

The IORA foresight on Education and Training for port workers: A case study

The shipping industry has become highly specialised and given its inherent services characteristics it is inseparable from ports. Ports are heavy, long term investments and in terms of economics, often affected by the derived demand factor in shipping. The industry is highly competitive thus higher levels of skills are needed for port operations. Ships are getting bigger to derive the advantages from scale of economies but comparatively long port stays can make ports uncompetitive. These factors make skilled workers in port is a fundamental need. However, as usual in many other aspects of the shipping industry, it has not yet realised the seriousness of the issue. In realization of the seriousness of this issue five countries belong to Indian-Ocean Rim Association (IORA) collaborated via a working group, led by the Australian Government and the Department of Education and Training, initiated the development of transnational occupational standards. The pilot project initially considers only three key port occupations in order to support the skill development in port operations. Accordingly, three port occupations namely, gantry operator, port operations supervisor, and yard planner have been selected to develop occupational standards. In the process it has developed eleven core and elective occupational standards for these job roles and they were tested and validated in the five member countries. The countries are given the flexibility to propose most appropriate plan for implementation in respective countries.

INTRODUCTION

The acronym IORA recognizes the Indian-Ocean Rim Association. IORA is a dynamic organisation of 21 Member States and 7 Dialogue Partners, with an ever-growing momentum for mutually beneficial regional cooperation. The Indian Ocean Rim is a region comprised of the states whose shores are washed by the waters of the Indian Ocean. The region is home to about two billion people.

It is a region of much cultural diversity and richness - in languages, religions, traditions, arts and cuisines. Accordingly, IORA is an international organization with 21 Member States - Australia, Bangladesh, Comoros, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalal, South Africa, Sri Lanka, Tanzania, Thailand, UAE and Yemen.

The Indian Ocean is the world's third largest ocean. It carries half of the world's container ships, one third of the world's bulk cargo traffic and two thirds of the world's oil shipments. It is a lifeline of international trade and transport. The region is woven together by trade routes and commands control of major sea-lanes. Given this highly influential economic, geographical, cultural and social factors IORA forms an effective regional forum. As Nelson Mandela put it (during a visit to India in 1995) "The natural urge of the facts of history and geography should broaden itself to include the concept of an Indian Ocean Rim for socio-economic co-operation and other peaceful endeavours. Recent changes in the international system demand that the countries of the Indian Ocean become a single platform." This is the sentiment and rationale that underpinned the Indian Ocean Rim Initiative in March 1995 (IORA, 2016). The Ministerial Meetings over the years have endorsed various projects of international importance including the Maritime Transport Council (MTC) to be considered in the Work Programme of IORA. The "Criteria, Procedures and Guidelines for the Inclusion of Projects in the Work Programme", aim to encourage the selection of projects that directly advance IORA's immediate focus on Trade and Investment facilitation, thereby helping to achieve more demonstrable and practical outcomes.

This case study refers to the project recently carried out by the Australian Government's Department of Education and Training with support from the Transport and Logistics Industry Skills Council (TLISC). TLISC is working in partnership with the Department of Education and Training and government representatives responsible for skills development from China, Indonesia, the Philippines and Vietnam to develop APEC regional occupational standards for core skills in the transport and logistics industry. APEC is the premier Asia-Pacific economic forum. Our primary goal is to support sustainable economic growth and prosperity in the Asia-Pacific region. The objective of the Indian Ocean Port Operations project was to pilot the development of transnational skills standards for three occupations in the port operations sector. Given the

fact that present human resource approaches in certain occupation in the sector are highly characterized on physiological competencies and tacit knowledge rather than education and training this project may bring a paradigm shift in the maritime world.

Formation of IORA

On 29-31 March 1995, the Mauritius Government convened a meeting to discuss the enhancement of economic co-operation among the countries of the Indian Ocean Rim. Representatives of governments, academia and businesses from Australia, India, Kenya, Mauritius, Oman, Singapore and South Africa - known as the "Core Group States" or the M-7 - attended the meeting. In a joint statement, the participants declared that they had agreed on "principles of open regionalism and inclusivity of membership, with the objectives of trade liberalization and promoting trade co-operation. Activities would focus on trade facilitation, investment promotion and economic co-operation." The strategically formed tripartite working group consisted officials from the governments, academia, and private sector organizations. In 1996 in Mauritius it was finalised a Charter for the creation of IORA, and expanded the membership to include Indonesia, Malaysia, Sri Lanka, Yemen, Tanzania, Madagascar and Mozambique. IORA was formally launched at the first Ministerial Meeting in Mauritius on 6-7 March 1997. This meeting adopted the IORA Charter, and determined the administrative and procedural framework within which the organisation would develop.

Significance of the project

This project is intended developing occupational standards for selected occupations in the port operations sector for the Indian Ocean region. It supports skill development in the maritime sector, enabling Australia's IORA partners to increase industry capacity and support skilled labour mobility across the region. The project involves Australia, Indonesia, India, Malaysia and Sri Lanka. It identifies human capital gaps and challenges and opportunities for developing transnational standards.

The outcomes of this project have the potential to improve efficiency and processes at ports that adopt the transnational standards, leading to improved reputation among international shipping freight operators and becoming preferred ports for business. Flow on benefits could be to increase the export and import capacity of IORA members through decreased servicing times. It will also provide businesses operating within and across the region with greater certainty of the core skills required and held by skilled workers. Industry providing the port services will benefit through improved workforce capacity and reduced resource costs. This project brought together five member countries of the Indian Ocean Rim Association (IORA), including Australia, to pilot the development of transnational skills standards in the region for select occupations in port operations. It addresses the need of many IORA countries to improve productivity and competitiveness of their workforce in domestic and international labour markets.

EDUCATION AND TRAINING PERSPECTIVES

Shipping is highly specialised and competitive industry; the right candidate for the right ship is intense. Higher levels of skill are needed for specialty vessels of today. International rules require skilled watch-keeping personnel to man ships however; those who provide services when the ships are in ports have not been targeted yet. In order to support the skill development needs of occupations in port operations the selected IORA nations will collaborate via a working group in the development of transnational occupational standards for three port occupations. These occupational standards will support the skill development needs of port operations between IORA partner countries.

The Project aims to address skills development in agreed port occupations to:
Develop/enhance capacity of IORA countries to engage with industry in

technical vocational education and training (TVET) system development;

Develop common occupational standards (transnational skills standards) in three occupations to underpin effective TVET programmes to meet local industry skills needs and support industry, trade and skilled labour mobility across the IORA region.

Key stages of the project

The initial discussions were focused on researching and profiling the port operations sector and key issues related to skills needs and industry engagement in vocational education and training (VET) in each country and delivery of discussion paper. In the second stage, a tripartite working group was formed, following the IORA fundamentals, consisting senior members of governments, academia and businesses organizations representing the five nations. Sri Lanka is represented by CINEC Maritime Campus and Sri Lanka Ports Authority on invitation by the Ministry of Education and Training in Government of Australia.

The project comprises two phases: 1) scoping and planning (including the establishment of the working group); and 2) development and implementation of regional occupational standards. It is further split into five operational stages. The discussion paper and Terms of Reference was then distributed among the working group and provided sufficient time to study the concept.

A four day workshop on port operations transnational standards (POTS) was held in Canberra and Sydney in Australia in with representation from key member countries, facilitated by the lead agency and implementation partner.



Figure 1: The project Working group in an observation tour at the Automated Partick Port in Sydney, Australia

This workshop included country presentations; industry engagement policy in VET systems/frameworks; visits to Australian businesses and training providers involved in the VET system. The second workshop was held in Colombo Sri Lanka. During the interim period the project was effectively communicated through electronic means in order to clarify various interpretations and value additions.



Figure 2: The project Working group visited CINEC and port of Colombo during the second workshop held in Sri Lanka.

The agenda of second meeting of working group primarily focused on reviewing the international context, recap of project to date, and taking the project forward. Accordingly, the overview of port operations occupational framework including job roles, core and elective standards were considered. Each country presented the outcomes of industry validation of the draft occupational standards. This discussion was the basis for the final validation of occupational standards and the required moderation took place at appropriate times. In this discussion the final versions of the core and elective standards for each job role were unanimously agreed.

CASE ANALYSIS AND DISCUSSIONS

Development of transnational skills standards project that focuses on port operations operated through five main processes. Fig. 3 illustrates the process flow.

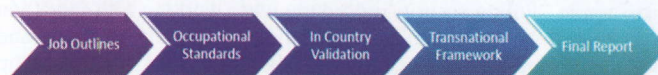


Fig.3: IORA transnational skills standards project process flow

Thereafter, the key activities that were required achieving the final goal was identified. Fig. 4 explains the major outcomes and the activities that were undertaken by the working group during the respective stages.

The discussion paper proposed the various responsibilities in each occupation this was further analysed under two categories namely, general and specific. For example, the safe, efficient and productive operation of a crane to load, unload, or disperse cargo or materials ensuring smooth movement of containers in the yard/terminal, crane use for ship to shore, yard and rail operations. It also directed the working group attention to the variety of operational environments that the respective role occurs including day/night, 24 hour operations and in variable weather conditions etc. Thereafter it proposed the knowledge, skills, and attributes that a gantry crane operator needs. Finally, it proposed the level of responsibility for each occupation. For example, a gantry crane operator will generally operate in a team environment under supervision.

The working group was then given adequate time to debate on the individual characteristics of each occupation proposed in the discussion paper chaired by the project owner. Then the working group was to give comments as 3 member group as well as individuals. Having listened to comments by all the members in a kind of Delphi technique approach and after careful evaluation of the facts the working group arrived at a final consensus on the occupations with slight changes namely, Gantry operator, Port operations supervisor, and Yard planner.

The validation process took nearly four months in the designated countries namely, Australia, Indonesia, India, Malaysia and Sri Lanka. Each job role was validated using separate questionnaire that consist the same format.

Table 1: Questionnaire for job role validation

1	What other names is the role of (occupation) known by across the Ports industry?
2	Is the information contained in the brief description of the (occupation) job role sufficient? Is there any critical information missing?
3	Is the information contained in the Knowledge/Skills/Attributes section of the (occupation) job role profile sufficient? Is there any critical information missing?
4	Is the statement regarding level of responsibility correct for the role of (occupation)?
5	Do each of the statements below describe the major responsibilities of the (occupation) job role? (It is noted that role described in the outline may be more comprehensive in scope than would be the case in some ports).
6	Responsibility There were 16 responsibilities have been proposed requesting the respondents to mark Yes / No or Modify
7	Are there any major responsibilities of the Port Supervisor job role that have not been covered? If so, please outline below

Ports Occupational Standards was developed primarily described under two categories i.e. core and elective. It was also verified whether the proposed standards are already reflected in the existing APEC Standard. For example, "Follow security procedures when working with goods and cargo" is already established in APEC standards for gantry operators and it was again proposed under core standards by the IORA working group as well. Similarly, Port operations supervisor, and Yard planner consisted 5 common standards. Likewise there was 1, 2 and 3 standards were identified that are common in both APEC and the Indian Ocean standards respectively for gantry operator, port operations supervisor, and yard planner. It was reiterated that APEC occupational standards cannot be amended in any way as they have already been validated by industry. However, the working group agreed that the APEC occupational standards can be removed from a list if they are not suitable for the identified IORA job role. Table 2 illustrates the impact of the country validation of the standards from the time it originally proposed by the IORA working group. The information is provided along with the relative importance with respect to APEC listing of occupational standards for port workers.

Table 2: Analysis of standard validation progress

Occupation	Type of standard	No. of standards before validation		No. of standards after validation	
		IORA	APEC	IORA	APEC
Gantry operator	Core	7	1	5	0
	Elective	3	1	7	4
Port operation supervisor	Core	8	5	8	5
	Elective	3	5	7	7
Yard planner	Core	9	5	7	4
	Elective	3	3	7	6

The next stage of development of transnational skills standards of port operations was the benchmarking of final list of standards. The data collected under this stage is explained below. Each occupation was tabulated under respective standards as in the previous questionnaires. The data was collected under three scenarios namely, current, industry, and future plans.

Table 3: Benchmarking scenarios

Scenario	Question
Current	How your existing VET system standards map against the requirements of these standards.
Industry	How your existing industry standards / courses map against the requirements of these standards.
Future plans	Are there any plans either industry or VET to incorporate these IORA standards.

CONCLUSIONS

The project addresses the need of many countries in the region to improve productivity and competitiveness of their workforce in domestic and international labour markets. The project is chaired by the Australian Department of Education and Training with the assistance of the Transport and Logistics Industry Skills Council. Developing agreed occupational standards involved strong engagement by working group members with their local ports industry to review, refine and validate the technical and operational detail of the standards and other project materials. Occupational standards

Eleven core and elective occupational standards were developed for these job roles and fifteen relevant occupational standards developed for the APEC Transport and Logistics Occupational Standards project were tested and validated with industry.

The standards are sufficiently flexible to accommodate variations in job roles, which may exist between countries, from one port terminal to another, or between employers in the same terminal depending on local arrangements, use of technology and equipment. Each participating country was able to benchmark by mapping their existing technical vocational education and training standards, as well as relevant industry standards against the requirements of the new common occupational standards. This enabled each country to identify areas of common strength, as well as shared opportunities for future development work.

The occupational standards for these port occupations can be used in a range of circumstances by employers, as well as training organisations. Participants are encouraged to consider how this may be relevant to their organisation – for example defining job roles, identifying skills requirements, benchmarking existing company practices, or training and assessment materials, or improving communication about workforce productivity and training.



Fig.4: Outcomes and activities of IORA transnational skills standards project

International Labor Office, (2011) proposed that there is ample scope to build on current development cooperation programmes for skills development. The avenues explained in their report are, engaging national institutions in further exchange of experience, in particular in promotion of the training strategy for strong, sustainable and balanced growth; integrating skills into national and sectoral development strategies, in particular through the UN Common Development Framework system; providing capacity-building and financial help to expand the coverage and the quality of education and training available to disadvantaged groups; upgrading the informal apprenticeship systems which are the only means of acquiring skills available to most young people; and building skills into current “aid for trade” initiatives. Accordingly, the strategies and national practices including respective national institutions of five countries were exchanged in this pilot project.

The selection of three occupations namely, 1) Gantry Crane Operator, 2) Port Operations Supervisor, and 3) Yard Planner were done through the common consensus of the working group. The country specific experiences, practices, future market forecasts, port infrastructure development plans, and statutory limitations etc. were considered at this stage.

United Nations System, (2016) recognizes the important contribution of the scientific and technological community to sustainable development and committed to working with and fostering collaboration among the academic, scientific and technological community, and strengthen the science-policy interface as well as to foster international research collaboration on sustainable development. The Port operations project approach to tripartite working group representing each country is well in line with the directives of United Nations system as it carefully filtered a balance representation from academic, scientific and technological representing both government and private sector.

The working group initially discussed various aspect of port operations including port visits in Australia and Sri Lanka that are operated under different technological platforms (i.e. automated and manual) as well as different administrative controls such as government and private run terminals. Thereafter the process to develop the 3 occupational standards with industry and government progressed in each of the five countries.

OCCUPATIONAL STANDARDS

Methodology

The real output is underpinning the right selection of occupations for core occupational standards. The selection of occupation was evaluated under two scenarios. Firstly, it studied to profile the port operations sector and key issues related to skills needs and industry engagement in VET in each country. This was followed by the working group collaboration for the development of occupational standards. Outcomes included the development of a draft work plan for each participating economy to validate draft standards through engaging with local industry. This involved the benchmarking of any relevant local qualifications against the draft transnational standards. This stage involved validation of occupational standards for each job role in IORA member countries represented in the scoping workshop. Development of transnational skills standards framework for port operations was the next stage that consolidated the learning of each country and work towards establishing a framework of regional occupational standards and the associated benchmarking of relevant local qualifications.

The project owners shared a discussion paper with the working group to identify human capital gaps and challenges across IORA members and opportunities for developing transnational standards. Accordingly, TLISC research project identified four broad categories of jobs in the port. These include management and administration, marine operations, stevedoring and logistics management, and port security and safety. Also 3 occupations namely, gantry crane operator (ports), operations supervisor, yard planner was proposed in the discussion paper. Since port job roles are differently identified in different countries the synonyms were also provided for easy understanding. (I.e. The role of gantry crane operator may also be called: Quay Crane Operator, Crane Operator in some ports).

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About authors

Lalith Edirisinghe: College of Transportation Management;
Dalian Maritime University;
China
Faculty of Management and Social
Sciences; CINEC Maritime
Campus, Sri Lanka

Victor Gekara: Global Supply Chains and Logistics Management;
School of Business,
IT and Logistics ;RMIT University, Australia

Lixin Shen: College of Transportation Management;
Dalian Maritime University;
China