■

It’s a question of being fit...

NPCC staff has been busy visiting enterprises lately for a series of Quantel QFitness assessments. To many of us, Quantel QFitness is a new tool that needs to be introduced. We have interviewed one of our staff, Ram Jutliah, who has been performing a series of assessments for clients. Let’s have an insight of what Quantel QFitness is all about...

Q: Could you briefly explain to us what Quantel QFitness is about?

Quantel QFitness is a benchmarking tool that has recently been introduced in Mauritius. The tool has been developed in New Zealand by a team of consultants working on software based enterprise assessment tools, the Quantel Business Solutions.

All enterprises need to aim at growing to a sustainable level. An enterprise is in a better position to reduce costs, improve productivity and generate higher income and employment through growth. However, when embarking on the growth phase, enterprises face a number of risks. These risks when not properly identified and addressed may reduce the growth potential of successful enterprises or even threaten the survival of others.

Q: What does the assessment consist of?

The assessment is based on a series of questions on the general management, administrative and accounting principles. Through questioning, the interviewer gradually probes into the ways in which the business is organised and managed. These questions aim at assessing whether the enterprises have control over the critical areas of the business. As the discussion progresses, the interviewer gradually uncovers areas that are not properly addressed or have been overlooked.

The responses are entered into a questionnaire and at the end, the enterprise obtains a score. A score of 7 out of 10 indicates that the areas of risk in an organisation are properly managed. A higher score indicates that the enterprise has gone further into inculcating sound management principles. Enterprises with very high scores (above 8) have the appropriate systems in place to support the enterprise in its growth phase.

For enterprises scoring below 7, the Qfitness is usually an eye-opening exercise. It helps reveal the potential areas of problems that may be preventing the organisation from achieving higher performance levels. The assessment includes a list of recommendations which the enterprise may include in its action plan to urgently address the areas for improvement.

Q: How many enterprises have agreed to perform the exercise?

NPCC pilot tested the tool with some local enterprises in order to get their feedback. During the pilot phase, thirteen enterprises were invited to participate in the Qfitness assessment. Among them, eight are members of the Association of Mauritius Manufacturers (AMM) whereas five come from the Mauritius Export Processing Zone Association (MEPZA).

During the month of June and July 2005 assessments were initiated for a group of eight MEPZA members. In collaboration with Enterprise Mauritius, the NPCC is extending the assessments to textile and other manufacturing enterprises as from the month of August 2005.

Q: To what extent has it been a fruitful experience?

Enterprises participating in the pilot phase were very enthusiastic about the assessment. For many of them, it covered areas that they have not given serious thought previously. It was an eye-opening exercise that brought them to realise that key areas are not being addressed.

The Qfitness assessment is a valuable time investment exercise for the enterprise manager. After completing the questionnaire, the enterprise immediately obtains its score, indicating how effectively it is addressing enterprise risks level.

The tool is also useful for national policy making and the development of support measures to address needs of sector/groups of enterprises. The aggregate of individual enterprise scores hence provides opportunities for benchmarking at national level.

Q: Tell us what happens once the enterprise has undertaken the exercise?

A confidential report is compiled for each enterprise, highlighting the critical areas for action. A meeting is generally convened with the enterprise to explain the result of the assessment. The report also includes a benchmarking comparison of each enterprise with the group that has already gone through the exercise. Such comparisons are helpful eye opening exercises as they help managers understand how they perform, compared to the group's average performance level.

The enterprise may then seek the assistance

of training, consultancy services, and support institutions as appropriate to address their problems. Firms benefiting from the support of Enterprise Mauritius are provided with assistance in preparing Client Development Plans.

Enterprise may also contact other relevant institutions (e.g. agribusiness, service sector etc.) for support in addressing the problems highlighted. The NPCC may intervene in enhancing teamwork; in setting up the basic standards for a good and orderly workplace; in inculcating a productivity culture at all levels; in performing visioning exercises; and in training /conducting in-plant productivity improvement programmes.

Problems identified at groups levels may be the first step for associations or industry organizations to identify joint projects that may address the needs of many enterprises at a time.

It is recommended that a firm goes through the assessment at least once a year so as to closely monitor improvements and make sure that the company is effectively 'on-track'. ■

Let us celebrate the innovative spirit of our school children



InnovEd, the joint Ministry of Education and Human Resources / National Productivity and Competitiveness Council project aiming at stimulating the creativity of students to develop

their entrepreneurship skills, gains momentum as during the month of July not less than eighty-nine schools have organised their school exhibitions to celebrate the innovative spirit of their students and to showcase their innovative capacity. The exhibits below offer ample testimony of the pragmatic ingenuity of these school children. ■



1. A portable drawing case
2. A renovated artistic stool
3. A mobile dishwasher
4. A hair dryer

Muda elimination through community problem solving

The Comité Quartier de la Rue La Paix et des Rues Avoisnantes, a group of four hundred and fifty persons of different age groups involved in social work for the community has requested the National Productivity and Competitiveness Council for training regarding the setting up of Civic Action Teams (CATs) in their locality that has witnessed a series of problems affecting both the family cell and the community at large. The specific objective of this project is to promote an integrated and participatory approach, encouraging people to work as a team to identify and work out problems affecting their region.

After a first meeting held on the 18th June 2005 at the NPCC, a training session was conducted on 16th July 2005 whereby participants were made to set up their teams and to elect their leader and deputy leader. Brainstorming helped to break the ice between participants in the teams. Through brainstorming, they were able to select their CATs name and to come up with a list of problems affecting their locality. Using the affinity technique they linked the problems and grouped them into different categories.

At the next training session, team members will select the most important problem for their respective team and they will be initiated to the different techniques of data collection and presentation; on how to analyse the causes of the problem using the fishbone diagram; and on problem solving techniques. The outcome is to have a CATs Day in six months' time for teams to showcase their projects. ■

Mind teaser

A simple scheduling problem

Imagine that you are working for a tennis tournament and you have to figure out how many singles matches to schedule.

There are 64 men entered.

How many men's singles matches will you need?

See page 4 for the solution to the problem

Les PME sont vulnérables aux menaces informatiques

Computer Associates International, Inc. annonce que les petites et moyennes entreprises (PME) demeurent extrêmement vulnérables face à une diversité de menaces informatiques, qui se traduit par une exposition inacceptable à d'importants risques pour l'entreprise. Selon les enquêtes réalisées auprès des cadres dirigeants pour CA par Quocirca Ltd., cabinet indépendant d'analyse des entreprises de premier plan, nombre de PME ne dispose pas de ressources suffisantes pour mettre en œuvre les meilleures pratiques éprouvées de la sécurité, telles que contrôles périodiques, gestion proactive de logiciels correctifs et/ou évaluation appropriée des systèmes de sauvegarde et de reprise. Pour en savoir plus, [cliquez ici](#). ■

Conference on "Global Tourism Growth: Challenges for SMEs", Gwangju, Korea, 6th-7th September 2005

This conference is organised by the OECD/CFE Tourism Committee and the Ministry of Culture and Tourism of Korea. The objectives of the conference are to learn more about the dynamics and new business models of the tourism enterprises; to increase understanding of strategies that promote the participation of tourism SMEs in the supply and distribution value chains and networks; to further review the relationship between destination competitiveness and enterprise dynamics; and to exchange views on policies and initiatives accompanying structural changes in tourism.

For more information, [visit the website of the conference](#). ■

Recent Additions to the Knowledge Centre

SHIREMAN, Dr. William: **A measurement guide to green productivity: 50 powerful tools to grow your triple bottom line.** Tokyo: Asian Productivity Organization, 2003.

Green Productivity (GP) is a strategy for enhancing a business's productivity and environmental performance at the same time, for overall socio-economic development. It is the application of appropriate techniques, technologies, and management systems to produce environmentally compatible goods and services. This book elaborates on different tools that any smart and thoughtful business

person can use to improve profits while providing environmental benefits and shows brief case studies of how companies have applied the measurement and feedback tools of Green Productivity to reduce costs and increase profits.

Asian Productivity Organization: **Green productivity training manual.** Tokyo: Asian Productivity Organization, 2002.

Green Productivity aims at improving environment in the process of increasing productivity, thus giving a competitive edge to businesses in the age of globalisation. To substantiate the Green Productivity concept, the Asian Productivity Organisation (APO) has adopted a multi-dimensional micro-to-macro approach to promote Green Productivity practices. It focuses on the enterprise level through the applications of productivity and management tools (such as TQM, 5S, TPM etc.) that go in tandem with waste and emission prevention, energy conservation, pollution control, and environmental management systems. Initially taking off in the industrial sector, Green Productivity is now being increasingly applied to agriculture, service industry, and even communities. GP is thus evolving as a drive with comprehensive strategies for sustainable socio-economic development. To operationalise Green Productivity at practical levels, the APO has developed a six-step, 13-task methodology following Deming's plan-do-check-act (PDCA) cycle. While the PDCA framework provides the basic skeleton of GP implementation, the distinctive part of GP methodology is its ever-expanding set of tools and techniques to complement the PDCA framework. This methodology has been thus field-tested and is being disseminated by this training manual through various training programs in APO member countries.

Profits from cleaner production: a self-help tool for small to medium-sized businesses. Sydney: New South Wales Department of State and Regional Development, 2000. ISBN: 0731327365.

Small to medium enterprises are engines of economic growth and are the largest source of new jobs, accounting for around 60% of all new jobs. This self-help tool is designed to alert businesses to the potential for reducing costs and boosting productivity by integrating environmentally sustainable practices and processes into the everyday running of their businesses. It outlines, in easy-to-understand terms, what a small to medium enterprise can do to minimise waste and reduce environmental impacts, and demonstrates the strong links between environmental and financial performance. Consumers, suppliers, governments and the market at large are

increasingly demanding environmental responsibility by the business community. Businesses ignoring this trend and rejecting the opportunity to improve their environmental performance may find themselves left behind in the highly competitive global marketplace. Cleaner production is set to become an integral part of the business strategies of enlightened companies that want to embrace the ongoing challenges of industry leadership and continuous improvement. [The document is available for download at http://www.epa.nsw.gov.au/resources/selfhelptool.pdf](http://www.epa.nsw.gov.au/resources/selfhelptool.pdf). ■

"Pollution often disappears when we switch to renewable resources."

David Morris

Mind teaser

The solution to the problem

A simple scheduling problem

The 64 entrants play. Therefore, you will need 32 matches. Then the 32 winners play, giving you 16 more matches. Then the 16 winners play, using up 8 more matches. Then the 8 winners play, in 4 more matches. Then the 4 winners play, in 2 more matches. Then the 2 winners play, in 1 more match. The correct answer is (32+16+8+4+2+1) 63.

There is an easier way of finding it if you apply the reversal method. In order to end up with one final winner, you must have 63 losers. In order to be a loser, you have to have lost a match. Therefore, to get 63 losers, you will need 63 matches.

Almost everyone attacks this problem the same way, by counting winners instead of losers. As long as your method gives you an answer, you never bother to look for a better or simpler method. It is just not something we think of doing.



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