



Rapid Upskilling and Reskilling Needs Assessment in Selected Maritime Subsectors in Indonesia

ASEAN TVET Council Regional Policy Dialogue

“Reskilling and Upskilling in ASEAN”

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Breakout session 1A: Assessment of reskilling and upskilling needs

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Outline

1. About our study
2. About assessment of upskilling and reskilling needs
3. Key findings
4. Recommendations



About our Study

About Our Study

The ILO and GIZ supported the Center of Employment Planning of the Ministry of Manpower of Indonesia in **implementing an approach to assess reskilling and upskilling needs relating to specific industry sectors, applying to Indonesia's maritime sector and related subsectors**. This study has

1. **Identified, quantified and mapped** out the selected industry sectors in Indonesia's economy and labour market context.
2. Developed and implemented, jointly with the Technical Team and with guidance from ILO, GIZ, and the project's steering committee, an **employer (establishment) survey and a target group survey to supplement** existing sources of LMI in the country.

Methodology includes

- a. **Desk review and secondary data** analysis
 - i. Policy and regulatory changes related to maritime subsectors in Indonesia
 - ii. Employment and occupational structure
- b. **Primary data analysis**
 - i. Data collection and analysis from 112 target groups (worker, recent graduate of maximum of one year, and student) and ten employers from three selected subsectors: (1) water transport, (2) building of ships and boats, and (3) repair of ships, boats, and floating structure
- c. **Discussions and interviews**
 - i. Initial discussion with the Association of Maritime Enterprises
 - ii. Steering committee meetings
 - iii. Validation FGD on the result

About assessment of upskilling and reskilling needs

An assessment of reskilling and upskilling needs is essential for effective workforce planning and development

1. Identifying skills gap

Identify the gap between existing skills and those required for current and future job roles. This identification is essential for ensuring that the workforce remains relevant and capable of meeting the evolving demands of industries and markets.

In the shipbuilding subsector, the skill gap is found in using the latest technology involving machinery, electricity, electronic systems, artificial intelligence (AI), the Internet of Things (IoT), and process optimization.

2. Strategic planning

Allows employers and governments to develop strategic plans for talent development. By knowing which skills are lacking or becoming obsolete, they can allocate resources effectively to train workers in the necessary areas.

Employer surveys and FGD with industry players revealed that welders and flame cutters have the highest projected employment demand for now and in the future. The GoI could encourage students or prospective students to pursue studies in these fields where future employment is guaranteed.

3. Resource allocation

Enables efficient allocation of resources for training and development initiatives. It ensures that investments in reskilling and upskilling programs are targeted towards the areas with the most significant impact.

From target group survey, more than 50% of workers revealed that HR Manager or Training Division manager determined training topics while only 6% of workers reported that training topics were decided by their line managers. A higher impact of training is seen when line managers make a training-related decision.

4. Competitive advantage

Gain a competitive edge by ensuring the workforce possesses the skills to innovate and adapt to changing market conditions.

In the era of growing global integration and increasing reliance on digital technologies, language skills and proficiency in using digital tools are skills that workers should possess. In addition, communication and collaboration is a nontechnical skills that perceived as relevant for future recruitment.

5. Future-proofing

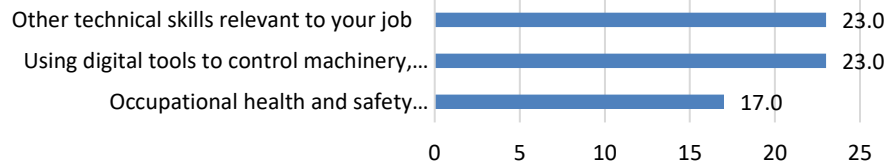
It helps employers and governments future-proof their workforce against technological disruptions and industry shifts. By proactively identifying emerging skill requirements, they can prepare employees for jobs that may not exist yet, ensuring long-term viability and sustainability.

Numeracy, information skills, occupational health and safety knowledge, and practices are considered relevant to jobs where future recruitment is anticipated. Management and administrative skills remained relevant for future hiring.

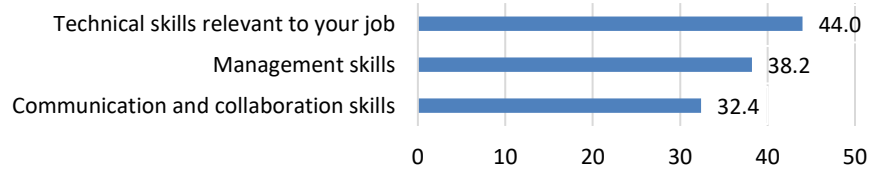
Skill needs assessment provides the foundation for designing, implementing, and evaluating effective reskilling and upskilling programs.

Top Three Skills Respondents Would Like More Training (Responses)

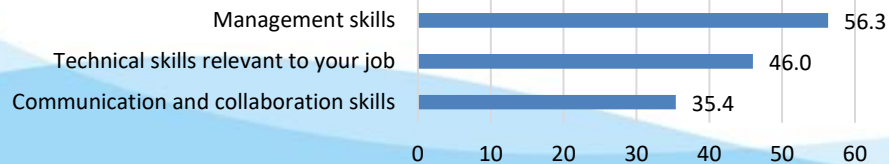
Student / Recent Graduate



Worker <= 1 year experience



Worker > 1 year experience

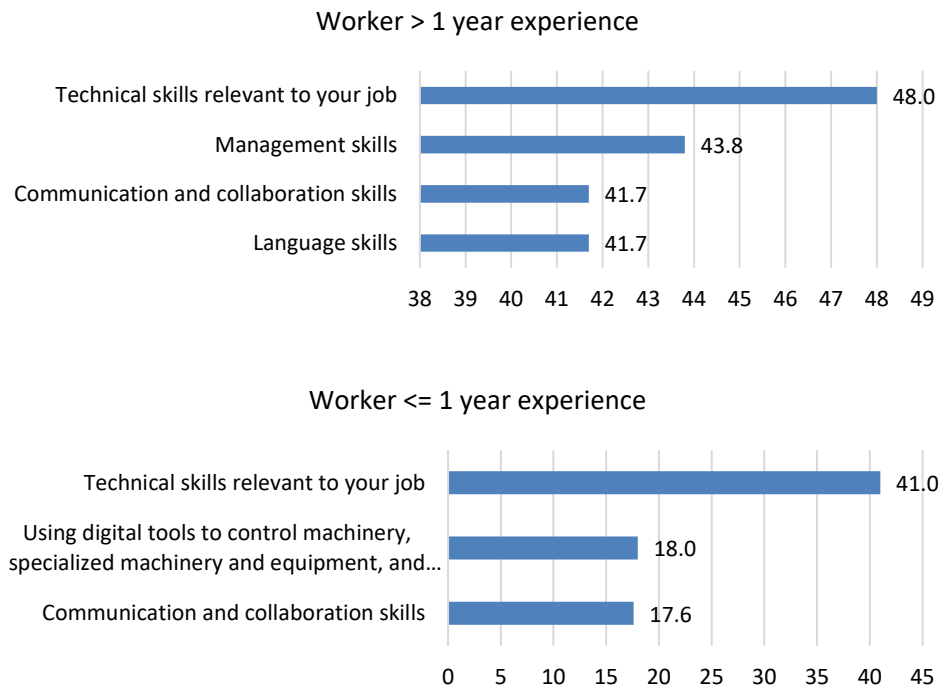


Source: Target Group Survey (N = 34; N= 24; N=16)

- **Recent graduates who are not employed or student respondents prioritized technical skills as their primary focus and have yet to be made aware of the importance of nontechnical topics.**
- **Upon entering the workforce, respondents started to be aware of the importance of nontechnical skills.**
 - Management skills became the second most desired topic followed by communication and collaboration skills as the third most desired topic.
- **For workers with more than one year of experience, a nontechnical topic was the most desired.**
 - **Management skills** were the first and most desired topic.

The relevance of reskilling and upskilling in nontechnical skills in maritime industry

Top Three Topics in which Reskilling and Upskilling Skills will Improve Work Performance (%)



Source: Target Group Survey
N = 48; N = 34

- The relevance of **nontechnical skills for workers** in the maritime sector is further emphasized when **workers are asked about the topics that need reskilling and upskilling to enhance their workplace performance.**
- Both workers with less than one year (of communication and collaboration skills) and more than one year of experience (management, communication and collaboration, language) place **nontechnical skills as crucial for reskilling and upskilling.**
- Workers with more than one year of experience accentuated the importance of **nontechnical topics more than those with less than one year of experience.**
- Workers with less than one year only have communication and collaboration skills in the top three skills that need reskilling and upskilling.
- Workers with more than one year of experience stated three nontechnical skills (management, communication and collaboration, and language)

Examples of skill needs assessment by private sectors

1. Surveys and questionnaires

Private sector organizations frequently use surveys and questionnaires to gather information about current skill levels, identify areas where skills are lacking, and understand employee preferences and aspirations for professional development.

2. Skills inventory and competency mapping

Many companies conduct skills inventories and competency mapping exercises to systematically identify the skills and competencies present within their workforce.

3. Performance reviews and feedback

This provides valuable insights into employee strengths, weaknesses, and areas for improvement. By incorporating discussions about skill development into these processes, organizations can identify skill needs at an individual level and tailor training programs accordingly.

4. Benchmarking against industry standards

This helps organizations understand the skill requirements for staying competitive in the market. By comparing their skill levels and training programs to those of industry leaders, companies can identify areas where they need to improve and invest in skill development accordingly.

5. Collaboration with industry associations and educational institutions

Private sector organizations often collaborate with industry associations and educational institutions to stay informed about emerging trends, technological advancements, and changing skill requirements within their respective sectors. These partnerships facilitate access to relevant research, training resources, and expert insights that can inform skill needs assessment efforts.

Key findings

Key findings from the study (1/2)

1. Changes in the workplace

- a. Over a third of workers experienced workplace changes in the last five years, including restructuring, organisational changes, and improved efficiency.
- b. Technology and digitization changes were also mentioned by workers, suggesting that efficiency improvement required these changes.

2. Occupational demand changing

- a. Graduates from a maritime TVET school can work in the maritime sector or other sectors requiring similar technical skills, such as construction and oil and gas.
- b. Employers anticipate recruiting managers and professional workers, which means that although both occupations have a medium share of workers, organisational and managerial expertise remains relevant amidst the evolving business landscape.
- c. Employers find that filling manager and professional positions poses the most challenges due to a shortage of applicants with appropriate skills and high demand for such positions by other companies, both within the same industry and in other industries.

Key findings from the study (2/2)

3. Skills demand changing

- a. The need for language skills and proficiency in using digital tools for machinery and equipment reflects the growing global interconnectedness and the increasing reliance on digital technologies.
- b. Communication and collaboration skills and using digital tools for those activities are also perceived as necessary.
- c. Numeracy, information skills, occupational health and safety knowledge, and practices are considered relevant to jobs where future recruitment is anticipated.
- d. Management and administrative skills remain relevant.

4. Training for workers

- a. Training programs appear to be accessible for the majority of workers in the maritime sector.
- b. There is an indication that the gender gap regarding training access in the maritime sector may prevail.
- c. The HR department or the Training Division usually determines the topics for training. Yet, the impact will be optimum when the decision is given to each line manager.

5. Upskilling and reskilling needs for workers

- a. The importance of nontechnical skills in the maritime industry may be overlooked by the student, training provider and academic institution, as suggested by how students and recent graduates saw nontechnical skills as less important than technical skills.
- b. Apart from technical skills, workers with less than one year (communication and collaboration skills) and more than one year of experience (management, communication and collaboration, language) place nontechnical skills as crucial for reskilling and upskilling.

Recommendations

Short-term recommendations based on the rapid skills assessment

Government

1. **Identifying and analysing labour supply preparedness and industry needs** should be **strengthened and carried out regularly** to implement a sound strategy to ensure the labour supply meets the sector's requirements.
 - Potential stakeholders: **Ministry of Manpower and Line Ministries**
2. Analysing worker and skill needs can also be enhanced by **continuing and improving the link-and-match program between the industry and TVET.**
 - The Ministry of Industry has a program to connect vocational schools with industry players.
 - It is essential to design curricula that equip students with employment-ready skills.
 - Collaboration between the Ministry of Education and the Ministry of Industry

Private Sectors

1. Identifying skills that **will hold economic value** for both workers and employers.
 - This means recognising skills that will become more valuable in the future due to a shortage of worker availability or changes in work and job types.
 - Join collaboration between Enterprises, associations, and academicians.
2. Training is deemed more impactful when **direct users or managers select topics**, as they possess a deeper understanding of the skills required for specific occupations under their supervision.
 - Business enterprises and associations supported by Educational training stakeholders

Medium-term to long-term recommendation based on the rapid skills assessment

Government

1. **A comprehensive roadmap** is essential for establishing targets and indicators for skill development among workers in the maritime sector.
 - A valuable tool in guiding the development of action plans by stakeholders, including government agencies, associations, TVET schools, and industry players.
 - Act as a benchmark for monitoring the progress of human resource development in the maritime sector and evaluating its outcomes.
 - Employers can also use this roadmap to plan targeted training for their workforce.
2. Encourage **students or prospective students to pursue studies in fields the industry is actively recruiting** for, such as welders.
 - Providing scholarships to motivate students or prospective students to enroll in maritime-related majors.

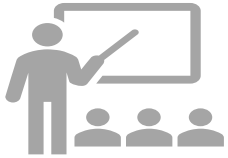
Private Sectors/Enterprises

1. Providing in-house training and collaboration with TVET, university, vocational school
2. Sending workers to attend training or further study
3. Link and match between industry and educational training

Donors

1. Pilot projects on best practices that have been done by specific industries, TVET, or training centres
2. Providing technical assistance for both the government and private sectors

Medium-term to long-term recommendation based on the rapid skills assessment: All stakeholders



The curriculum should be updated to align higher education with industry demand.



Addressing the quality of teachers, increasing teachers' salaries could attract more qualified candidates to the profession and enhance teacher motivation and effort.



Regarding the cost of training:

GoI could organise training required by workers in the maritime sector or partner with third parties to facilitate them.

Implementing cost-sharing measures is another viable option.

- For example, employers could provide the facilities and secure a trainer, while workers could cover the certification fees.

Employers might also consider having experienced staff mentor their colleagues through 'shadow training,' a method highlighted as particularly effective by an employer during a focus group discussion.

Donors could conduct 'train-the-trainer' programs within the maritime sector.

Recommendation for the implementation of future rapid assessment

1. The most challenging aspect was **reaching the target respondents, especially employer respondents.**
 - For future rapid assessments, it would be beneficial to involve **regional offices**—the local representatives of the Ministry of Manpower—as they have close connections with employers.
 - Surveying by inviting the related stakeholders during the FGD consultation will probably increase the response rate.
 - By making incentive mechanisms or “stick and carrot” policy, the participation rate will also increase as employers will find the benefit of participating in the survey.
2. **Collaboration with other technical ministries** is crucial to ensure the assessment is recognised and valued across different governmental branches.
3. **Support from business associations** is paramount to making a successful rapid assessment as they are the ones who understand issues happening with their members and have access.



Thank You