Human Resources Development Readiness in ASEAN

Regional Report

ASEAN VIET NAM 2020

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Human Resources Development Readiness in ASEAN

Regional Report

Foreword

H.E. DAO NGOC DUNG
Minister of Labour, Invalids and Social Affairs of Viet Nam

Through its Chairmanship of ASEAN 2020, Viet Nam led the study titled "Human resource development Readiness in ASEAN", with the aim to develop the ASEAN Roadmap through identifying the state of Human Resource Development (HRD) in ASEAN as well as challenges and solutions in developing it. It undertook this work with the collaboration of the ASEAN Secretariat and with the support from German Government's Regional cooperation programme in technical and vocational education and training (RECOTVET).

As ASEAN is now the fifth largest economy in the world, the quality of human resources is a key ingredient that will enhance sustainable development and resilience of ASEAN economies after COVID-19 in the long run. Through knowledge, capacity and skills development, productivity will be improved which, in turn, can enhance the competitiveness of each country and its industries within the value chains. Hence, the education and skills of the labour force play an important role as ASEAN moves up the value chains towards a knowledge-based economy.

It is my satisfaction to see the Study report on "Human resource development Readiness in ASEAN". This study is part of the ambition of AMS to frame HRD as a key priority of future policy-making in the region, and contributes to the realisation

of "The ASEAN Declaration on Human Resource Development for the Changing World of Work" and the ASEAN Roadmap of this Declaration adopted and noted respectively by 36th and 37th ASEAN Summit under the Chairmanship of Viet Nam in 2020.

The Report not only introduces a conceptual framework for HRD describing the existing practices in the ASEAN Member States and identifying options for future policies but it also compiles and synthesises the strategies, policies, and programmes that the ASEAN Member States currently apply with regard to HRD in response to the future challenges in a changing world of work, including the impact of COVID-19, which have demonstrated a need for dynamic reforms - at the national and regional level.

On this occasion, I would like to express my appreciation for the cooperation of the ASEAN

Member States, the efficient coordination of national and international experts, the ASEAN Secretariat as well as the active involvement of RECOTVET – all of them have been together with Viet Nam in this initiative.

I strongly hope readers of the study, especially policy-makers will find it useful for planning, implementing national HRD policies and for advancing mutual learning, and cooperation in the implementation of the Declaration of Human Resource Development in A Changing World of Work and its Roadmap toward building more dynamic and productive labour forces in the future.

H.E. DAO NGOC DUNG
Minister of Labour, Invalids and Social Affairs of Viet Nam

Foreword

H.E. DR IDA FAUZIYAH
Minister of Manpower of the Republic of Indonesia
Chair of ASEAN Labour Ministers Meeting (ALMM) for 2020-2022

H.E. LEONOR MAGTOLIS BRIONES
Secretary of Education of the Republic of the Philippines
Chair of ASEAN Education Ministers Meeting (ASED) for 2020-2021

The adoption of the ASEAN Declaration on Human Resources Development (HRD) for the Changing World of Work at the 36th ASEAN Summit on 26 June 2020 is a testament of ASEAN's human resources with the Leaders' unwavering commitment to build a people-oriented, people-centered ASEAN Community, through developing future ready ASEAN human resources, who are able to thrive in the face of ever-changing demands of the labour market and challenges in today's society.

In support to the implementation of the declaration, ASEAN Labour and Education sector, supported by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), have come together to develop the Regional Study on HRD readiness in ASEAN, which was envisioned to serve as the baseline for the initiatives on human resources development in ASEAN. This regional report is developed based on the national reports presenting the state of HRD readiness in each of the ASEAN Member States, including their existing practices and policies.

This regional study is a fundamental first step in developing ASEAN human resources who are resilient, competitive, productive, adaptable, empowered and future ready,

as it is expected to support ASEAN Member States in developing an agile, responsive and cohesive HRD policy frameworks, through showcasing promising strategies and best practices, as well as providing recommendation of actions at regional and national levels. In addition, the study provides the importance of clarification of human resources development concept as well as empirical exploration of strategies, policies, and programs in ASEAN member states. The study also stated cooperation between state agencies and the business sector in supporting strategies and policies for human resource development (HRD) & lifelong learning.

The COVID-19 pandemic pushed all government leaders and policymakers to review the existing practices and norms in the society. The health, education, and labor sectors were some of the most affected and in need of assistance. We had to ensure that our future initiatives are resilient and adaptive to the challenges.

HRD readiness is not anymore an option but a requirement in the ever-changing world. The work plan of the ASEAN education sector for the next 5 years emphasizes on the importance of 21st-century skills, learning metrics, digital transformation and teacher competency framework, to ensure that our learners are ready to join the labour market and are well-prepared for their future. ASEAN Member States should also promote human resources development through Technical Vocational Education and Training (TVET). We are hopeful that the continued collaboration and synergy between ASEAN Labour and Education sectors will support ASEAN human resources to be ready in embracing future challenges and thrive in the face of crisis.

We hope that this regional report on HRD readiness in ASEAN will guide us in coming up with future-ready, responsive, inclusive, and resilient initiatives that will benefit the future generations of the ASEAN community. I also would like to take this opportunity to thank ASEAN Member States, the ASEAN Secretariat, national and regional experts, and other related partners for the hard work, great efforts and contribution to the completion of this Regional Study.

H.E. DR IDA FAUZIYAH
Minister of Manpower of the
Republic of Indonesia

H.E. LEONOR MAGTOLIS BRIONES
Secretary of Education of the
Republic of the Philippines

Foreword

H.E. DATO LIM JOCK HOI
Secretary-General of ASEAN

Global megatrends are changing the world of work. Digital transformation, ageing societies, and climate change presents opportunities along with challenges to the economies, industries and workforce in ASEAN. In 2020, the world also witnessed the impacts brought about by the COVID-19 pandemic which further accelerated these developments. The International Labour Organization (ILO) estimates that 8.8 percent of global working hours, equivalent to 255 million full-time jobs, were lost due to the pandemic.[i]

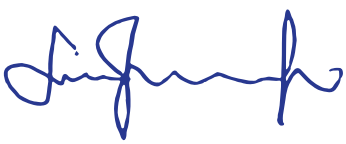
Against this backdrop, it is crucial for ASEAN to prepare the region's workforce with the essential skills needed in adapting to a continuously changing environment and uncertain future. Recognising the importance of preparing our workforce to be future-ready, globally competitive and resilient, the 36th ASEAN Summit adopted the *ASEAN Declaration on Human Resources Development (HRD) for the Changing World of Work* in June 2020. Subsequently, the multi-sectoral and multi-stakeholder HRD Roadmap was launched in September 2020 to translate the Declaration into concrete strategies and actions.

i International Labour Organization. ILO Monitor: COVID-19 and the world of work. Seventh edition. Updated estimates and analysis, 25 January 2021, accessible at https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_767028.pdf

This publication is designed to provide a baseline on the status of HRD across ASEAN Member States (AMS) and identifies areas of improvement against the current progress. In particular, the study explores the HRD strategies, policies and programmes currently applied in AMS in response to future challenges in a changing world of work. As a supplement to this publication, ten country reports of all AMS have also been produced to provide country-specific in-depth analyses and recommendations. These actions are in line with our goal to implement the Declaration through the accompanying Roadmap. I am pleased to note that AMS have already incorporated HRD components in their national policies and practices although measures to promote life-long learning culture and the acquisition of a broader range of future-oriented skills could be further strengthened.

I would like to acknowledge the role of the Ministry of Labour, Invalids and Social Affairs of Viet Nam in leading the development of this report, which has undergone extensive consultations under the ASEAN Senior Labour Officials Meeting (SLOM) and Senior Officials Meeting on Education (SOM-ED) since 2020. I would also like to thank the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) for the support rendered to this study, under the Regional cooperation programme in technical and vocational education and training (RECOTVET).

I hope that the findings presented in this report will support AMS in their readiness to keep up with the accelerating pace of change in the labour market, as we strive towards achieving a resilient and future-ready workforce.



H.E. DATO LIM JOCK HOI
Secretary-General of ASEAN

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The Study on Human Resources Development (HRD) Readiness in ASEAN was initiated by the ASEAN Secretariat together with the Vietnamese Ministry of Labour, Invalids and Social Affairs (MOLISA). The purpose of the Study is to support implementation of the ASEAN Declaration on HRD for the Changing World of Work adopted by the 36th ASEAN Summit in June 2020. The Study was conducted as an initiative under Viet Nam's Chairmanship of ASEAN with the support of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH through the Regional Cooperation Programme in Technical and Vocational Education and Training (RECOTVET).

Terms of Reference and an Inception Report for the Study were endorsed at the ASEAN Senior Labour Officials Meeting (SLOM) and Senior Officials Meeting on Education (SOM-ED) in April 2020 and June 2020, respectively. The research methodology was further deliberated by SLOM and SOM-ED focal points at a Validation Workshop held virtually on 29 June 2020.

The Study, which was conducted at regional level and across ten ASEAN Member States, has achieved its objective of offering comprehensive baseline information and recommendations. This valuable feedback will enable ASEAN policy makers and practitioners to better frame HRD as a priority for policy making.

The Regional Report and ten country reports were produced and endorsed following a series of extensive consultations with SLOM and SOM-ED from September 2020 to April 2021. The reports were launched at the High-Level Launch and Dissemination Forum conducted virtually on 26 April 2021.

The technical contributions of numerous individuals were invaluable to the development and implementation of the Study. We would like to offer our sincere thanks to the following:

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Abbreviations

ADB	Asian Development Bank
ALS	Alternative Learning System
AMS	ASEAN Member States
ASEAN	Association of Southeast Asian Nations
ASEC	ASEAN Secretariat
ATC	ASEAN TVET Council
BMO	Business Membership Organisation
CHED	Commission on Higher Education
cTVET	Continuing Technical and Vocational Education and Training
DOLE	Department of Labour and Employment
GDP	Gross Domestic Product
GE	General Education
GVC	Global Value Chains
HCI	Human Capital Index
HE	Higher Education
EI	Higher Education Institutions
HR	Human Resources
HRD	Human Resources Development
HRM	Human Resources Management
4IR	Fourth Industrial Revolution
ICT	Information and Communication Technology
ISCED	International Standard Classification of Education
LLL	Lifelong Learning
ILO	International Labour Organisation
iTVET	Initial Technical and Vocational Education and Training
NEET	Not in Employment, Education or Training
OECD	The Organisation for Economic Co-operation and Development
PDP	Philippine Development Plan
PIAAC	Programme for the International Assessment of Adult Competencies
PISA	Programme for International Student Assessment
PQF-NCC	Philippine Qualification Framework – National Coordinating Council
PRC	Professional Regulation Commission
SDG	Sustainable Development Goal
SME	Small and Medium Enterprise
STEM	Science, Technology, Engineering, Mathematics
UNESCO	United Nations Educational, Scientific and Cultural Organisation
TESDA	Technical Education and Skills Development Authority
TVET	Technical and Vocational Education and Training
WEF	World Economic Forum
WDARF	Workforce Development Applied Research Fund

Executive Summary

Why is Human Resources Development key for the advancement of ASEAN Member States?

We live in an ever-changing world, with rapid and continuous development of technological, economic and societal innovations. Today's societies face challenges of a huge scope affecting climate, health, technology, economy, and others. Many things are in a state of flux: The global climate is changing at a pace never witnessed before. The long-term impact of the COVID-19 pandemic is entirely uncertain. Developments of digital technologies have been transforming business processes, political governance, and many practices in social and individual life. They raise the question of what it means to be human. Things become even more complex when moving from present trends to future predictions.

For many, the uncertainty of the future is perceived as a threat that people are passively subjected to. However, this study follows the assumption that the future is not pre-determined but can be shaped by people. As a prerequisite, people need to be empowered to actively shape their future instead of just coming to terms with the accelerated pace of change. Human resources development (HRD) are the areas that have to prepare people for a future we don't yet know. They aim at an answer to the key question: What are the essential skills people need to adapt to continuous changing environments and to contribute to shaping a highly uncertain future? An answer to this question is very difficult to achieve, but at the same time more important than ever for deploying the potential of existing and emerging innovations in technology, economy, and society. HRD can be a useful concept to frame this challenge and to formulate a response.

Despite all the diversity, ASEAN member states (AMS) need to find adequate solutions to the challenge of how to make people resilient for a changing world of work. Short-term answers are still necessary but can only partly satisfy. Apart from short-term re-skilling and up-skilling measures, there is a need for longer-term strategies in HRD. The so-called "future skills" debate provides a framework to incorporate long-term perspectives into HRD concepts.

What is the purpose of the study?

This study is part of the ambition of AMS to frame HRD as a key priority of future policy-making in the region. At the 36th ASEAN Summit on 26 June 2020 Heads of State adopted the "Declaration on Human Resources Development for the Changing World of Work"[1] which had been promoted by the ASEAN Chairmanship 2020 of Viet Nam with support from the ASEAN Secretariat (ASEC) and RECOTVET since September 2019. On 16 September 2020 a Ministerial High-Level Meeting of 18 Ministers of Education and Labour launched a "Roadmap"[2] for the implementation of the declaration. It comprises different areas of lifelong learning (LLL) and an annex with the contributions of a wide array of stakeholders. The annex has been declared to have the status of a "living document" which is open to continuous revision. At the same time, at the 16 September event the Ministers launched the innovative "ASEAN TVET Council (ATC)"[3]. The terms of reference of the ATC include the responsibility of the ATC for the monitoring and further development of the HRD Roadmap.

Given this context, this study takes up the objectives, definitions and considerations of the Declaration and the Roadmap and provides a baseline for the ATC work on the Roadmap. As such, it pursues two major objectives

- Conceptual function: It introduces a conceptual framework for HRD which can be harnessed to describe existing practices in AMS and to identify options for future policies. Key question: *How can HRD from the perspective of state bodies and the business sector be put into more focused and specific concrete terms to address the advancement of HRD for the changing world of work?*
- Empirical exploration: It compiles and synthesises the strategies, policies and programmes in AMS that are currently applied with regard to HRD in reaction to future challenges in a changing world of work. Key question: *How do state bodies and the business sector encourage, launch, support, promote and implement areas of intervention in key fields of HRD/LLL in their country?*

What are key concepts of a HRD framework?

HRD is a complex term which needs to be conceptualised in a framework. In the study, HRD is defined as a concept to promote the capacity of people to engage successfully in new tasks, jobs and occupations, solve problems and mobilise their creative and innovative potentials for their personal advancement and the progress of society. "HRD readiness" refers to the commitment and initiative of state bodies and the business sector to engage in the promotion of HRD. While the state is heavily engaged in general, higher and vocational education and with less intensity in non-/informal education, the

1. ASEAN-Declaration-on-Human-Resources-Development-for-the-Changing-World-of-Work.pdf (retrieved 26-1-2021)
2. 23-ASEAN-HRD-Roadmap_adopted-by-ALMM_ASED.pdf (retrieved 26-1-2021)
3. https://asean.org/storage/2020/06/TOR_ASEAN-TVET-Council_adopted-by-AEM_ALMM_ASED.100620201.pdf (retrieved 26-1-2021)

business sector carries out most activities of corporate learning and development but can also be engaged in the provision of non-formal education, TVET and with less intensity as a partner in higher education.

Lifelong learning is an important integral part of HRD. Whereas the concept of HRD accentuates the perspective of the providers of learning and development opportunities, LLL points to the role and responsibility of the learner, without which no HRD effort can succeed. Based on a UNESCO definition, LLL covers "learning activities for people of all ages (children, young people, adults and the elderly, girls and boys, women and men) in all life-wide contexts (family, school, community, workplace and so on) and through a variety of modalities (formal, non-formal and informal) which together meet a wide range of learning needs and demands."

HRD is designed to respond to future challenges such as the digital transformation; the transformation of labour markets; to social inequality and a lack of social cohesion as well as to environmental degradation and climate change. Each of these mega-trends gives rise to changing skills requirements. The question of which skills exactly will be needed is hard to answer. In the literature on future skills, a broad consensus has emerged regarding the types of skills that will strengthen the individual capacity to cope with change and uncertainty:

- Cognitive Skills with the following sub-types: (1) Numeracy and literacy as foundation skills; (2) low-order cognitive skills on the level of understanding and applying; (3) high-order cognitive skills on the level of analysing, evaluating / critical thinking, creating / innovating.
- ICT skills / digital literacy (e. g. the proficient application of hardware devices and software tools; programming; appraisal of the potential impact of ICT applications)
- STEM skills.
- Social skills (e. g. communication, cooperation in teams, conflict resolution, empathy, emotional intelligence).
- Learnability (e. g. readiness to learn, learning motivation, curiosity, effective self-learning strategies).
- Character qualities (e.g. ethical reflection and action, social and cultural awareness, agility, adaptability, persistence, initiative).
- Problem-solving in complex, technology-rich environments.

Which areas carve out the conceptual framework for stakeholders to promote HRD?

As part of the conceptual framework, key fields of HRD as well as areas of intervention can be identified and combined. Key fields of HRD are:

- General education
- Technical vocational education and training (TVET)
- Higher education
- Corporate learning and development, and
- Non and informal learning.

Within these key fields, six general areas of intervention for promoting HRD are introduced. These are to:

- Promote HRD culture
- Adopt inclusive approach
- Strengthen enabling structures
- Modernise educational programmes
- Professionalise development of qualified teaching personnel
- Promote engagement of the business sector in HRD.

Each of the six areas of intervention is broken down into sub-areas. Overall, there are 30 sub-areas encompassing the range of possible interventions for stakeholders to promote HRD in their country.

What is the state of affairs on HRD in the ASEAN Member States?

Based on a literature review, the subsequent development of a conceptual frame-work and respective research instruments, national researchers in all AMS conducted an empirical exploration on HRD in their country. For that purpose, they reviewed documents, conducted interviews and compiled relevant data by approaching key stakeholders. Results of the empirical exploration are consolidated in country reports. These reports have been analysed and transferred into a regional report.

HRD readiness gaps

Not surprisingly, comparative analysis revealed that AMS are at different stages of

development and implementation across the areas of intervention. However, it was made quite clear from the outset that comparison of HRD developments should not result in any kind of ranking. The economic capacity and productivity in AMS are highly diverse, which results in different profiles of education systems reflected by the key indicators. Rather, the major objective of the study is to safeguard the richness of experiences and to provide food for thought for all.

A "Readiness Questionnaire" was designed to gain a snapshot of the potential gap between the appraisal of importance and the realisation of HRD with regard to each area of intervention. Results indicate that all six areas of intervention are appraised as overwhelmingly important and desirable. All AMS report a significant gap between the degree of importance identified and the extent of its realisation. Overall, no AMS can offer a perfect system of "HRD readiness". However, the gaps vary greatly across the AMS and across areas within the countries. With regard to the areas of intervention, overall realisation seems to be slightly more advanced in the professionalisation of qualified teaching personnel and the modernisation of HRD programmes. On one hand, the results confirm the importance of the areas of intervention covered in the conceptual framework. On the other hand, the results indicate in all six areas of intervention a considerable implementation gap which may provide the entry point for reflecting on how this gap can be closed.

Findings with regard to areas of intervention

Detailed analysis was conducted for each of the six areas of intervention with their 30 sub-areas. While country-specific details are described in the ten country reports, the regional report focuses on overarching findings and a selection of good practices.

Promote HRD culture (chapter 5.3.1)

- HRD/LLL are key terms in many countries' strategies, policies and programmes. Within this context, HRD is often regarded as instrumental to promoting economic development and competitiveness.
- Progress in implementation of HRD/LLL ambitions is at different stages across AMS. The spectrum ranges from narrowly defined pilot initiatives to the set-up of institutional infrastructures to drive programmes on a coherent and systematic basis.
- With regard to specific target groups of HRD/LLL initiatives, in principle there are no restrictions. However, in terms of prioritisation some AMS emphasise specific target groups often linked with equity and inclusion considerations.
- In some AMS, major attempts are made to boost the image of TVET and non-

and informal education as learning paths which suffer from low attractiveness. Country reports list a broad range of measures.

Adopt inclusive approach (chapter 5.3.2)

- Universal access to education for its citizens, emphasising on equity and equality for all, is a visible part in all HRD-strategies and policies in the AMS. Part of the strategy are various efforts to implement affirmative interventions towards the realization of inclusive education.
- The definition of "vulnerable groups" differs across the AMS. Some characteristics of vulnerability relate to social attributes (e.g. gender, ethnicity), others result from some kind of socio-economic disparities or awkward living conditions.
- Data on enrolment and completion rates for vulnerable groups are scarcely available.
- Despite remarkable approaches of inclusive education in all AMS, there are considerable obstacles to covering larger groups with special needs. Limited resources, the lack of trained teachers to deal with special needs requirements in educational institutions, and prevailing prejudices about people with disabilities are just a few reasons preventing a more comprehensive and systematic inclusion of vulnerable groups in most AMS.
- Some AMS have made notable progress in introducing procedures to promote recognition, validation and accreditation of non- and informal learning outcomes.

Strengthen enabling structures (chapter 5.3.3)

- Legislation in all AMS stipulates compulsory schooling up to a defined grade. Enrolment rates differ considerably across the states, both within the range of compulsory schooling and with regard to subsequent non-compulsory provision.
- In most AMS, responsibilities for HRD provision are allocated to different ministries. Some of them have subordinate institutions in charge of the operational implementation of assigned tasks. Coordination between the bodies can turn out to be quite complex and is reported as not always running smoothly.
- A major challenge in all AMS is to make HRD provision future-ready. Countries arrange for different approaches to identify future requirements on a systematic basis. Some have bodies to compile relevant information generated by international and national organisations. Others try to conduct research on trends closer to national developments or even on requirements in targeted economic sectors.
- Many AMS have made considerable efforts to promote TVET as a full-fledged and attractive field of HRD. In some AMS, specific bodies have been established to strengthen support and advocacy for TVET in the national context. These bodies

can become excellent contact points for the newly established TVET council on the regional level.

Modernise HRD programmes (chapter 5.3.4)

- To some degree, "future skills" have become part of curricula and assessments in the AMS investigated. Those future skills as identified in the literature review are confirmed as highly relevant. Some AMS add further skills to the list (e. g. "green skills" and "environment awareness").
- On a more detailed level, incorporation of specific skills into curricula and assessments turns out to be advanced to different degrees. While "social skills" and "character qualities" already range high, problem solving, ICT and STEM skills reveal some room for improvement in most AMS.
- Surveys in three AMS show that so far textbooks and online resources only partly support the promotion of "future skills". AMS with advanced digital technology infrastructures report the increasing importance of online resources as opposed to traditional textbooks.
- If digital technologies are applied as part of teaching and learning arrangements, blended learning concepts are more common than pure online arrangements.
- Apart from some exceptions, pathways from TVET to higher education are not common.

Professionalise development of qualified teaching personnel (chapter 5.3.5)

- Teacher training in AMS is formally grounded and organised in different ways. Most AMS have professional standards for training and certification of teachers in place.
- Although some future skills are included in the standards and / or respective training programmes, others still play a minor role.
- An important driver for professionalisation of teaching personnel is recruitment of high-motivated and committed applicants. In many AMS, becoming a teacher is less attractive due to poor compensation, limited promotion opportunities and low status. However, there are promising approaches and good practices in some AMS targeted not only to increase extrinsic motivation but also to trigger intrinsic motivation factors.
- With regard to standards and programmes for the training of school-managers, there are some experiences in AMS which have put stronger emphasis on this target group recently.

4. https://asean.org/storage/2019/05/2019.04.01-ASEAN-In-CT-Standard-booklet-2019-English.pdf (retrieved: 26-1-2021)

- For the training of in-company trainers, the ASEAN In-Company Trainer Standard[4] provides a reference document acknowledged by many experts. However, provision of respective programmes is far from common practice.

Promote engagement of business sector in HRD (chapter 5.3.6)

- There are many options for the business sector to collaborate with public educational institutions both in TVET and higher education. Despite a number of good practices and increasing efforts from the governments and engaged stakeholders in the business sector, the extent of engagement is still limited.
- Financial support alone for companies turns out to be of limited impact. At least equally important is the companies' belief that HRD investment is an essential factor for a thriving business in the future.
- An important role in efforts to increase the level of engagement of the business sector in HRD is played by business membership organisations (BMO). By statute, BMO work for the benefits of their members, and economic issues are at the core of their mandate. However, there is an increasing awareness that HRD is a major component for preparing business to tackle future challenges.

What are key issues on the way forward?

The findings of the study make a coherent picture overall. As a result of the HRD readiness questionnaire, an implementation gap could be identified. While the are-as of intervention for the promotion of HRD are appraised as highly important, realisation and implementation lag behind to a considerable extent. This general finding is confirmed and substantiated by specific findings derived from the country reports of ten AMS.

Awareness of the need to invest in HRD is remarkably high within the AMS. However, AMS differ with regard to the degree of implementation of respective strategies, policies and programmes. Although many experiences as well as challenges have al-ready been published before, this study conceptualises, specifies and extends HRD readiness within a comprehensive framework. This allows stakeholders at a region-al and national level to put existing initiatives into context and to identify priorities for taking next steps.

While each country would need to identify their specific areas of concern and to launch respective initiatives within their national priorities, the following considerations are highlighted to address urgent issues which could also be jointly explored and developed at the regional level.

4. https://asean.org/storage/2019/05/2019.04.01-ASEAN-In-CT-Standard-booklet-2019-English.pdf (retrieved: 26-1-2021)

- In terms of HRD culture, the message of a rapidly changing, uncertain future impossible to prepare for with narrowly defined learning outcomes needs to be spread around with more rigour. Many stakeholders still regard HRD primarily as an approach for short-term up- and re-skilling activities. Awareness for long-term, future-oriented perspectives on peoples' learning and development needs to be strengthened.
- Although there is some commitment in all AMS to design HRD inclusively, the practical approaches often reach only a comparatively small number of target groups affected. This is partly due to a lack of financial resources and personal capacities spent in this area. One step to pursue more systematic and evidence based inclusive approaches could be to collect reliable data on enrolment and completion rates of vulnerable groups on a continuous basis.
- Although "future skills" have partially entered HRD programmes, relevant skills such as problem solving, ICT- and STEM skills need to be incorporated more prominently into curricula and teaching and learning material.
- Digital technologies have become part of teaching and learning practices in many programmes, and are mostly realised in blended learning concepts. How-ever, there is still room for improvement in leveraging the full didactic potential of these technologies.
- The potential of digital technologies in the design of learning arrangements can only be exploited if qualified teaching personnel are in place. In many AMS, recruitment of highly qualified teaching personnel suffers from the lack of attractiveness of teaching as a profession.
- With regard to standards for teaching personnel, "future skills" often play a minor role.

More specifically, the following topics with regard to TVET may be of particular interest for the newly established ATC:

- In contrast to general and higher education, TVET often still takes a backseat in HRD and education. There are good practices from some AMS which may serve to make TVET more attractive both for school graduates and for the business sector.
- TVET in many AMS is not only realised in formal HRD or education settings but also in the informal economy. Hence, concepts such as informal apprenticeships or other forms of training in the informal economy should be analysed and consideration given to upgrading and linking them to formal TVET qualifications. In order for informally acquired skills to be valued, procedures to promote recognition, validation and certification needs to be strengthened and applied on a larger scale.

- Sometimes responsibilities for TVET are fragmented, and dispersed among many bodies in government and administration. This can compromise the effectiveness and advocacy power of TVET as opposed to competing policy areas.
- In many AMS, national TVET councils or analogous bodies have been set up. As these bodies pursue similar objectives, there is some potential to catalyse their work by establishing ways for them to share practices and even embark on projects of mutual interest.
- Engagement of the business sector in TVET is not widely realised for many reasons. For priority industries, the current sporadic and unstructured activities and areas of engagement of the business sector (including business membership organisations) in TVET need to be systematised. As part of this endeavour, engagement of the business sector in the operation and advancement of TVET needs solid anchorage in TVET governance.

Apart from the various issues defining potential room for improvement, it should be noted that there is also some reason for AMS to be proud of achievements to date.

- HRD and LLL are already rooted in national strategies as a means of promoting economic and societal advancement.
- Despite remarkable differences across the AMS, access to provision in HRD has improved in all countries during the last decades. Years of compulsory schooling have been increased, and provision in other key fields of HRD has been introduced and extended.
- Despite limited capacities and occasional lack of coordination, institutional capacities to promote HRD have been increased and consolidated.
- "Future skills" are already part of HRD programmes in different key fields.
- Training of teaching personnel in AMS is regulated and thus strives for broader implementation of firm standards.

Conclusion

This regional report offers a snapshot of the state of HRD readiness in the ten AMS. It describes existing practices and introduces options for future policies, as guided by a conceptual framework of investigation. In particular, it explores approaches taken in AMS that are currently applied with regard to HRD in reaction to future challenges in changing world of work. The report ends with some hypotheses for further reflection and debate:

1. *The COVID-19 pandemic jeopardises gains to date, which makes an urgent case for new investment in HRD / LLL policies*

   Over the past decades, many AMS have made considerable progress in improving their record in HRD / LLL. The COVID-19 pandemic jeopardises these gains, with foreseeable implications such as reduced fiscal space for public spending and setbacks in many economic sectors. Urgent action is needed to protect advances already won in HRD policies, particularly with regard to the vulnerable groups in society.

2. *The world of work is changing globally but starting points in HRD to combat the challenges are different*

   Economies are interdependent on a global scale; digital transformation is a ubiquitous phenomenon challenging policy in all countries. The nature of both workforces and workplaces has changed significantly. However, resources and opportunities to deal with these challenges vary considerably across AMS. This requires measures on a regional level to counteract the "Matthew effect" (Merton) of accumulated advantage making the better-off stronger and the underprivileged poorer.

3. *Vulnerable groups are most at risk in a changing world of work*

   COVID-19 revealed the vulnerability of all nations, but most of all of the vulnerable groups in the AMS. For example, first reports on COVID-19's impact suggest that the groups most affected negatively by closure of schools are children from disadvantaged social groups. These insights back up the view that technological developments often run the risk of discriminating against the vulnerable in society. Thus, inclusive education on a larger scale is more important than ever.

4. *HRD is more than an instrument for promoting economic goals*

   HRD is not an end in itself. Undoubtedly, HRD is an important measure for promoting economic goals such as higher growth, productivity, prosperity or competitiveness. But it is more than that. If implemented well, it can also con-tribute to the enhancement of cohesion and social integration in society and may become a driver of poverty reduction. On the individual level, it can con-tribute to personal development, self-fulfilment, agility and trust in society and public institutions. Non-economic goals are often prominent in rhetoric, but in practice do not attract the same weight as economic targets.

5. *HRD is not an event but a journey with different time-horizons*

   As learning is not just a passage before working life starts but a companion embracing all ages, HRD also needs a multi-dimensional perspective addressing immediate, medium-term and transitional requirements. As a result,

HRD takes care of short-term re-skilling needs, addresses medium-term skills development needs due to substantial changes in working processes and respective role profiles, and pro-actively prepares organisations and individuals for long-term fundamental transformation processes in society and working life.

6. *High-quality HRD strives for sustainable, deep learning approaches*
   In order to become sustainable, HRD approaches need to reach deeper levels of learning and development activities within the framework of learner-centred pedagogy. Memorising facts and content as well as reproducing routine tasks may make up (a smaller) part of learning processes but are insufficient in themselves. Future skills embrace the acquisition of cognitive processes, skills and attitudes which cannot easily be replaced by technology but are more demanding to learn. What counts in the future are dispositions such as social skills, resilience, dealing with complexity and uncertainty, self-efficacy, and the like.

All considerations and analysis may be summarised in the final statement:
HRD / LLL is no longer an option but a necessity!

1. Context and objectives of the study

Change is a basic characteristic of life, this much goes without saying. The transformation of economies, societies and work environments has been a continuous process throughout human history. And at all times the desirability and impact of change has been a subject of lively debate.

And yet, an analysis of academic literature and public debate leaves no doubt: there is a widely shared consensus today that we live in an age of "revolution", "disruption" and "upheaval".

Some influential studies (e. g. WEF 2020; ADB 2020; ILO 2019b) focus on the impact of individual disruptive forces (e.g. the progress of automation). Others identify so-called mega-trends, such as digitalisation or climate change, whose pace and concurrence are described as the defining characteristic of the era.

The recent COVID-19 pandemic exemplifies both: the disruptive force of a new and highly contagious virus and the relevance of different mega-trends such as urbanisation and globalisation to explain its fast-paced and world-wide impact.

Mega-trends may manifest themselves quickly or slowly, and more or less powerfully in different national and even local contexts. The analysis of mega-trends allows a gaze into an uncertain future, when dramatic consequences are expected for all aspects of human existence: how we live, communicate, interact and how our economies function.

A sizeable body of literature focuses on the implications of mega-trends for the world of work and, derived from this, changing requirements in terms of competences, skills and knowledge.

For the ASEAN region the common challenge in relation to an uncertain future consists of the empowerment of individuals to become ready to adjust to change and seize new opportunities in transformations and crises. Despite their diversity all AMS are united in the quest to prepare their people for a changing world of work.

In order to capture the different facets of this challenge in AMS, multiple stakeholders need to be addressed. As a key term to frame the different facets of the challenge, this study draws on the concept of **human resources development (HRD).**

The HRD concept offers some convincing advantages:

- From a normative perspective, HRD is a concept that refers to the need to advance human beings and values them as a resource – for the economic success of a company, the social and economic progress of a nation as well as the realisation of personal potentials of the individual. HRD recognises the relevance of economic, societal and personal objectives.
- HRD moves away from a perspective of human resources management (HRM) in which the individual is simply understood as an input to promoting productivity and effectiveness. HRD moves towards a perspective that values the individual as a resource who must be empowered to become more resilient and flexible in dealing with change.
- In this sense, HRD corresponds better than other existing concepts with the values and development experience of the ASEAN region. Here the state has a crucial role to play but will not succeed without active contribution of the private sector and individual learners.
- From a governance perspective, HRD includes all providers of education (notably educational provisions by the state and learning and development opportunities organised by the private sector).
- HRD can only be realised where state and private sector provide an enabling environment for personal responsibility. It exceeds some variation of liberal tradition by not stressing the individual too much as the autonomous self who has to take care of his personal development and well-being. In this sense, the notion of HRD bears consequences primarily for those who provide the framework conditions: the State and business and industry.
- From a conceptual perspective, HRD incorporates but re-focuses former approaches of lifelong learning (LLL) meant to empower people of all ages to adjust to changing labour market demand and new individual and social challenges. HRD acknowledges the relevance of different types or stages of education as well as different providers of education services (public-private; formal-informal; labour-education). In this sense HRD is a step away from thinking in silos.

HRD in this study refers to an expression of the interest of AMS to address problems related to a "changing world of work" in the common interest at the regional level. ASEAN, as an increasingly integrated economic community, can function as a platform for mutual learning and exchange with a view to viable reforms. Although each member state must deal with the current and upcoming mega-trends individually, all are facing the same challenges. For example, the COVID-19 crisis has hit the labour markets as an external shock of unprecedented scale. HRD can provide a conceptual framework for pro-actively addressing the necessity to empower people to flexibly deal with recurring changes in society and economy.

This study is part of the ambition of AMS to frame HRD as a key priority of future policy-making in the region. At the 36th ASEAN Summit on 26 June 2020 Heads of State adopted the "Declaration on Human Resources Development for the Changing World of Work" which had been promoted by the ASEAN Chairmanship 2020 of Viet Nam with support from ASEAN Secretariat (ASEC) and RECOTVET since September 2019. On 16 September 2020 a Ministerial High-Level Meeting of 18 Ministers of Education and Labour launched a "Roadmap" for the implementation of the declaration. It comprises different areas of life-long learning and an annex with contributions of a wide array of stakeholders. The annex has been declared to have the status of a "living document" which is open to continuous revision. At the same time, at the 16 September event the Ministers launched the innovative "ASEAN TVET Council (ATC)". Terms of reference of the ATC include the responsibility of the ATC for the monitoring and further development of the HRD Roadmap.

The ASEAN Declaration on Human Resources Development for the Changing World of Work provides some normative statements on the direction to take as well as some broad indication on what could be encompassed by HRD. Following this text, there has been a consensus that two major steps would be necessary to move the initiative ahead:

- Developing a detailed framework with the components in education and labour to conceptualise HRD for providing the skills and competences needed to deal with the changing world of work.
- Compiling relevant knowledge about the degree of implementation and existing experiences on HRD in the AMS.

These two steps are taken up in this study. Accordingly, the study pursues the following objectives:

- Conceptual foundation: Based on current state of research, it introduces a conceptual framework on HRD which can be harnessed to describe existing practices in AMS and to identify options for future policies.
  Key question: *How can HRD from the perspective of state bodies and the business sector be put into more focused and specific concrete terms to address the advancement of HRD for the changing world of work*?
- Empirical exploration: It compiles and synthesises the strategies, policies and programmes of AMS that are currently being applied with regard to HRD and life-long learning (LLL) in reaction to future challenges in a changing world of work.
  Key question: *How do state bodies and the business sector encourage, launch, support, promote and implement areas of intervention in key fields of HRD/LLL in ASEAN member states*?

2. Research process: Line of inquiry

Over the last decade, a considerable number of studies have been published by international organisations such as the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Asian Development Bank (ADB), and others. These studies touch on aspects of the key questions outlined above. However, they do not provide comprehensive insights to answer the questions.

A major challenge of the study is access to relevant and valid data in the AMS. Statements on the degree of implementation and existing experiences on HRD may be biased or highly subjective. Within the given resource frame, it was decided to pursue a multi-level-approach to data compilation and analysis:

- Responsibility for the overall research and scientific quality is taken by the author of this study. Part of the research process is to conduct of a literature review, the design of a conceptual framework on HRD and the translation of this framework into key questions and interview guidelines.
- In each of the AMS, national experts conduct interviews and compile relevant data by approaching key stakeholders based on the interview guidelines. For conducting this task, they receive an appropriate briefing. The national experts take care that the collected data are complete, consistent and substantial. Results of the interviews are consolidated in country reports.
- The author of this study analyses the country reports, identifies differences and commonalities, suggests conclusions and recommendations, and compiles the various findings into a regional report.

Based on these different roles and responsibilities, the research process is structured along the following steps:

1. Review relevant literature on HRD readiness: studies, research articles, policy documents, case reports etc. are analysed. An objective of that step is to identify relevant concepts and factors which are to be further investigated in the empirical part of the study.
2. Develop the framework of investigation: Based on the objectives, the key questions and the results of the literature review, a conceptual framework of investigation on “HRD readiness” in ASEAN is developed.

3. Develop interview instruments (questionnaire and corresponding interview guidelines) for national experts: The framework of investigation is transformed and elaborated into guidelines to be applied by the national experts in their interviews with stakeholders and respondents.

4. Draft an inception report summarising the main findings of the literature review and outlining the design of the empirical exploration: The inception report includes the framework of investigation, the instruments for the empirical part of the study and an outline of the country reports to be generated.

5. Recruit and brief national experts on the inception report to facilitate common understanding on the methodology and ways forward as well as to ensure the consistency and quality of the country reports. Feedback on interview instruments is collected from national experts. Priorities on the areas to be investigated in the respective countries are discussed.

6. Collect data and interview stakeholders and respondents in AMS: National experts check who is best suited to provide relevant data to the questions ad-dressed in the interview guidelines. They draw on a mix of different stakeholders for two reasons: (1) to gather the expected information as authentically and precisely as possible; (2) to crosscheck given information from many perspectives. In the process of data collection, emphasis is also put on the identification and compilation of good practices.

7. Draft the country report in accordance with the outline set in the inception report.

8. Validate the completeness, intelligibility and substance of country reports in coordination and collaboration between the senior researcher and national experts.

9. Conduct regional analysis and synthesis of country reports: Data in the country reports is analysed with reference to the key questions and the elaborated set of questions in the questionnaire and interview guidelines. The "HRD Readiness" framework provides the guiding structure of the regional synthesis report, which may highlight common challenges, innovative and leading practices.

10. Draft the regional report, with interpretation and discussion of results: The report is expected to move from an analysis towards policy implications as it contrasts advanced and neglected areas of implementation, critical factors for the progress in HRD and initiatives within reach of AMS ("low hanging fruit") individually, and ASEAN collectively.

11. Present and feed into the process: (preliminary) results and insights from the study will be made available to ASEAN stakeholders.

3. Literature Review: The conceptual foundation of HRD

Literature review is based on three guiding questions:

- How shall key concepts such as "Human Resource Development (HRD)", "HRD readiness" and "Lifelong Learning (LLL)" be defined? (chapter 3.1)
- What are foreseeable future challenges in AMS which will reasonably will have an impact on HRD? (chapter 3.2)
- Which strategies, policies and initiatives are suggested or already in place regarding HRD? (chapter 3.3)

Given the huge bulk of literature on HRD and LLL, the literature review had to follow some selection criteria. The following criteria have been applied:

- Studies and research papers providing an overview and with relevance for the ASEAN region;
- Studies and research papers widely adopted and quoted in research and/or policy communities;
- Up-to-dateness of the studies (apart from 'classic' papers or inventive papers they should have been published within the last five years);
- On principle relevant for informing the framework of investigation on HRD/LLL.

3.1 Key concepts: Human Resource Development and Lifelong Learning

3.1.1 Human Resource Development as the conceptual starting point

The draft text on "ASEAN Declaration on Human Resources Development for the Changing World of Work" decided to use HRD as the conceptual starting point. This decision is well taken, as HRD is close to the business world but also understandable and acceptable for educationalists. HRD offers a perspective on which people from business and education agree: People and their capabilities need to be developed for the advancement of a society, the economy and their personal well-being.

HRD aims at promoting the potential of people for tackling challenges and solving problems, and for empowering people to exercise creativity and innovation for their personal and societal advancement. HRD views people as a driver for change and, among others, for harnessing the potential and opportunities of digital technologies.

In contrast, Human Resource Management (HRM) primarily aims at promoting organisational effectiveness and productivity. HRM views people as a means to an end for the economy and employers. In the context of an organisation, HRM implies the member life cycle (planning, recruitment and selection process, administration, reward management, performance appraisal, remuneration, dismissal, etc.). In business, HRD and HRM start from different assumptions with regard to underlying motives and corresponding ways to treat workers:

Table 1: Contrasting juxtaposition HRM - HRD

Human Resource Management	Human Resource Development
Managing human capital (analogous to financial capital or assets)	Empowering people as individuals
Regarding people as an instrument for implementing business goals	Regarding people as drivers for advancing business
Training people to adapt to given demands – focus on short-term skills	Making people adaptable to changing environments – focus on capabilities
Principle: Trust is good, control is better	Principle: Control is good, trust works faster
Applying principles such as compliance, command and control	Applying principles such as communication, cooperation and persuasion
Assuming *different* interests between organisation and members	Assuming *shared* interests between organisation and members
Enforcing organisational objectives and controlling their implementation	Agreeing on organisational objectives and autonomously organise implementation
Human development as a derivative of technological and economic development	Human, technological and economic development interdependent and mutually reinforcing

In the context of the Fourth Industrial Revolution (4IR), HRD has long been regarded as a derivative of technological development. While digital technologies, so the assumption goes, drive and transform work systems, people should gain the technical skills needed to operate existing work systems today. Modern HRD approaches challenge this assumption. "In the race to take advantage of the promise of new technology, many organisations had failed to consider what other changes would be necessary in order to unlock the real potential of bringing new technologies into the world of work" (Deloitte 2020, 4). Following this insight, HRD has to start from the assumption that technological and human development are inter-twined and have to go hand in hand.

From that perspective, HRD and technological and economic advances are not distinct domains but rather are interdependent and mutually reinforcing. Technological and economic development without HRD will not work. Rather, HRD is inevitable to capitalise on technology to its fullest. This makes HRD an important pillar for education and labour policy, it also indicates the direction for any promotion by state bodies. This notion of HRD requires interventions in the various fields of education to reach beyond just re-skilling people.

In the past (and often still today), HRD and education attempted to precisely identify present skills needs, translate these into curricula and discrete training programmes, and then do it all over again once the societal or economic needs change. To some extent, this approach still has its merits but is insufficient. The pace of change is too rapid, quickly rendering even 'successful' programmes obsolete. How can skills be anticipated in a fast-changing world? What is needed is an HRD approach that considers near-term skill needs but also invests in long-term capabilities of people to make them resilient in an environment of constant disruption. Capabilities such as learnability, critical thinking, emotional intelligence or collaboration will endow people to continuously develop their skills, make them responsible for themselves and adapt to a range of uncertain futures – in addition to re-skilling them for near-term needs. Thus, HRD should focus on building people's skills and capabilities for both the short and long term.

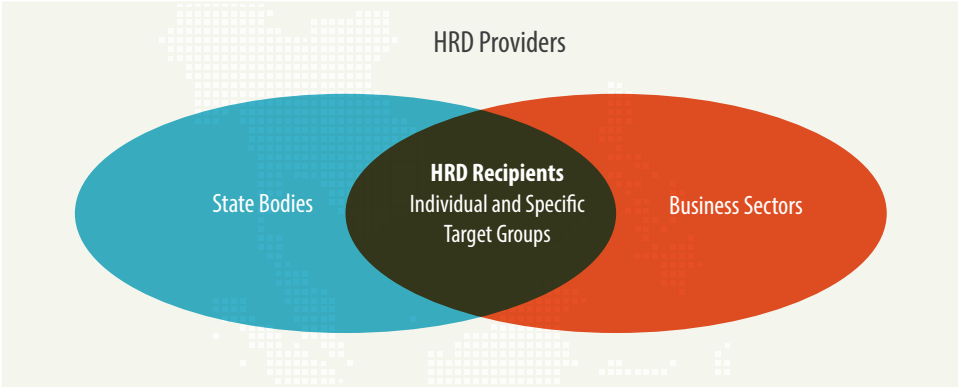
3.1.2 HRD readiness

Traditionally, HRD is a term not used in the context of state policies. In a survey, the entity responsible for HRD is primarily organisations (73 %), individuals (54 %) and educational institutions (19 %). Only 10 % regard HRD as a responsibility of governments (Deloitte 2020, 74). However, given the increased importance of long-term capabilities to be developed to prepare people for future requirements in a fast-changing world, key fields in education (general, vocational, higher and non-formal) cannot be ignored. Regarding the current developments in the context of 4IR, an increasing range of ethical challenges turn up, some of which are especially pronounced at the intersection between humans and technology and address the impact of emerging technologies on individuals and society (Deloitte 2020, 101).

In this study, *HRD readiness* embraces the commitment and willingness of *State bodies* and the *business sector* to engage in the promotion of HRD. Recipients and beneficiaries of HRD initiatives can be individual citizens or specific target groups (e.g. vulnerable groups), but also the business sector which, for example, may benefit from state incentives for engaging in HRD programmes (e. g. in TVET) and at the same time act as an HRD provider for their employees. As the following chart

shows, HRD creates some opportunity for organising and advancing public-private partnership models.

Figure 1: HRD providers and recipients



HRD readiness does not necessarily require the realisation of respective initiatives to be accomplished, but an explicit commitment to and concrete plans for running and implementing initiatives. However, such an approach carries the risk of finding lots of programmatic statements and lip-service in favour of (modern) HRD but few or no implementation practices. For the business sector, the latest Deloitte Human Capital Survey identified such a noticeable gap between articulated importance and readiness. While 75 % of the survey respondents say the evolving role of HRD was important or very important for their success over the next 12 to 18 months, only 11 % say they were ready to address this trend (Deloitte 2020, 111).

Against this background, this study is going to focus on two interrelated perspectives:

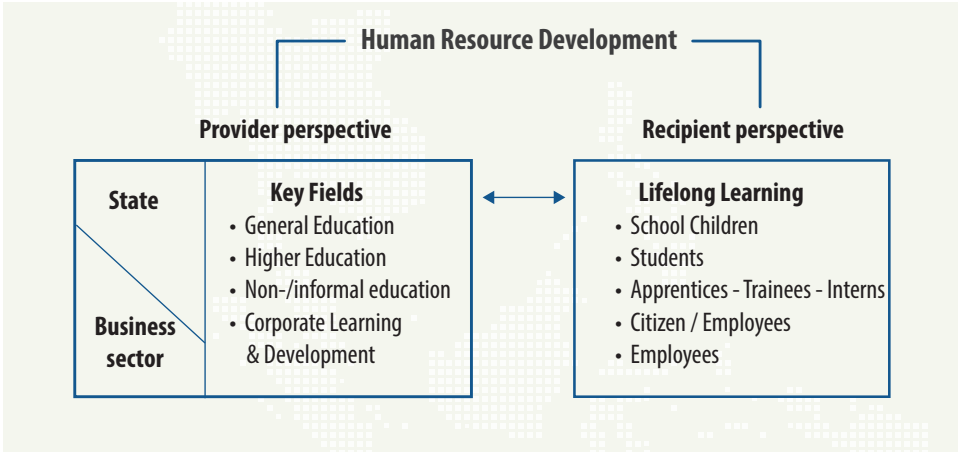
- To what extent do HRD providers share the notion of HRD outlined above?
- To what degree are approaches in HRD based on this notion already implemented?
- Which areas of HRD interventions show noticeable "readiness gaps"?

3.1.3 Lifelong Learning

As pointed out in chapter 1, HRD incorporates but re-focuses former approaches of LLL. Following this notion, HRD comprises two complementary perspectives:

- A provider perspective, responsible for in charge of offering an enabling environment for social groups and individuals to advance their capabilities;
- A recipient perspective, identifying the target groups of HRD opportunities.

Figure 2: Perspectives on HRD



On the provider side, HRD measures are provided by the State and the business sector. Both providers are engaged in different areas or key fields of HRD. While the State is heavily engaged in general, higher and vocational education and with less intensity in non-/informal education, the business sector carries most of the programmes in corporate learning and development but can also be engaged in the provision of non-formal education, TVET and with less intensity as a partner in higher education. The key fields of HRD can be mirrored from the recipient perspective by distinguishing different beneficiaries in engaging in (lifelong) learning activities: schoolchildren in general education, students in higher education, apprentices / trainees / interns in TVET, citizen or employees in non-/informal education and company employees in corporate learning and development.

The concept of LLL was originally shaped in the second half of the 20th century and then interpreted and applied in many documents of organisations such as UNESCO, ILO, OECD, and others. The UNESCO report "Learning to Be" (UNESCO 1972)[5] introduced the concept of "lifelong education", locating formal education in the wider context of learning throughout life. An important step in the development of the concept was the Delors Report (UNESCO 1996) which proposed the so-called four pillars of learning: Learning to know – learning to do – learning to be – learning to live together. The report argues that formal education tends to focus on "learning to know" to the detriment of the three other types of learning essential to promote human development. It emphasised the need to think of learning over the life course, and to address how everyone can develop knowledge, skills and attitudes for work, citizenship and personal development.

5. Learning to be: the world of education today and tomorrow - UNESCO Digital Library (retrieved: 26.1.2021)

Understanding of LLL in ASEAN "has evolved mainly out of a history of adult non-formal education for basic literacy, basic skills and continuing education. To this has been added the demands of different economic sectors for more vocational education and training." (UNESCO 2017, 14) Today, there is clear, shared recognition across Southeast Asian countries that the need and demand for LLL will continue to grow (UNESCO 2017, 53; ILO 2019, 43).

There are many definitions of LLL, though many of them tend to resemble each other. In the UNESCO "Education 2030 Framework for Action" for the implementation of SDG goal 4, LLL covers "learning activities for people of all ages (children, young people, adults and the elderly, girls and boys, women and men) in all life-wide contexts (family, school, community, workplace and so on) and through a variety of modalities (formal, non-formal and informal) which together meet a wide range of learning needs and demands. Education systems which promote lifelong learning adopt a holistic and sector-wide approach involving all sub-sectors and levels to ensure the provision of learning opportunities for all individuals" (UNESCO 2016, 30). A similar approach is taken by the European Commission which defines LLL as "all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective" (European Commission 2001, 9).

LLL gained importance when due to technological innovations the pace of change accelerated in business, making personal skills and competences rapidly redundant and forcing employees to switch occupations several times in their working lives. In increasingly dynamic labour markets, the traditional model of 10-15 years of education and 40 years of working in more or less the same sector and occupation loses its legitimacy although it is still in practice in most economic sectors of AMS. In this context, learning becomes a lifelong endeavour. Following this perspective, individuals are facing the expectation of being responsible for their learning, based on an ecosystem providing adequate support. At this point, LLL and HRD need to link together. While individuals need to accept their responsibility to take care for their continuous learning, State (and business) bodies are responsible to provide access to learning opportunities. "This needs to be both lifelong – accessible to all at any age – and life-wide, promoting and recognising learning" within the formal education system and outside of it (OECD 2019a, 30, 234).

In many documents, the content of LLL is left open or is conveyed implicitly following the notion of HRM vs. HRD (see chapter 3.1.1). The ILO introduces an explicitly normative concept of LLL when it links the concept to a "human-centred agenda for the future of work" (ILO 2019a, 69ff.: 2019b). Among others, the ILO calls for "increasing investment in people's capabilities" covering the following points (ILO 2019a, 71):

- Recognise a universal entitlement to LLL and establish an effective LLL system that enables people to acquire skills, up-skill and re-skill throughout their life course.
- Step up investments in the institutions, policies and strategies that will support people through future of work transitions, building pathways for youth into labour markets, expanding choices for older workers to remain economically active and proactively preparing workers for labour market transitions.
- Implement a transformative and measurable agenda for gender equality by making care an equal responsibility of men and women, ensuring accountability for progress, strengthening the collective representation of women, eliminating gender-based discrimination and ending violence and harassment at work.
- Strengthen social protection systems to guarantee universal coverage of social protection from birth to old age to workers in all forms of work, including self-employment, based on sustainable financing and the principles of solidarity and risk sharing.

Most of the studies on LLL express a vision, programmatic intentions and deliberations, but they seldom describe realities. Thus, the concept of LLL catches an ambitiously broad goal and offers potential directions for policy making. However, it does not provide detailed information on the areas for taking action and the itinerary for achieving the goal. This study aims at moving this state of affairs some steps further by providing a conceptual framework of HRD / LLL and investigating the link between programmatic ambitions and existing realities in the AMS.

However, the study by no means intends to blame any country for potential deficiencies in terms of unsatisfactory implementation. Given the extensive and utterly broad approach of LLL, one might even raise doubts as to whether any state would be able to implement the concept comprehensively. Rather, governments may emphasise certain elements of the concept according to their overall economic and social development goals and neglect others. Nevertheless, a comprehensive framework provides a rational foundation for deciding on priorities and allocating scarce resources to those areas with the most urgent needs. In this way, LLL may be treated as a principle or a 'regulative ideal'[6] – necessary to provide a clear direction but inherently flawed, making the perfect achievement of the ideal impossible.

3.2 Future challenges impacting on HRD

HRD is most relevant for AMS because (1) Different mega-trends result in the (2) demand for a set of future skills (3) which are currently not sufficiently available in AMS. The following sub-chapters will elaborate on each of the three components of the argument:

6. This term goes back to philosophical and scientific thinking. It states a goal which provides a desirable direction for taking action without being able to precisely define it in any detail.

- The developments of labour markets are heavily affected by changes in other areas of society. Four so-called mega-trends appraised as most important for the design of HRD strategies and policies in ASEAN are sketched in chapter 3.2.1.
- These mega-trends result in different requirements of skills to be leveraged in HRD initiatives. The discourse on future skills addresses this issue. Chapter 3.2.2 synthesises the line of reasoning and suggests a typology of skill types which may serve as a reference point for future HRD initiatives.
- Lastly, there are some aggregated data available on the current endowment of human resources in AMS. Chapter 3.2.3 selects relevant data of a "Global Human Capital Index", comprising indicators relevant to describe the heterogeneous configuration of human resources in AMS.

3.2.1 Mega-trends affecting HRD

Human resources are not an end in themselves. They determine the skills and competences of individuals for tackling the challenges they are likely to face in their social, professional or personal life. Thus, HRD has to prepare people for a future which in many respects is uncertain. Analyses and predictions of mega-trends try to reduce uncertainty to some extent and identify issues a society and its members are likely to face. Literature addresses a whole range of potential mega-trends, some of which find broad acceptance by HRD experts. As a selection, the following overview briefly sketches four trends which are reasonably relevant for the development of the HRD framework.

Digital transformation

Technological change has always been a major driver of changes in society, economy and personal lives. The latest wave with technological advances in domains like artificial intelligence, robotics, virtual reality, the internet of things, cloud computing, 3-D printing, etc. is just a new cycle which may impact on the future of work and correspondingly the future of skills. The term "digital transformation" indicates that these developments also "impact on civil society, governance structures, and human identity in addition to solely economic … ramifications" (Sung 2018). For many countries, the potential of digital technology gives rise to a commitment "to upgrade their export-oriented industrial sectors from a labour-intensive, low value-added base to capital and skills-intensive, higher value-added manufacturing production that fosters development of a supporting high-tech services sector as well" (ILO 2019a, 36). However, countries and economic sectors are affected in different ways, partly due to the availability of cheap labour and the lag of skills endowment necessary to facilitate the diffusion of advanced technologies. This shows the close link between the plans of utilising the potential of digital technologies for the development of

economy and society. Shaping digital transformation requires extensive efforts in HRD, as examples of countries like Singapore, South-Korea or China illustrate (ILO 2019a, 42f.).

Labour market transformation

Discourse on the impact of digital technologies on the labour market has different dimensions. A broader consensus can be recognised on the view that the integration of digital technologies results in substitution or re-definition of many current jobs and introduces new forms of labour. Analyses vary widely to estimate the percent-age of jobs threatened by digitization for the next one or two decades (GDI 2020, 28).

The route from low- to high-tech industries is complex and often selective. Investing in HRD with the aim of increasing the availability of a well-educated workforce that aligns to digital transformation in economy and society "is a worthy policy goal, but it is important to note that there will never be a sufficient quantity of high-skilled jobs to absorb all workers in the country … Low-skilled work has immense value for the functioning of societies, and its value has the potential to increase further as sup-plies shrink … Skilling is not a magic bullet when countries are undergoing structural transformations" (ILO 2019a, 50).

This view is also reflected in analyses which distinguish different kind of jobs according to their vulnerability for being partly or completely substituted by technology. According to a report, "almost every occupation has partial automation potential, as a significant percentage of its activities could be automated. We estimate that about half of all the activities people are paid to do in the world's workforce could potentially be automated by adapting currently demonstrated technologies" (McKinsey Global Institute 2017, 1; for other estimations, see ILO 2019b, 19). Apart from processes of substitution and replacement, new forms of employment with yet unforeseeable implications for HRD occur. Subcontracting work or 'gig work' are just two examples (Sakamoto & Sung 2018, 15f.; Smith 2018, 170; GDI 2020, 30).

Social inequality and lack of social inclusion

Most research studies expect that, without counteracting interventions, the digital and labour market transformations in most countries would increase economic polarisation and will be less inclusive and more unequal (McKinsey Global Institute 2017, 8). Less educated people compete for rare (often short-time) employment as day labourers of the digital age. "A wide gap between rich and poor people does additional damage to social cohesion. But solidarity among poor people is also being eroded because they all compete against each other for the few jobs

available. The competition and stress result in discrimination against minorities in particular" (GDI 2020, 33). This would then reinforce existing trends in the region. While growth has been significant in most ASEAN member states, inequality and poor employment prospects among disadvantaged groups have hardly improved (ILO 2018a). Based on labour force surveys from Indonesia, the Philippines, Thailand and Viet Nam, El Achkar Hilal (2018) states the widening inequality as a result of job polarisation and skill-based technology. Low-skilled workers are especially at risk of being substituted by digital technology.

Another equality issue has been the limited opportunities for women in making careers in well paid, highly regarded jobs. For example, despite the shortage of STEM skills in the region, gender disparity in taking up STEM-related jobs is a major concern. One reason for this is "the widespread conscious and unconscious bias against women's employment and career progression in what are considered to be male-dominant occupations" (Sakamoto & Sung 2018, 5). Girls and women still face higher barriers to enrol and attain at school or in TVET than boys or men.

Environmental and climate change

Southeast Asia's primarily agriculture-based economies are extremely vulnerable to climate change. "Between 1990 and 2010, emissions of carbon dioxide increase faster in Southeast Asia than anywhere else in the world, and the region has experienced rising temperatures each decade since 1960" (The Asia Foundation 2020, 37). While the impact on agriculture, fishing, tourism, and health is detrimental, new opportunities in the 'green economy' offer new approaches to offset losses in traditional job sectors. Most of the AMS have recently introduced strategies and policies in the area of environmental transformation (ILO 2019a, 62f.).[7] The link to HRD is obvious, as 'green jobs' require certain skills. "Malaysia, for example, aims to identify new competencies and skills needed for the development of areas such as renewable energies, green buildings, bioengineering and biosafety" (ILO 2019a, 65).

3.2.2 Future skills discourse

Mega-trends such as those outlined in chapter 3.2.1 easily underline the need for changing skills requirements and strategies for HRD. A fundamental change is based on the insight that the formal education system of a country alone cannot meet the demands. Rather, a comprehensive LLL approach is necessary to keep up with the accelerated pace of change in society, economy, labour market, and ecology.

On a more detailed level, the key question that arises is, which kind of skills are needed in future societies and economies? But how can future skills be anticipated when

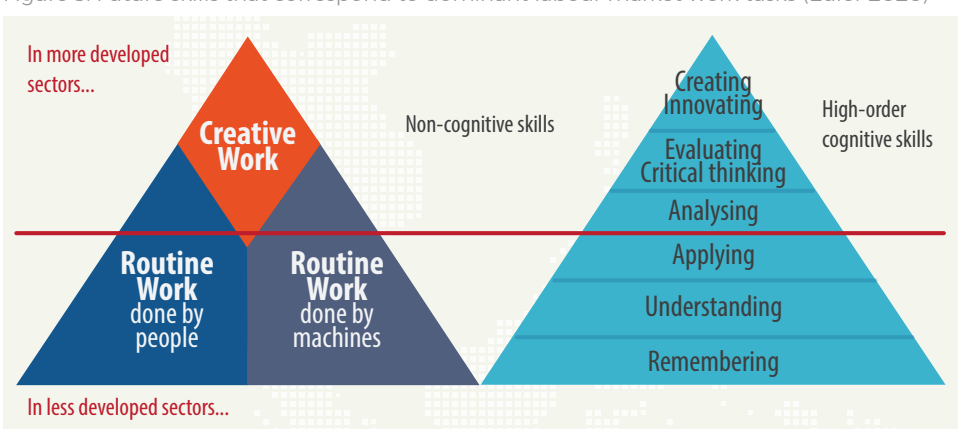
7. See also the ASEAN Declaration on Promoting Green Jobs for Equity and Inclusive Growth of ASEAN Community (https://asean.org/storage/2012/05/ASEAN-Declaration-on-Promoting-Green-Jobs-for-Equity-and-Inclusive-Growth-of-ASEAN-Community.pdf) (retrieved: 21.1.2021)

corresponding mega-trends are still fluid, only broadly foreseeable and uncertain? Despite these difficulties, the discourse on future skills is quite intensive. Contributions in this discourse differ in terms of the relationship between the mega-trends and the skill requirements. While some authors assume a functional relationship and infer skill requirements from economic or societal developments, others assume an interdependency and consider future skills also as a pre-condition to pro-actively shape developments in society and economy.

Apart from the lack of precise forecasts, there is a high level of heterogeneity between countries, economic sectors and companies: Requirements in high-income countries differ from those in low-income countries, high-tech industries require different skill levels than low-cost industries. The following figure indicates in a simplistic way the correspondence between the maturity of an economic sector and the skills level required:

Economic sectors dominated by routine work processes (either done by people or by machines) correspond with comparatively low skill levels. Basically, people need to understand what they are expected to do and apply the work tasks described in manuals or conveyed by superiors. In contrast, on the other hand, economic sectors shaped by a high degree of creative work correspond with more challenging and demanding skills.Respective work systems require self-organised problem-solving capabilities based on high-order cognitive skills (e.g., creating and innovating, evaluating and critical thinking, analysing) and transversal skills, such as social and entrepreneurial skills and the ability of self-organised learning.

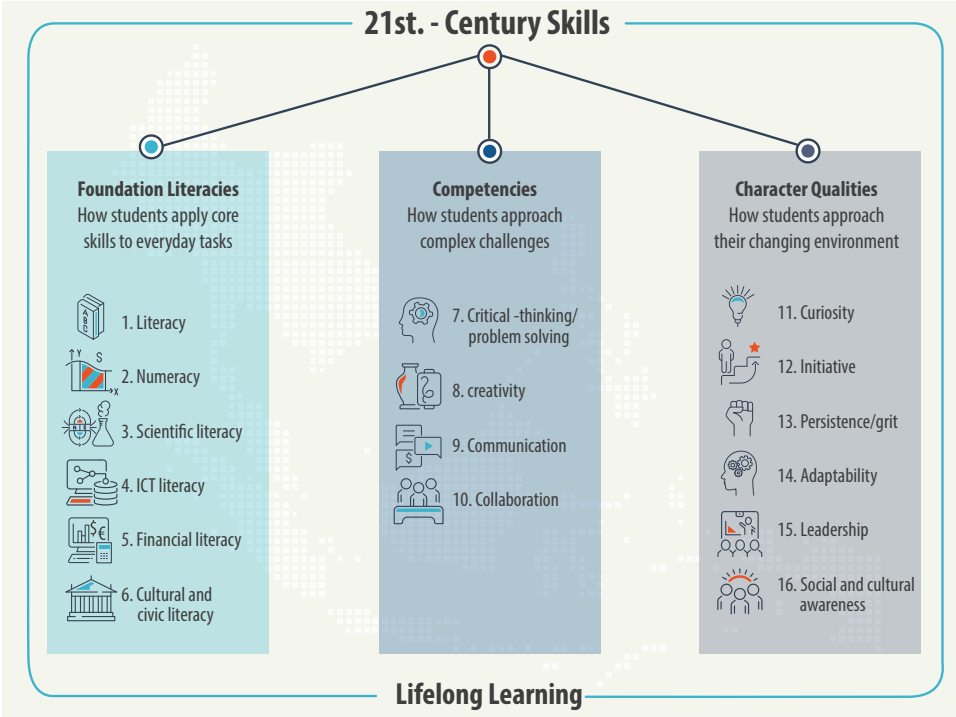
Figure 3: Future skills that correspond to dominant labour market work tasks (Euler 2020)



Future skills discourse raises the question which type of skills are mostly needed for either functioning in or shaping of future work systems and societies. Many studies introduce classifications with different types of skills. For example, the World Economic Forum (WEF) along with the Boston Consulting Group (BCG) conducted

a meta-analysis of research on so-called "21st century skills" which resulted in a list of 16 skills structured into three types:

Figure 4: 21st century skills (WEF & BCG 2015, 3) [8]



The study was criticised as too narrowly confined to "the needs of the marketplace" while determinants of human development such as physical or emotional development were ignored (Buchanan et al. 2018, 134). Similar objections would probably apply for studies of supra-national organisations with a strong focus on economic development. For instance, an analysis and interpretation of the PIAAC[9] data presented by the OECD identifies six new "task-based skill indicators": ICT skills, readiness to learn and creative problem solving, managing and communication, self-organisation, marketing and accounting, and STEM (science, technology, engineering, mathematics) skills that are to be conceptualised as additional to three cognitive skills of literacy, numeracy and problem solving (Grundke et al. 2017, 38). The study argues that the cognitive skills are relatively independent of industries and tasks but underpin overall productivity and successful "global value chains" (GVCs). "Thus, to increase the productivity and internationalisation of industries it is crucial for governments to provide workers early in life with a good basic endowment of these three cognitive skills through the education system" (Grundke et al. 2017, 39). In contrast, task-based skills are considered more specific to industries and

8. For details on the skills and values for high-income OECD countries, see WEF & BCG 2015, 7, 23.
9. PIAAC – (OECD) Programme for the International Assessment of Adult Competencies; Survey of Adult Skills (PIAAC) - PIAAC, the OECD's programme of assessment and analysis of adult skills (retrieved: 21.1.2021)

occupations. The study suggests that some of these task-based skills are especially relevant to industry engagement with GVCs. The implication is that "to increase the productivity and forward integration of industries into GVCs, workers might need to be endowed with (more) ICT and Managing and Communication skills as well as greater readiness to learn" (Grundke et al. 2017, 39). Finally, the study finds that at the level of particular industries, specialisation in specific tasks has a positive impact on economic productivity.

In its World Development Reports, the World Bank also places information technology at the centre of rapid change. Accordingly, "digital literacy" is presented as a new "foundation skill" alongside established basic skills such as reading and writing. The report promotes its own taxonomy of "skills needed in a modern economy", with three main categories of skill: cognitive (e.g. literacy, numeracy, problem-solving ability), social and behavioural (e.g. openness to experience, extraversion, self-regulation), and technical (e.g. manual dexterity, technical and occupational skills) (World Bank 2016, 259). Taking into consideration its concern with development, the World Bank report asserts that for emerging countries, skill development priorities should be foundational cognitive and socio-emotional skills and building ICT literacy. For "transitioning countries" the priority should be to "build new economy skills for careers, not just for the first job" (World Bank 2016, 265). In this context, the focus should be higher-order cognitive and socio-emotional skills, with digital technologies positioned as promoting critical thinking, teamwork, problem solving and creativity. The most advanced economies, described as "transforming countries", should focus on building advanced technical skills (with ICT, "computational thinking" and STEM skills identified as central) and promoting lifelong learning.

As a synthesis of the various studies on future skills, the following list catches the different skill types:

- Cognitive skills with the following sub-types:
  - Numeracy and literacy as foundation skills
  - Low-order cognitive skills on the level of understanding and applying
  - High-order cognitive skills on the level of analysing, evaluating / critical thinking, creating / innovating
- ICT skills / digital literacy (e. g. proficient application of hardware devices and software tools; programming; appraisal of potential impact of ICT applications)
- STEM skills

- Social skills (e. g. communication, cooperation in teams, conflict resolution, empathy, emotional intelligence)
- Learnability (e. g. readiness to learn, learning motivation, curiosity, effective self-learning strategies)
- Character qualities (e. g. ethical reflection and action, social and cultural awareness, agility, adaptability, persistence, initiative)
- Problem-solving in complex, technology-rich environments.

In this list, all skill types are phrased as generic skills. For applying them in any educational programme, they need to be embedded into specific contexts and contents. For example, the development of social skills like conflict resolution requires a situational context with specific contents. It is not possible to resolve conflicts as such, as it makes a difference on whether there are emotional or factual issues to be addressed or whether conflicts occur in working contexts among colleagues or in family contexts. This also means that "generic skills requirements are different across occupational categories (for example, care work versus engineers) and cannot be acquired out of context" (Sakamoto & Sung 2018, 8).

The skill types structured above provide categories which may guide the selection for specific educational programmes within an HRD framework and then have to be put into concrete specifications. Within this context, decisions have to be taken which skills are most relevant at what stage of the HRD pathway. Some studies make suggestions such as: "the priorities must be to first provide quality education in the early years that nurtures strong learning dispositions that will endure for life. With such a foundation, teenagers must then be given access to powerful knowledge – domains of more specialist understanding. These can be either academically or vocationally based. Mastery of some domain is important for providing a concrete context for developing fundamental capacities, like problem solving, communication and creativity. Proposals that focus on these capacities in the abstract (such as the proposed twenty-first century skills approach) must be treated with scepticism. Similarly, the rising push to have vocational education primarily deliver fragments (or units) of competence as they are needed (the growing interest in so-called "skill sets" and "micro-credentials") must be challenged. The irony is that the ability to adapt and learn new skills quickly needs a foundation in having solid learning dispositions and mastery of at least one domain of expertise. Micro-credentials only work well if they build on – and are not treated as a substitute for – initial qualifications. Foundation qualifications are substantive in that they engage people in deep learning for a field, are widely trusted and recognised in the field as a condition for entry to it." (Buchanan 2018, 151).

3.2.3 Human resources endowment in ASEAN Member States

HRD as a "regulative ideal" (see chapter 3.1.2) implies that there is no AMS presenting a perfect system of "HRD readiness". Furthermore, ASEAN is a heterogeneous grouping with AMS at different stages of development. While advanced economies in the region cover domains such as artificial intelligence, robotics, smart manufacturing and the like, AMS at a less advanced level direct their efforts at laying the foundation for continued industrialisation and creating a conducive environment for technological developments to gain momentum (ILO 2019a, 40). Depending on the economic and social stage of development and disposable resources, HRD strategies and policies can be designed with different priorities.

This sub-chapter presents the results of the literature review addressing the heterogeneous contexts of AMS in their endeavour to foster HRD initiatives. To begin with, a compilation of data from the "Global Human Capital Index" (WEF 2017) with regard to indicators relevant for HRD is presented. Then, complementary data from other sources will be added. In sum, the data aims to provide a detailed picture on the context and potential indicators which could serve as potential references for the design of the conceptual framework of investigation on "HRD readiness" in ASEAN.

Indicators from "Global Human Capital Index" relevant for HRD

The World Economic Forum compiled data from 130 countries to describe and rank the participant countries based on a "global human capital index" (WEF 2017). The "Human Capital Index (HCI)" is designed to measure how well the respective country is developing their human capital. In the report, "human capital" is defined as "the knowledge and skills people possess that enable them to create value in the global economic system" (WEF 2017, vii), which compared to the notion of HRD used in this study represents a narrow understanding. While the normative direction is quite narrow, the range of indicators is rather broad. Overall, there are 19 key indicators providing contextual information plus four dimensions with 21 indicators used to describe the human capital of each country and condensed into an overall score value (WEF 2017, 6). In a different approach put forward by the World Bank, human capital is regarded as a "central driver of sustainable growth and poverty reduction" (World Bank Group 2018, 2) which goes beyond a solely economic perspective. In this study, there are just six indicators only three of which have a closer link to HRD (for latest data, see World Bank Group 2020).

As pointed out above, not all indicators of the HCI are relevant for the design of HRD strategies and policies. Therefore, the overview presented below is focused on indicators relevant for this study. Out of the 19 key indicators capturing relevant contexts of the country, seven are included (points 1-7); and out of the 21 indicators capturing human capital components, 13 are taken up (points 8-20).

Below there are the data and scores for the selected, HRD relevant indicators of the ten AMS. For benchmarking and comparison purposes respective data from Norway (rank 1), Switzerland (rank 3) and Germany (rank 6) are also included. The overall score is calculated out of 21 indicators making up the human capital, it is supposed to indicate the degree of overall realisation of the potential of the respective country. The maximum score would be 100, the highest rank Norway holds a score of 77.12, the highest rank ASEAN state Singapore (rank 11) scores 73.28 [10/11]

10. Some technical notes: Values for each of the indicators come from publicly available data compiled by international organisations such as the ILO, UNESCO, WHO, etc. In addition to statistical data, the index uses qualitative data from surveys conducted by WEF. For details on the references with regard to the respective indicator, see WEF 2017, 41ff.
Data refer to different years. Values represent the most recent available data in the year of publication (2017).
As many of the concepts measured are expressed as percentage rates, final scores can be roughly interpreted as a percentage reflecting the degree of effective human capital utilisation in a given country relative to the ideal outcome. For example, the Primary education attainment rate indicator has a logical maximum value of 100% and a higher score reflects a more desirable situation. Conversely, for a number of indicators, such as the Underemployment rate, the logical ideal value corresponds to 0%. All rankings on the Global Human Capital Index have been directionally oriented towards a score of 100 as the best possible human capital outcome and performance. For a detailed explanation of the index methodology, see WEF 2017, appendix B.

11 Numbers in the following table are excerpts from the WEF-study. Data in the country reports (see figure 15 in this report) may differ due to different time references or underlying definitions of the measured variables. In rare cases, stated numbers differ considerably (e.g. primary/secondary/tertiary education enrolment rates for Singapore are under-estimated compared to data in Figure 15 which provides an accurate representation of the indicators).

Table 2: Data and scores for HRD relevant indicators of the ten AMS and selected reference countries

No.		Norway	Switzerland	Germany	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Myanmar	Malaysia	Philippines	Singapore	Thailand	Viet Nam
	Score / Rank	77.12 / 1	76.48 / 3	74.30 / 6	62.82 / 58	57.28 / 92	62.19 / 65	58.36 / 84	57.67 / 89	68.29 / 33	64.36 / 50	73.28 / 11	66.15 / 40	62.19 / 64
1	Total population (millions)	5,255	8,402	81,915	0,423	15,762	261,115	6,758	52,885	31,187	103,320	5,622	68,864	94,569
2	GDP per capita (US-Dollar)[12]	63,811	56,625	44,072	71,789	3,463	10,765	5,735	5,352	25,660	7,236	81,443	15,682	5,955
3	Mean years of education	12,0	13,4	13,1	9,0	4,4	7,7	4,8	4,4	10,3	8,4	11,4	7,9	7,6
4	Median age population (years)	39,2	42,2	45,9	30,0	23,9	28,0	22,7	27,7	27,7	24,1	40,0	37,8	30,4
5	Healthy life expectancy (years)	72,0	73,1	71,3	70,3	58,1	62,1	57,9	59,1	66,5	61,1	73,9	66,8	66,6
6	Youth not in employment, education, training (%)	5,0	7,3	6,2	17,2	12,7	24,8	5,1	18,6	1,2	22,7	11,4	13,8	11,3
7	Public spending on education (% of GDP)	7,4	5,1	5,0	4,4	1,9	3,6	3,3	1,2	5,0	2,7	2,9	4,1	5,7
8	Literacy and numeracy [13] (15-24 age group)	100,0	100,0	100,0	99,6	91,5	99,7	90,2	96,3	98,4	98,2	99,9	98,6	98,1
9	Primary education enrolment rate [14] (0-14 age group)	99,8	99,6	99,8	99,0	95,6	92,9	92,7	94,5	98,1	96,8	79,1	90,8	98,1
10	Primary education attainment rate[15] (15-24 age group)	100,0	100,0	100,0	77,4	91,2	99,7	89,0	94,5	99,2	99,5	99,8	99,3	97,5

12. GDP converted to US dollars, using purchasing power rarity rates in constant international dollars, divided across the number of people in the population.
13. % of the population with the ability to both read and write and make simple arithmetic calculations.
14. % of children in the official primary school age range who are enrolled in either primary or secondary education.
15. % of the population with at least a primary education (ISCED 1).

No.		Nor-way	Swit-zerland	Germa-ny	Brunei Darus-salam	Cambo-dia	Indone-sia	Lao PDR	Myan-mar	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet Nam
11	Secondary education enrolment rate[16] (0-14 age group)	99,7	97,2	99,0	88,8	46,1	80,0	56,6	52,5	87,3	64,6	75,4	80,4	97,0
12	Secondary education attainment rate[17] (15-24 age group)	100,0	100,0	84,2	39,5	43,5	78,3	51,1	64,3	92,7	85,0	95,8	75,7	54,5
13	Vocational education enrolment rate[18] (15-24 age group)	50,1	65,7	46,8	16,8	7,4	42,4	4,2	0,0	21,1	N/A	11,2	19,8	N/A
14	Tertiary education enrolment rate[19]	39,2	42,2	45,9	30,0	23,9	28,0	22,7	27,7	27,7	24,1	69,8	37,8	30,4
15	Tertiary education attainment rate[20]	76,7	57,2	68,3	30,8	13,1	31,1	16,9	13,5	26,1	35,8	41,8	48,9	28,8
16	Quality of education system [21]	5,4	6,2	5,3	4,4	3,4	4,4	4,1	2,5	5,3	4,3	5,9	3,7	3,6
17	Extent of staff training[22]	7,4	5,1	5,0	4,4	1,9	3,6	3,3	1,2	5,0	2,7	5,5	4,1	5,7
18	Labour force participation rate 15-24 age group 15-24 age group 55-64 age group[23]	55,7 86,9 73,3	67,7 90,9 74,6	49,8 87,6 70,0	42,6 80,7 35,0	70,7 90,8 75,8	49,3 77,9 67,7	61,3 93,5 70,1	56,9 94,3 70,7	40,2 80,9 50,5	46,5 77,2 67,7	38,1 86,4 68,1	45,4 88,6 71,3	60,3 93,5 74,3
19	High-skilled employment share [24] (25-54 age group)	51,5	52,2	43,9	40,8	3,8	9,9	5,1	21,3	25,5	24,1	56,2	14,0	10,8
20	Medium-skilled employment share [25] (25-54 age group)	96,2	96,1	91,9	86,0	82,8	81,9	98,9	87,9	86,2	68,4	92,3	90,0	60,1

The scores reveal that all countries have only partly developed their human capital. Within in AMS there is a spectrum ranging from 57 to 73%. Conversely, according to this notion of human capital, nations in the region are neglecting or wasting between 43 to 27% of their talent.

As with every study, this one has its limitations and data require interpretation. For example, the scores would have to be contextualised with the productive capacity, economic opportunities, availability of natural and financial resources, and the like. Country specific appraisals will be fed into the overall assessment along with data gained in the empirical part of this study. However, there are some overarching aspects to be outlined at this point:

- Available data does not account for alternative modes of learning such as informal apprenticeships (Euler 2017), learning-on-the-job and other ways of non- or informal learning.
- The quality aspect of educational provision is only broadly considered. What kinds of skills are developed in the different areas of the education system or within LLL offerings? High enrolment rates may go hand in hand with curricula stipulating outdated skills not relevant for tackling challenges in society and the economy.
- The approach is primarily focused on the promotion of economic development. Other normative references are neglected or remain implicit (e. g. social inclusion of disadvantaged social groups). In that respect, ranking scores are misleading and distort the picture.

16. % of children in the official age range for lower secondary education who are enrolled in secondary education.
17. % of the population with at least a secondary education (ISCED 2-4).
18. % of total enrolment in upper secondary education (ISCED 3), following completion of compulsory general (basic) education.
19. Total enrolment in tertiary education (ISCED 5-8), regardless of age, expressed as a % of the total population of the most recent five-year cohort that has left secondary school.
20. % of the population with at least a tertiary education (ISCED 5-8).
21. Response to survey question: "How well does the educational system in your country meet the needs of a competitive economy?". Response on 1-7 scale: 1-worst score; 7-best score
22. Response to survey question: "To what extent do companies in your country invest in training and employment development?". Response on 1-7 scale: 1-hardly at all; 7-to a great extent
23. Among the country's population aged 15 or over, the proportion of individuals who are either looking for work or working.
24. Number of persons, both sexes, employed in occupations with tertiary (ISCED 5-8) education requirements as a percentage of the total number of employed persons.
25. Number of persons, both sexes, employed in occupations with at least secondary (ISCED 2-4) education requirements as a percentage of the total number of employed persons. This data is cumulative, which means that persons employed in occupations with tertiary (ISCED 5-8) education requirements are also counted here.

Complementary data from various sources

Data from other sources can add and at least partly compensate the limitations of the WEF-study on the "Global Human Capital Index". For example, an ASEAN Youth Development Index Task Force introduced a "Youth Development Index" which in the education domain provides additional data relevant for HRD (ASEAN 2017). One indicator there refers to "digital natives" as the percentage of people, 15-24-year olds, with five or more years of online experience (ASEAN 2017, 17). Values range from 1 to 88 % with an average of 36 % (ASEAN 2017, 28), which indicates another example of high heterogeneity within the AMS.

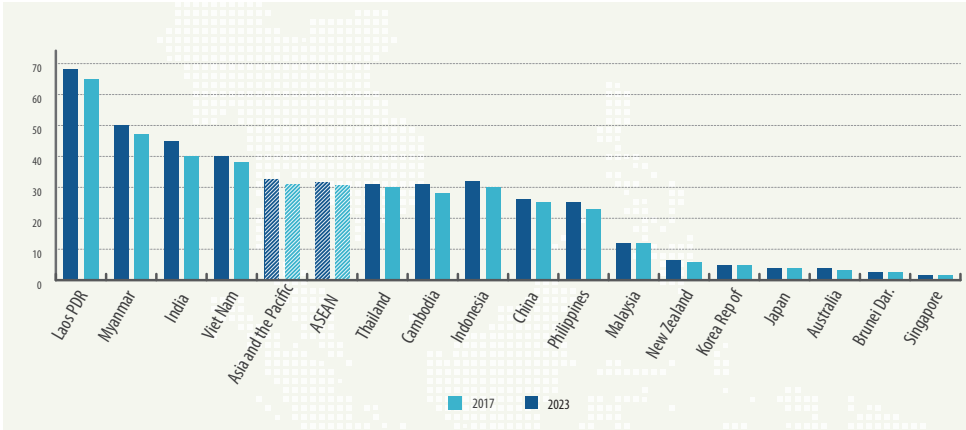
An overarching glance at the region's development reveals a mixed picture: "Although the region's strong economic performance is well known in the global context, persistent poverty, a large informal economy and major rural-urban disparities continue to characterise the low- and middle-income economies. Widening inequality is now a major concern and finding a path of economic development that is strong yet inclusive is a major challenge. The question remains: How can skills contribute to this process of achieving both competitiveness and social inclusion?" (Sakamoto & Sung 2018, 1).

For some of the aspects mentioned in this appraisal, there is data available. A key factor for economic development as well as any approach in HRD is the high ***informal employment rate***. Based on submission of data by eight AMS (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Thailand, and Viet Nam), the rate of informal employment ranges widely from 37% 5 in Thailand to 90% in Cambodia [26]. The measure in Malaysia is even lower, at only 10.6%, however it must be noted that Malaysia measures informal employment only in the informal sector. "The rate of informal employment is generally higher for women compared to men except in Viet Nam, Brunei Darussalam, and Malaysia. Except for Brunei Darussalam, informal employment rate is higher in rural compared to urban areas. The pattern across age groups differ noticeably, with those in the youngest (15-24) and oldest age groups (65 and older) having the highest informal employment rates in Cambodia and Lao PDR (inverted U pattern). In Brunei Darussalam and Myanmar, informal employment rate is highest among the youngest age groups (declining pattern with age) while in Indonesia and Thailand, informal employment rate is highest among the oldest age groups (increasing pattern with age)." (ASEAN Secretariat 2019, 5).

Another distinguishing feature is the share of ***employment in low- vs. high-skilled occupations***. The following figure compares the share of employment in agriculture as a traditional low-skill sector. The bars in the following figure indicate the rates in 2017 and the prediction for 2023:

26 Footnote: In detail: Brunei Darussalam: 46,6%; Cambodia: 90,3%; Indonesia: 44,1%; Lao PDR: 75,5%; Malaysia: 10,6%; Myanmar: 84,1%; Thailand: 37,1%; Viet Nam: 57,2% (ASEAN Secretariat 2019, 57).

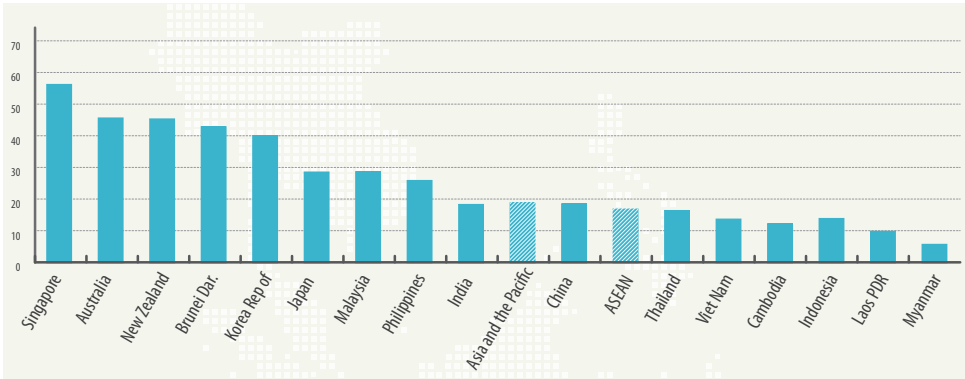
Figure 5: Share of employment in agriculture (% in total employment), 2017 and 2023 (ILO 2019a, 10)



The chart indicates the expected decreasing share of employment in agriculture in most countries. The implications of these developments are particularly relevant in countries with a currently high share of employment in this economic sector (e. g. Lao PDR, Myanmar, Viet Nam), as substitutes for vanishing workplaces need to be organised.

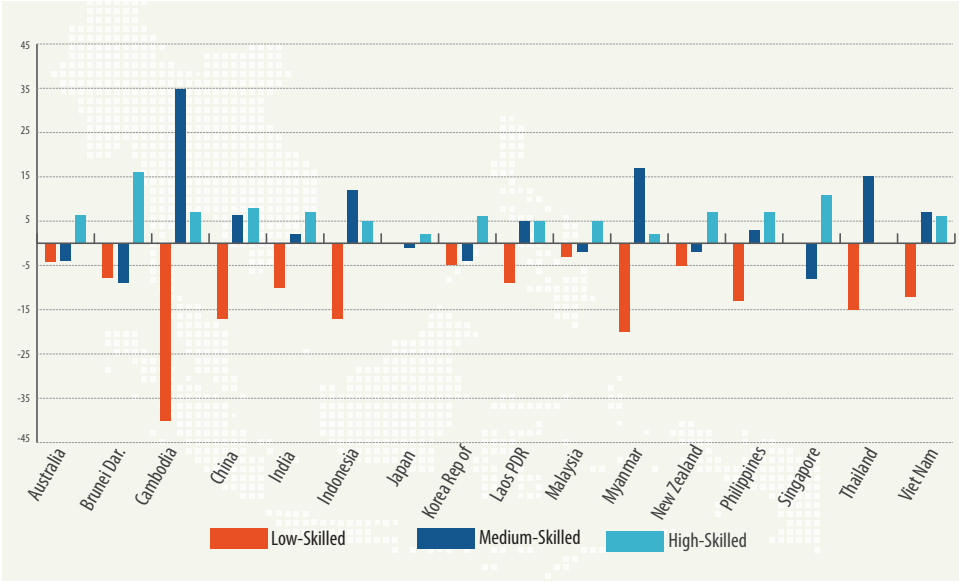
While each country in the region has its own socio-economic structure, the agriculture sector and a considerable part of the manufacturing sector are characterised by low skilled occupation and relative prices that tilt in favour of cheap labour (ILO 2019a, 13). Both factors profitable low-tech industries and a surplus of unskilled workers providing cheap labour can prevent the economy being restructured towards high-skilled industries. The following chart illustrates this general statement by outlining the share of employment in high-skilled occupations with regard to the AMS (plus some neighbouring states):

Figure 6: Employment in high-skilled occupations (% in total employment), 2017 (ILO 2019a.16)



On one hand, the figure shows the high heterogeneity between AMS with regard to demand in high-skilled occupations which correspondingly influences the shape of HRD measures. On the other hand, any HRD strategy needs to be linked to economic development as the structural change from low- to high-skilled industries often takes time as long as low-skilled industries are still running profitably. The following chart shows the movement between the low-, medium- and high-skilled occupations in the AMS :[27]

Figure 7: Change in the share of employment by occupational skills grouping (% points), 2000-2017 (ILO 2019a, 16)



The transformation of economic sectors with a shift from low-skilled to medium- and high-skilled occupations is reflected in many national plans. These plans often target sectors which are prioritised and thus require corresponding HRD activities. In most AMS, core strategies linked to targeted economic sectors have been published.

Table 3: Targeted sectors for national industrialisation plans in AMS (ILO 2019a, 41)

Country	Targeted sectors
Cambodia	Science and technology; digital connectivity; logistics; transport; energy; banking and finance sector
Indonesia	Food and beverage; textiles and apparel; automotive; electronics; chemicals within the manufacturing sector
Malaysia	Electrical and electronics; machinery and equipment; chemicals; medical devices; aerospace and other sectors (automotive, transport, textiles, pharmaceutical, metal, food processing and services)

27. High-skilled (non-routine cognitive) occupations include managers, professionals and technicians. Medium-skilled occupations include clerical support workers, services and sales workers, craft and related trades workers, and plant and machine operators. Low-skilled occupations include elementary occupations and skilled agricultural, forestry and fishery workers (ILO 2019a, 16).

Country	Targeted sectors
Philippines	Automotive; electronics and electrical manufacturing; chemicals; shipbuilding and repair; aerospace parts and aircraft maintenance, repair and overhaul; tourism; IT business process management and e-commerce; furniture, garments and creative industries; iron and steel, tool and dye; agribusiness; construction; and transport and logistics
Singapore	Manufacturing; built environment; trade & connectivity; essential domestic services; modern services; lifestyle
Thailand	Medical tourism; automotive industry; agriculture and biotechnology; electronics; food and beverages; robotics; aviation and logistics; digital technologies; bio-fuels and bio-chemicals; health care and medical industry
Viet Nam	ICT and electronics; clean, renewable, and smart energy; processing and manufacturing industries to serve agriculture; defence and security; further development of textile, garment, and footwear industries focusing on high added value-creating phases with smart and automated manufacturing processes; engineering industries such as automobile, agricultural machinery, construction, industrial, electric, and medical equipment; new materials and biotechnology

In **general education**, the results of large-scale assessments such as PISA (Programme for International Student Assessment) provide some orientation on the level of basic skills of students at the age of 15. Seven out of ten AMS participated in the most recent assessment in 2018[28]. The following table summarises some of the results of relevance for the design of HRD strategies and policies:

Table 4: PISA scores for AMS participating in the 2018 assessment

Country	Scores 2018 in			Share of top-performers in at least one subject (level 5/6)	Share of low-performers in all three subjects (level 1)[29]
	Reading	Mathematics	Science		
Brunei Darussalam	408	430	431	4,3	37,6
Indonesia	371	379	396	0,6	51,7
Malaysia	415	440	438	2,7	27,8
Philippines	340	353	357	0,2	71,8
Singapore	549	569	551	43,3	4,1
Thailand	393	419	426	2,7	34,6
Viet Nam	(505)	(496)	(543)	N/A	N/A
OECD average	**487**	**489**	**489**	**15,7**	**13,4**

28. The data for Viet Nam have not yet been fully validated. Due to a lack of consistency in the response pattern of some performance data, the OECD cannot yet assure full international comparability of the results (OECD 2019b, 219). Data for Viet Nam are therefore reported in brackets.
29. PISA assessment distinguishes six levels of performance, of which level 1 is the lowest.

For some AMS, information on the ***educational skills level of the workforce*** is available. While in lower-middle income AMS the low level of skills and education among the workforce remains a major issue, according to Matsumoto & Bhulaor (2018), there is a large proportion of jobs performed by workers with less education than their jobs require. More specific, although phrased in general terms, are notes with regard to particular AMS (The Asia Foundation 2020):

- "Cambodia's workforce is characterise by low education, low-to-medium skill levels, low technical literacy ..." (p. 40).
- "Despite its status as a regional hub, only 28% of Malaysia's workforce is classified as 'high-skilled' ..." (p. 62).
- "Singapore has a highly skilled, though aging, population ... Compared with other developed economies, Singapore's private sector provides one of the lowest levels of in-job training. But the government is offering an array of programmes, such as its SkillsFuture and Adapt and Grow programmes, to help workers to upgrade their skills and competencies and even train for new careers" (p. 84).
- Thailand: "Major improvements are needed to bring the country's education system in line with international standards. Not only do Thai students' scores on assessments of science and mathematics sit well below global averages, the gap between the quality of education in rural and urban areas is wide. A severe lack of skilled workers, especially technical specialists and vocational school graduates ... will make it difficult for the country to find enough workers to (meet the) needs of its evolving industries" (p. 95).
- Viet Nam: The country's exceptional education system outperforms comparable countries in the region ... Yet the vast majority of Vietnamese workers (74%) are employed in low-skill jobs, and youth unemployment is high. Many university graduates cannot find a job that uses their degree" (p. 105).

3.3 Implementation: Potential measures for promoting HRD

As defined in chapter 3.1, LLL covers learning activities for people of all ages in all life-wide contexts. Given limited resources for designing strategies, policies and initiatives on HRD in an AMS at a specific time, identifying priorities is inevitable. For that purpose, the discrimination of key fields of LLL / HRD as well as areas of intervention could be useful to focus and allocate resources reasonably.

3.3.1 Key fields of HRD

Basically, literature on HRD can be assigned to the following key fields:

- General education

- Technical vocational education and training (TVET)
- Higher education
- Corporate learning and development
- Non- and informal learning

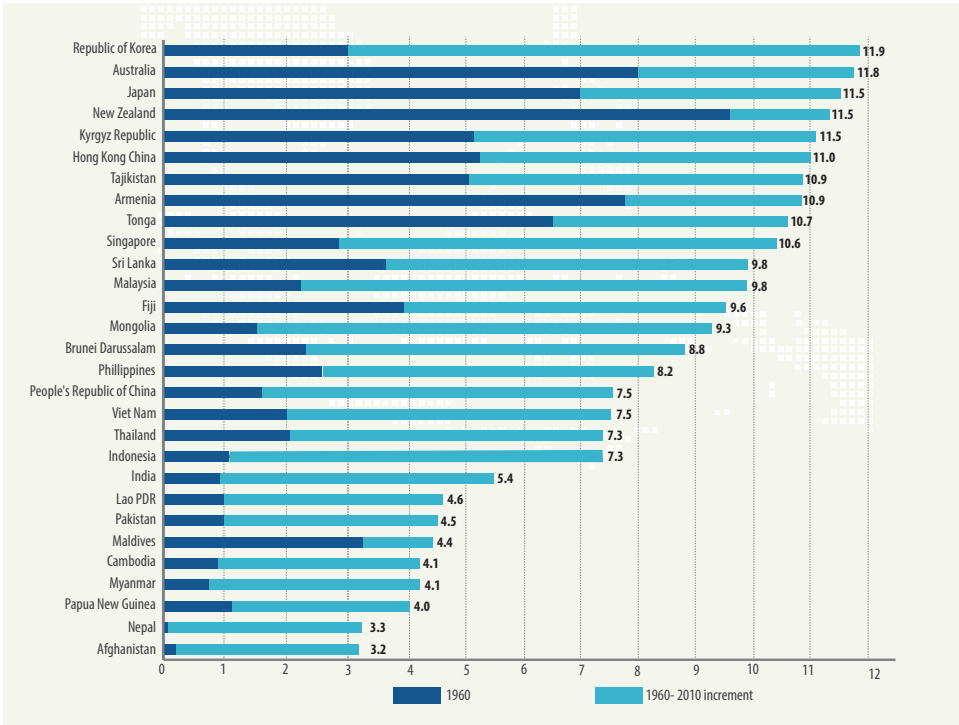
Each stage will be briefly characterised by defining its scope and identifying its key challenges.

General education

Acquisition of future skills inevitably builds on existing skills which are to a large ex-tent conveyed in general education. Thus, the duration and quality of general education is a major foundation for HRD at later stages of peoples' development.

General education covers the range of formal educational programmes up to the compulsory school age. Broadly structured, it comprises pre-primary, primary and secondary schooling. Average years of compulsory schooling differ between AMS. The following table provides an overview for countries in Asia and the Pacific:

Figure 8: Average Years of Schooling in Asia and the Pacific, 1960 and 2010 (ADB 2020, 3)[30]



30.. The data labels refer to average completed years of education of the population 25 and older in 2010.

The figure reveals a remarkable expansion of formal education among many economies in Asia. For example, the average years of schooling in Lao PDR rose from 1.0 in 1960 to 4.6 in 2010, in Indonesia from 1.1 in 1960 to 7.3. in 2010, and in Singapore from 2.7 in 1960 to 10.6 in 2010. The numbers correspond with those of the "Global Human Capital Index" (chapter 3.2.3) which in some of the indicators also document improvements in enrolment and attainment rate especially in primary education. However, in some AMS there is still room for improvement with regard to enrolment rates in secondary education.

In terms of quality, there are some reasons for concern. This leads to the key challenges to be summarised as follows:

- While literacy rates in the 15-24 age group are comparatively high (chapter 3.2.3), the PISA assessment for some AMS shows alarming results in terms of the share of low-achievers not going beyond level 1.
- Studies also report a gender gap in literacy rates of young people in the 15-24 age group: "youth literacy is more common among males than among females in the region" (UNESCO 2017, 12).
- A persistent challenge is the limited attractiveness of STEM subjects in schools.
- Apart from STEM, the acquisition of transversal skills (e.g., social skills, learnability, ICT skills, problem-solving; see chapter 3.2.2) is recognised as important but yet not broadly realised. According to a WEF survey, youth place a high value on soft skills such as emotional intelligence, resilience and adaptability (WEF 2019, 5). Cunha et al. (2006) argue that the skills acquired in early childhood and schooling augment the skills attained at later stages. As an example, they point to self-control and emotional security which may reinforce intellectual curiosity and the learning of high-order cognitive skills. Carneiro & Heckman (2003) point out that many transversal skills (e.g. motivation, perseverance, persistence) acquired in early stages of education will influence the educational and labour market outcomes of children in later years.
- Overall, research findings indicate that general education should primarily lay the ground for cognitive and transversal skills and fostering interest in continuous learning throughout life (OECD 2019a, 235). The motivation and capabilities for LLL have to be nurtured very early. This has major implications for the design of curricula and educational practices in general education.
- Correspondingly, the broadening of the curriculum towards transversal skills puts high requirements on the qualification of teaching personnel. The role of teachers in the classroom turns from an expert of content towards a facilitator and personal coach for learning (McKinsey & Company 2020, 18). This role shift puts new demands on the design of initial and in-service teacher training.

- General education also has to take care of the school-to-work-transition of their students. Part of the curriculum needs to be devoted to making students familiar with realistic opportunities after school and preparing their decision on next steps in their career development.

Technical vocational education and training (TVET)

TVET ideally builds on the foundations of general education. In many AMS, its primary aim is to achieve long-term integration of qualified people in the formal or informal economy. Statistical data on enrolment and attainment in TVET in individual countries or comparison between different AMS are often not reliable. In many countries TVET is not a clearly defined field. TVET is often overseen by several different ministries and comprises various programmes of different duration, qualification level and degree of standardization. In this study TVET covers two streams: While the focus of initial TVET (iTVET) is put on the development of skills and competences, continuing TVET (cTVET) primarily deals with up and reskilling of people who have already gained some work experience.

Development of skills and competences in iTVET is designed to lay the foundation for working professionally in an occupational context. The learning processes often comprise occupational theory and practice, deepening of general education and occupational socialisation by immersion in the social contexts of work. iTVET can be organised in different settings. Two pure types are programmes along the lines of 'dual TVET' or 'school-based TVET'. While 'dual TVET' is based on a concerted delivery of learning processes by schools and companies providing the components of a learning process outlined above, school-based TVET is basically organised in schools. Here the practical part of the learning process is provided in school workshops, by different simulation methods or (sometimes) by internships in companies. Apart from these two organisational prototypes, a major distinction in the provision of iTVET affects the underlying objectives and concepts pursued. Here two different approaches are in place:

- 'Dual TVET' – as to a large extent adopted in European countries such as Germany, Switzerland, Austria, Denmark, Netherlands – puts a strong emphasis on conveying a broad and transferable foundation of relevant cognitive and transversal skills. Occupational profiles are less directed to workplace-processes in a specific company but rather related to practice a broad range of activities making up an occupation. It follows the idea of building up a disposition in young people they can harness flexibly to adapt in changing environments. Dual TVET programmes take at least one year, usually they last between two to three years.
- In contrast, competency-based training (CBT) – as originally adopted in Australia,

New Zealand and the UK – merely aims at preparing students for performing in specific jobs and serving the short-term employment needs of trainees such as informal economy workers who cannot find a long-term training programme (Sakamoto & Sung 2018, 12; Buchanan et al. 2018, 156ff.). It follows the idea of making young people fit for specific work processes which are in short-term demand by employers. CBT units usually have a duration of a few weeks to less than one year.

In most countries, iTVET is realised in mixed forms, meaning that depending on the occupation or economic sector a national iTVET system frequently presents itself as a heterogeneous mixed system (Euler 2013, 35ff.). While for high-skilled occupations in economic sectors in need of high-qualified staff, profound learning processes are inevitable, preparation for low-skill occupation might be of shorter duration and narrowly focused. However, this distinction is based on the assumption that workplace requirements rule the type of iTVET. Following the perspective of young people or taking a long-term (investment) view on iTVET would probably come to different results, but it would also need differentiation. For example, iTVET for youth inclined to take up jobs in the informal economy would look different than to programmes for youth prepared for high-skilled occupations affected by rapid changes in skill requirements.

Today, provisions for up- and re-skilling as part of cTVET gain increasing importance, especially in sectors with a high pace of change. Some of these provisions may occur in a formal setting organised by a training institution, "but the bulk of learning will take place in the workplace, either as learning by doing or peer learning." (Sakamoto & Sung 2018, 13)

Within this framework, the following key challenges need further consideration for the design of HRD / LLL strategies, policies and initiatives:

- Given the messages from the future skills discourse (chapter 3.2.2.), iTVET provision designed to build a broad and solid foundation for acting in an occupation is more important than ever. Short-term courses alone will not ensure the necessary groundwork to build on in later career stages. Nevertheless, beyond this foundation and for specific economic sectors and target groups, specific units and modules for up- and re-skilling are necessary and important. Therefore, the framework of a comprehensive TVET system would have to strike a balance between fundamental programmes to ensure the students' long-term employability on one hand and flexible and variable specialisations to meet the short-term employment needs of some workers on the other hand.
- As the data of the "Global Human Capital Index" reveal, enrolment figures in most AMS are still low (chapter 3.2.3). The attractiveness of TVET for many youths is limited, so a key challenge is to analyse underlying reasons for this and to design initiatives to counteract this situation.

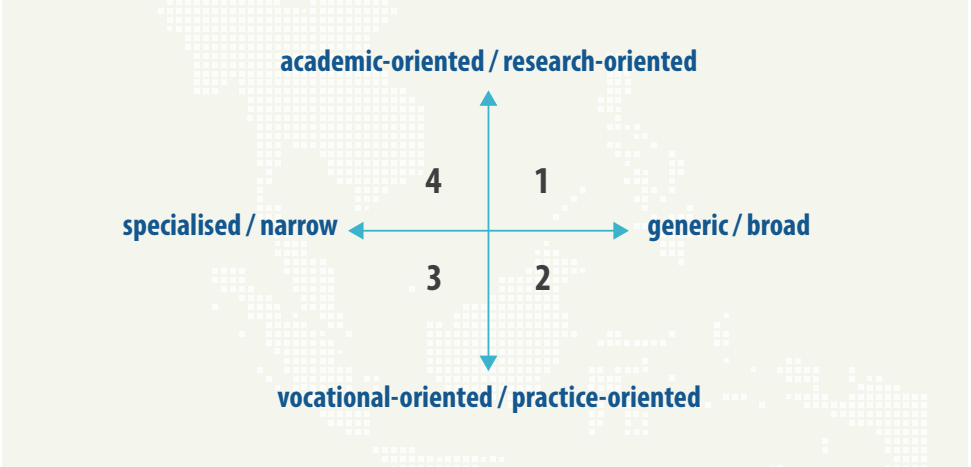
- A widespread complaint about TVET-programmes by employers is their limited relevance and quality. There are many means to make TVET-programmes more demand-driven and thus to increase the relevance and quality of the processes and the outcome of the learning. While there are already some good practices, these need to be disseminated and implemented coherently.
- Closely related to the previous point are endeavours to engage the business sector more in areas such as curriculum development, training of teaching personnel and becoming partner in dualised TVET programmes (Euler 2018; GIZ 2020).
- Many skills and competences are acquired in informal learning contexts, be it at the workplace within cTVET opportunities, or in the local community. Opportunities and forms of recognition and certification of such skills need to be increased.

Higher education

The Higher education (HE) systems of the AMS are highly different, both in scope, applied terminology, and key objectives. Collection and publication of data on HE is inconsistent within AMS (British Council 2018, 5). According to EU-Share, there are some 7,000 HE institutions with around 12 million students in Southeast Asia (EU-Share 2019). Other statistics report considerably lower numbers (IAU 2017, 8). Obviously, different types of HE institutions are counted in different ways. Apart from universities offering academic programmes leading to a university degree (Bachelors, Masters, Doctorate), there are numerous types of post-secondary institutions with names such as "Polytechnics", "(Professional) College", "Technical and professional institute", etc. (IAU 2017, 10). Some of them offer degrees or certificates, others provide courses with confirmation of participation. Apart from traditional HE institutions, there are institutions like "open universities" or "online universities" broadening access to academic courses (UNESCO 2017, 55).

The universities in most countries are vertically differentiated. While the terminology differs, in many countries there are older universities with a stronger emphasis on research, and younger universities of applied sciences with a stronger focus on teaching. Furthermore, there is a distinction between public and private, as well as multi-discipline and single-discipline universities. Certain universities accentuate their specialised character by describing themselves as an elite or excellence university, or they are proud to show that they are members of a prestigious club like the Russell Group in the UK. Within this context, a segment of universities with a strong vocational orientation emerged over the last decades. The following figure presents a typology that allows placing vocational-oriented universities and/or academic programmes in a comprehensive framework.

Figure 9: Typology of universities / study programmes (Euler 2014)



The chart indicates that there are universities with particular study programmes, which, in their mission and strategy, strongly pursue research, or emphasise their proximity to societal and economic practice. At both ends, universities regard themselves as generic and broadly profiled, or as specialised and narrowly focused. Individual universities may decide to pursue a very clear profile and become a research-oriented or vocational-oriented university, or they may follow a diversification strategy and offer programmes of both types under the same roof.

Overlapping with VET programmes occurs when a university is partly or completely active in quadrants 2 and 3. The reasons for such movements may be diverse. A strong driver is the reality that, in many countries, universities of applied sciences originate from certain kinds of vocational institutions. While a few of these universities of applied sciences work toward research-oriented university status, many stick to their roots and offer practice-oriented programmes.

Although the HE systems in AMS are different in many respects, there are some recurring challenges addressed in many of them:

- How can quality and relevance of academic programmes be ensured (e.g. by a formal accreditation mechanism or comprehensive quality development measures)?
- How can equitable access to HE programmes be improved especially for under-represented target groups which are traditionally remote to universities?
- How can pathways from TVET to higher education be smoothed and permeability strengthened between the two educational sectors?
- How can the business sector be engaged in developing HE personnel or in the delivery of relevant quality programmes?

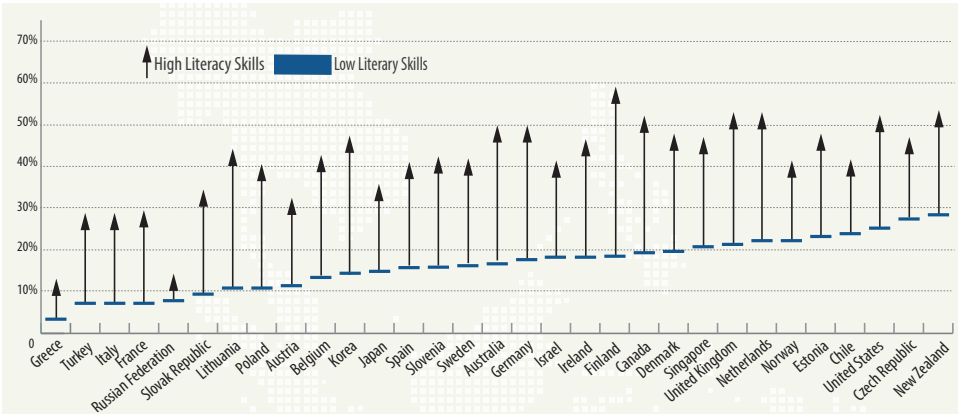
Corporate learning and development

Contrary to the fields of HRD for which the State takes responsibility as described above, corporate learning & development is organised by the business sector. There are cognate terms such as on-demand-training, on-the-job-training, work-based-training, etc. catching the provisions within the business sector. Most of the activities are demand-driven, serve up-skilling and re-skilling purposes and represent short-term courses. While larger companies often have a HR department professionally dealing with learning and development programmes and courses, small and medium sized companies (SME) have to rely on the provision of training institutes often run by business membership organisations (BMO). Although in both cases there may be some overlap with TVET provision, co-operation of the business sector with TVET institutions or universities is less elaborated than it is in some high-income countries in Europe. However, there are some remarkable exceptions in AMS (GIZ 2020, 83).

Many companies put high expectations on the potential of flexible training models, including those that can be delivered online. With every new technological wave, these expectations have experienced a resurgence. However, so far, many projects designed to unleash the promised potential could not live up to expectations (Euler 2018a).

From the perspective of the companies' employees, the principle applies: the higher the skill level, the more people benefit from corporate learning and development. While workers in low-skill occupations very rarely join any of the courses, employees in high-skill professions continuously participate in such offerings. Also, new learning opportunities like open distance resources are mostly benefiting highly skilled people (OECD 2019a, 221). The following figure from the OECD-PIAAC survey can substantiate the principle for almost all countries investigated:

Figure 10 Share of workers with low or high literacy skill levels (OECD 2019a, 120)[32]



32. Share of workers answering „Yes" to the question: „During the last 12 months, have you attended any organized sessions for on-the-job-training by supervisors or co-workers?". Data are from the OECD PIAAC (Programme for the International Assessment of Adult Competencies) survey.

From a normative point of view, HRD provisions in companies may follow the philosophy of HRD or HRM as pointed out in chapter 3.1.1. In this regard, there are no empirical data available for AMS. Future challenges amplified in chapter 3.2 suggest HRD rather than HRM should increasingly guide and shape learning and development programmes in the business sector. However, there are remarkable differences between economic sectors (high- vs. low skill sectors) and business models in companies (cost- vs. quality competitor).

With regard to corporate learning and development, the following key challenges need further consideration:

- How can low-skilled workers gain increased access and to a larger extent participate in corporate learning & development offerings? How can these target groups be attracted and motivated to demand learning opportunities in this area?
- How can the shift from HRM to HRD philosophies be promoted in the business sector?
- As most provisions in corporate learning & development lack any certification: How can suitable courses and acquired skills be linked with formal procedures of recognition, validation and certification?
- How can activities in the business sector in the area of corporate learning & development be linked with programmes and courses in TVET?
- How can companies be incentivised to engage in and contribute to high-quality TVET programmes"?

Non- and informal learning

Most of people's learning happens outside formal programmes. Young children quickly learn their mother tongue, rules of social behaviour and cognitive structure, largely without any curricula or specific learning objectives. One may take comfort in the fact, that even people with little or no access to formal education programmes still learn and acquire important skills.

While these learning processes evidently cannot be anticipated, they can be enabled and facilitated to some extent. This is why they can become an important pillar of any HRD strategy. Establishing community centres in remote regions (UNESCO 2017, 54; ADB 2020, 13), providing access to libraries or open educational resources, or supporting youth organisations that offer opportunities to develop soft skills are just three ways to promote non- or informal learning.

Non-formal learning is defined as organised opportunities with some potential for learning, which can be used voluntarily but does not lead to formal certificates,

degrees or entitlements. Internships, organised sport, arts, handicraft offerings or out-of-school programmes such as computer-clubs, environmental conservation activities, are just some examples. The opportunities are organised but it is left to the learners what they take out of it.

Informal learning happens incidentally. Picking up news from the media, exploring museums, asking knowledgeable people and tapping their experience are some examples for this kind of learning. In the workplace, many skills are acquired by observing others, or by working out solutions for problems which come up in everyday working or private life. In many cases people are not even aware of the new skills they acquire in such contexts. Informal learning is self-directed and it harnesses existing infrastructure. The promotion of informal learning is confined to foster curiosity, to build learning skills in early childhood and schooling, and to make sure that people get enough time to follow their learning interests.

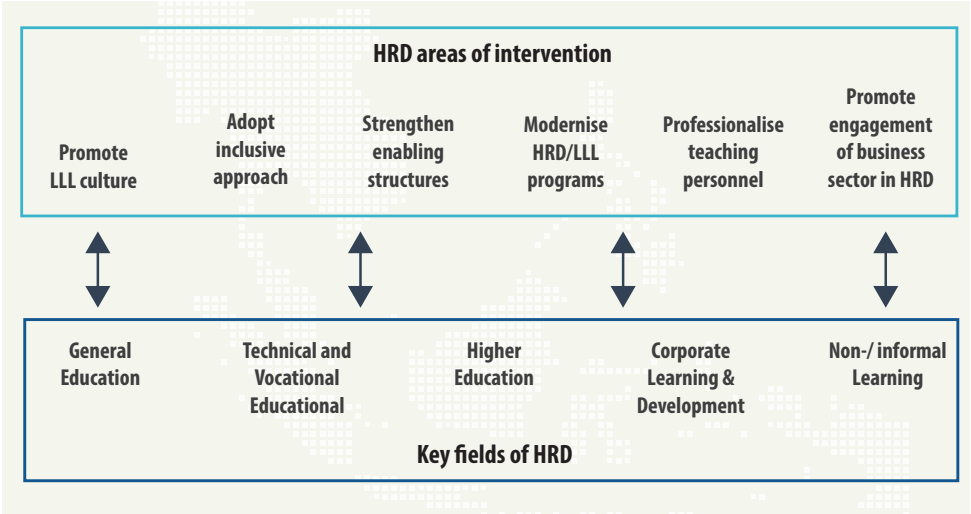
With regard to non- and informal learning, the following key challenges would have to be considered:

- Self-evidently, the skills acquired in non- and informal learning processes are not certified or even recognised. If entitlements, promotion in career pathways, or the like presupposes the presentation of certificates, opportunities for recognition of prior acquired skills and competences would be most desirable.
- How can opportunities for non-formal learning be organised especially for disadvantaged groups?
- How can these target groups be attracted and motivated to harness such opportunities? What incentives can be offered as part of public budgets?

3.3.2 Areas of intervention

How can the national government promote HRD with regard to the key fields of HRD? Basically, it can adjust the regulatory framework (e.g. laws, national policies, quality standards and oversight, governance, allocation of funds), increase the institutional capacity on the national and local level, and improve the provision of services with regard to formal and non-formal learning opportunities. Within this scope, six areas of intervention are highlighted, each of which is then detailed into more specific sub-areas. For those areas already covered in the "ASEAN Declaration on Human Resources Development for the Changing World of Work", the text passages are marked in orange.

Figure 11: HRD areas of intervention



1. *Promote HRD culture*

a. *Raise awareness for the importance of HRD*

Cultural transformations start with awareness raising. Although the message of HRD is already widespread, many people still regard learning and education as something taking place in early years before entering the labour market. Quite similar to this attitude is the view that education and working, learning and earning, are two separated spheres in life.

HRD and LLL are often introduced with an undertone of fear and convey a sense of threat. On the contrary they could be framed as something motivating, and, in the context of work systems, which leads to more demanding and better-paid work assignments.

b. *Whilst providing support to individuals and organisations to invest in learning activities,* HRD programmes can be accompanied by measures providing support and (financial) incentives directly to citizens. The SkillsFuture Credit in Singapore is an example where each Singaporean aged 25 and older will receive an opening credit of S$500. The credit does not expire and can be used to offset out-of-pocket fees for a wide range of skills-related training programmes offered by both public and private training providers on top of existing government course fee subsidies. To finance these programmes, all employers in Singapore pay a skills development levy for each worker that they employ (McKinsey & Company 2020, 20). Support can be organised

in different ways: Funding could go to providers of HRD courses and programmes, so they can be utilised by citizens. Or citizens get a credit or voucher which they can use for learning purposes. In each case, citizens receive an entitlement to engage in HRD activities. A UNESCO study (2018) provides an overview of the modalities of skills development financing worldwide, including case studies from low- and middle-income countries worldwide.

c. *Promote pilot initiatives to generate good practices*
People may be persuaded to take up new activities by good arguments, but are even more influenced by good practices. One step to build on this insight would be the government to promote pilot initiatives which could serve as good practice show cases. For example, a GIZ report entitled "Quo Vadis" presents a number of best practices on business collaboration in TVET in Indonesia (cf. GIZ 2020, 29). Similarly, identifying and highlighting champions for the promotion of HRD can be conducive to spreading the message and can draw attention to HRD.

d. *Provide advisory and counselling services*
Potential beneficiaries may be doubtful about which HRD opportunities could fit their purpose, whether they can attend a programme while working, or which skills they would acquire in a specific programme. Advisory and counselling services could take up these and related instances and help to channel expectations into the right direction. The role of public employment service offices can be leveraged as an intermediary between demand and supply.

e. *Improve the image of TVET and non-formal learning*
For many young people, an academic degree is what they strive for. Alternative pathways such as TVET or non-formal learning suffer from a poorer reputation. To promote a comprehensive LLL culture, it is important to establish a positive and supportive attitude among the public towards the image of non-academic education and learning. In particular, the image and attractiveness of TVET needs to be improved. There are strong messages which could be put forward in advocacy campaigns (GIZ 2019, 32f.). Apart from arguments, initiatives could be launched, such as promoting the employability, school-to-work transition and career progression of TVET graduates, providing support to women, girls and underprivileged groups to enter non-traditional fields of TVET, and encouraging the harmonisation of TVET competence standards in AMS.

2. Adopt an inclusive approach

a. *Strengthen support for vulnerable groups*

Many studies report a kind of reinforcement effect in the usage of HRD provisions: Those on a high-skill level draw on HRD programmes and courses distinctly more often than those on a low-skill level. Furthermore, one of the findings following PISA assessments is the close relationship between social origin and educational performance. And last but not least, those most at risk considering the mega-trends are low-skilled workers and some disadvantaged groups in society. Unequal conditions need to be treated unequally. Therefore, the promotion of HRD must devote disproportionately more resources for these vulnerable groups.

Although the situation can differ between AMS, very often the following groups are included (Sakamoto & Sung 2018, 18; ILO 2019a, 57, 59; ADB 2020, 18): persons with disabilities, the rural population, women, migrants, ethnic minorities, elderly workers without retirement pay, and workers in informal employment with limited or no access to in-company trainings.

b. *Increase enrolment and completion rates of vulnerable groups*

Enrolment and completion rates of people from disadvantaged backgrounds in formal education programmes on all levels are below average. The reasons for this may be manifold; one major factor is the socio-economic background. Therefore, specific initiatives could be designed and implemented to balance the obvious under-representation of people from disadvantaged backgrounds (e.g. design of programmes for dedicated target groups; financial support; quota arrangement for specific target groups; provision of digital infrastructure).

c. *Provide infrastructure for non- and informal learning opportunities*

As pointed out in chapter 3.3.1, non- and informal learning can be enabled by creating occasions for immersion in accidental and coincidental learning processes. Promotion in that area could focus on establishing places like libraries or community centres, organising events or providing learning resources such as open educational resources or supporting (youth) organisations that provide learning opportunities in different areas. Inclusive approaches also have to address the fact that for many groups formal educational programmes are unaffordable due to tuition fees or other conditions. Flexible training provision offered alongside non- and informal learning opportunities could provide alternatives for groups affected by these constraints (e. g. community learning centres, mobile teaching arrangements, and open and distance learning).

d. *Promote recognition, validation and accreditation of non- and informal learning outcomes*

Often people with limited or no access to formal education programmes acquire skills and competences within their working or private life. As long as these skills are not transparent, they are of limited value, in particular when recruitment for jobs or admission to formal education programmes come into consideration. Within that context, opportunities to recognise, validate and accredit non- and informally acquired competences could be of great use.

3. Strengthen enabling structures

a. *Enhance institutional frameworks for HRD*

HRD as a comprehensive approach embracing all fields of education and learning needs to be anchored as an enabler and an entitlement in the legislation, policies, governance and institutions of State and government. For example, there should be legislation stipulating the funding of HRD provisions, policy documents introducing binding strategies, programmes and action plans in priority areas, institutional capacities for strengthened, accountable implementation of the programmes.

b. *Strengthen coordination and collaboration of ASEAN sectoral bodies and like-minded stakeholders*

As HRD embraces all areas of education and learning, many stakeholders are involved (e. g. private sector, academia, tripartite partners). This can create huge capacities for the design and implementation of effective initiatives. It also causes demanding requirements in terms of coordination and collaboration. Within the government, often several ministries have responsibility for the same issue. For example, in Myanmar 13 ministries are involved in providing TVET teacher-training programmes (Lythe 2015). Sometimes a lack of coordination can lead to non-implementation (for examples, see GIZ 2020, 37, 41, 48, 77; for good practices, see UNESCO 2017, 20).

c. *Strengthen dialogue between ASEAN and ASEAN's external partners*

As the Declaration on HRD for the changing world of work has been worked out by representatives of all AMS, implementation will also affect all states. ASEAN has always been open to cooperation with external partners, including international organisations, to facilitate the sharing of models, good practices, and experiences in advancing HRD in the member states. Therefore, platforms and forums for dialogues should be strengthened and, where necessary, formalised.

d. Improve quality and accessibility of mega-trends information

Data with regard both to the supply and demand of future skills are not easily available. International organisations provide some data which are often highly aggregated, and governments draw on their statistics which, by their very nature, are past-oriented. There is still a need for skills forecasts to support the capacities of governments, educational institutions, business sector and other stakeholders to promote HRD according to the demands of the labour market and of society. Effective data require regular employment studies and (more) research on (future) skills needs, particularly sector-specific research (GIZ 2019, 61). As not all countries need to set up (and finance) their own research institutes, there should at least be bodies to interpret available research data, to transfer these to the countries' contexts and to identify relevant questions for follow-up research.

e. Establish a pool of funds to support priorities and research

In many states, the funding structure for at least some key fields of HRD is not settled (GIZ 2019, 44). In particular, new approaches of HRD need dedicated funds which are often not available in public budgets. Therefore, AMS should be encouraged to allocate an annual budget to support priorities and research in the implementation of innovative HRD projects. For the effectiveness of any HRD fund, it is vital to ensure transparency and accountability over the allocation and use of the funding.

f. Establish the TVET council

The ASEAN TVET Council (ATC) will serve as a multi-sectoral platform for coordination, research and development on innovations and monitoring of regional programmes that support the advancement of TVET in the region. This could well strengthen the impact of the ASEAN Future Workforce Council led by business and industry (GIZ 2019, 26f) which has already been established.

4. Modernize HRD programmes

a. Develop new and update existing curricula fostering future skills

Foundational and future skills as synthesised in chapter 3.2.2 need to be incorporated in curricula especially in general education, TVET and higher education. In particular, the acquisition of learnability along with personal qualities such as curiosity, persistence and perseverance are of high importance as a foundation for LLL. As regards curricula in TVET and higher education, alignment with the needs of business and industry should also be ensured.

b. *Provide quality teaching and learning resources*
For teaching and training personnel it is not so much the regulations in curricula that structure and nurture their teaching. Rather suitable teaching and learning resources (e. g. textbooks, real life case material, traditional and online media) guide their teaching practices. Innovations in classrooms and workshops can best be facilitated and transferred into existing teaching practices by such resources. However, if the teaching of largely new (future) skills is pursued, such resources alone will not suffice to trigger innovation.

c. *Align assessment in programmes with future skills*
Students often rate the relevance of curricula and learning content by looking at the assessment. 'What you test is what you get' expresses this common sense wisdom of many teachers and trainers. As is the case with all skills addressed in teaching and learning processes, apart from curricula and learning resources, the assessments have to be aligned with the future skills to be conveyed.

d. *Diversify delivery modes of programmes with online and blended learning*
Digital technologies and resources are supposed to innovate teaching and learning in all stages of HRD. However, these resources are not ends in themselves but should serve as instruments adding value to the quality of teaching and learning programmes. Online tools could improve access to HRD courses and also enlarge and amplify existing teaching and learning methods (Buchanan et al. 2018, 131). They provide new opportunities, but ultimately it is not technology but (technology-enhanced) pedagogical concepts which decide on the quality and (added) value of learning processes.

e. *Improve pathways into working life in high-skills occupations*
There is broad consensus that educational programmes should prepare people to tackle future challenges in private and working life. As pointed out in previous chapters, skill requirements in working life will rise in many occupations. Thus, endeavours to make graduates in general education, TVET and higher education 'future ready' require smooth pathways between these three stages. As one step, in general education students should be exposed to career guidance counselling, vocational orientation and work experience to enable them to make informed career decisions. They should be able to decide on which of the quality programmes on offer in TVET or higher education would be best suited to meet their ambitions. Also, pathways and permeability from TVET to higher education programmes should be ensured to increase the attractiveness of TVET and keep HRD opportunities open. Last but not least, fostering entrepreneurship training could prepare young people to consider (self-)employment opportunities.

5. Professionalise the development of qualified teaching personnel

a. *Introduce formal standards for training of teachers, school-managers and in-company trainers*

Upgrading the personnel in charge of organising and conducting teaching and learning processes "is a key to improving learning outcomes in South Asia" (ADB 2017, 10). Literature distinguishes between three main target groups, namely teachers, school-managers and in-company trainers. Professionalisation requires clear standards for training of these groups. Although such standards do not need to be harmonised in all aspects for all countries, there should at least be some consensus on minimal requirements for each of the three groups to meet a certain level. Standards should ideally be defined in terms of competency profiles. Within a competency framework, it would also be easier to define career development paths which are currently missing in most countries (Euler 2018, 7). Such career paths are of major importance for increasing the attractiveness of becoming a teacher.

b. *Attract highly motivated and committed people to the teaching profession*

The relative quality of any education system largely relies on the commitment and capabilities of its personnel. For example, countries with high scores in PISA like Finland run a very strict recruitment process for their teachers. Being selected as a teacher identifies them as part of a renowned profession in society. This leads to a virtuous circle: High reputation in society – many applicants for pre-service teacher training programmes – selection of the best – high reputation, etc. Although conditions in AMS are different, the aim to employ highly qualified teachers is the same.

c. *Improve teachers' capabilities in pre- and in-service teacher training*

With regard to teachers, responsibility for pre-service programmes lies within a ministry. Ministries often cooperate with institutes in charge of curriculum development, certification and sometimes quality assurance (Euler 2018, 5). In-service programmes are less elaborated in most AMS. In some countries, the ministries take care of these programmes, in others schools are at least involved in the planning and operation of such programmes.

With regard to HRD, the following capabilities need specific consideration:

- facilitate acquisition of future skills as synthesised in chapter 3.2.2.;
- promote active, learner-centric teaching methods;
- evaluate concepts of technology-enhanced learning;
- focus on instructional alignment of objectives, teaching methods and assessment.

d. *Improve capabilities of school managers*

A comprehensive approach to HRD also has to address the support of school managers. This target group plays a key role in enabling the implementation of HRD concepts in their school. Recruitment and training of school managers are organised and decided either on the national level by the responsible ministry or on the regional level by the respective provincial authorities (Euler 2018, 6). Practices are highly diverse in AMS. In general, there are no specific formal standards in place for school managers. In some countries it is indicated that the personality of the candidate is as important as the ability to master the factual part of the task profile. While there is a structured training programme or at least a variety of courses for school managers in some AMS, such an offering is missing in other countries (Euler 2018, 6).

e. *Develop capabilities of in-company (master) trainers*

In-company trainers are crucial for the planning and delivery of (dual) TVET programmes as well as for up- and re-skilling courses within corporate learning & development.

The training of trainers is regarded as a responsibility of companies. A standard and training framework for in-company trainers already exists with the "Standard for In-Company Trainers in ASEAN Countries" (GIZ 2017, 63f.). This standard could be used as a reference document, in order to ensure a regionally harmonised profile of in-company trainers. Some AMS have started to develop courses or programmes providing opportunities for company trainers to acquire relevant competences. For example, such programmes are offered in Thailand with a 30h and an 80h programme addressing training roles in the delivery and management of training (Euler 2018, 85).

To promote HRD, the following capabilities need specific consideration:

- facilitate acquisition of future skills as synthesised in chapter 3.2.2.;
- raise awareness in the workforce to take responsibility for their learning;
- contribute to the design and delivery of high-quality iTVET programmes and cTVET courses.

In addition to formal training programmes, less formal workplace learning approaches could be applied, such as group and peer learning, communities of practice, action learning and mentoring concepts.

6. Promote engagement of business sector in HRD

a. *Enhance collaboration between government and business sector in HRD*

Over the last five years a number of studies have been published identifying areas of engagement for the business sector especially in TVET (OECD 2016; DCED 2017; GIZ 2017; Wanklin 2018; Euler 2018; GIZ 2019; IIPE 2019). For example, Euler distinguishes areas of engagement at the training level from those at the institutional level. At the training level, engagement of companies can take place in the delivery and implementation of training, cooperation in examinations, qualification of teaching and training staff and provision of equipment and teaching material. At the institutional level, the business sector can participate in development of curricula and skill standards, contribution in financing and taking responsibility in governance of TVET at a national or local level (Euler 2018, 8). For AMS there are many examples available with regard to most of these areas (GIZ 2019; 2020).

Collaboration can take different levels of intensity. The spectrum ranges from partnership to leadership and ownership. With regard to the key fields of HRD, companies would usually take ownership, or at least leadership, in most corporate learning & development courses, but with regard to TVET programmes, they would at best be prepared to get engaged in a partnership with training institutions.

b. *Incentivise companies to invest in HRD*

The financing of TVET is of central importance for the business sector's increased involvement in TVET. From the perspective of the business sector, increased engagement means that additional time and, therefore, money are required. If, in a country, education – and thus also the financing of education – is seen as a task of the State, the question arises of how the resulting expenses of the business sector are covered by forms of state financing. In addition, companies fear that their training efforts may not be worthwhile because the trained skilled workers are enticed away by companies without a commitment to training. While individual companies provide training, non-training companies externalise their qualification expenditure and, in this sense, behave as free riders. Against this background, the question of financing is associated with the question of the distribution of expenses. In practice, various financing models have been developed, such as a levy grant system; training funds; subsidies for the provision of apprenticeships; and tax exemption models (Euler 2018, 30f.; McKinsey & Company 2020, 19). For each of the models there are practical examples in different countries. For example, in Thailand a tax exemption

model is in place. Companies can have their training costs exempt from tax, thus reducing their tax burden. They can assess their training costs as double in this way (i.e. 200%) (GIZ 2020, 61). This model primarily works for companies in the formal economy that report profits.

c. *Strengthen business membership organisations to engage in HRD*
As well as companies, business membership organisations (BMO; DCED 2017, 4) such as business associations, federations, chambers, guilds and employee representatives can fulfil major functions in the development of an HRD system (Renold et al. 2016, 6). These can take on a wide range of tasks and functions. BMO can, on the one hand, act as representations of interest for their members, for example as business associations for their affiliated companies or as unions for the organised employees of an industry. On the other hand, these organisations can be assigned State tasks; the German chambers, for example (as so-called "responsible authorities"), are allocated legally defined tasks in TVET (such as carrying out examinations). The organisations can also strengthen the power of representation of TVET in the business sector and the public. The extent to which, in a sector, BMO exist which can be addressed and won over as "transmission belts" and catalysts is therefore important for the engagement of the business sector.

The organisations can have very different profiles (cf. for ASEAN GIZ 2017, 109ff.). In concrete terms, the extent to which such organisations pursue the qualification of skilled workers in their objectives or even have points of contact in TVET would need to be examined. In Switzerland, for example, the professional organisations, as representatives of the sectors, are usually the most important protagonists in the (further) development of curricula for individual occupations. In addition, it will be possible to use these organisations to find targeted access to basically suitable and motivated companies. However, such organisations are not always unproblematic. They are often not accepted by companies, for example because they are considered too close to the state or too remote from the business sector (Wanklin 2018).

BMO may be strengthened in different ways (GIZ 2019, 27ff.). They could be supported in providing more and better valued services, in particular in HRD. Seed money could be used to establish HRD departments in BMO staffed with full-time employees who are trained to deliver HRD-related services. Companies could be encouraged to become members of BMO. Some countries consider making membership compulsory by law.

d. *Assist employers (especially SME) in designing and implementing HRD business models*

Whilst larger companies have professional HRD staff, SMEs mostly lack these resources. They depend on external support in order to draw on courses for up- or re-skilling their workforce, but also to plan their HRD activities on the whole. In that respect they have to rely on offerings supported by public money and / or by consulting and advisory services provided by business membership organisations.

e. *Target priority sectors for HRD initiatives*

Economic sectors have different needs in HRD. Some sectors are involved in quality competition in global markets and thus have to focus on HRD in high-skill occupations at a high pace. At the same time, other sectors try to remain profitable in low-cost competition and demand HRD provisions only in short-term skilling courses for some of their employees. As limited resources in HRD need to be focused, HRD initiatives also require some prioritisation. One key criterion would be the selection of those economic sectors with the highest importance for the advancement of societal and economic goals (for examples, cf. ILO 2019a, 41f., 46, 65).

4. Empirical exploration: Framework of investigation and launching of country reports

4.1 Overview

The literature review in the previous chapter highlights a considerable number of theoretical models and suggestions, normative prescriptions, and descriptions and practice cases in selected areas. This chapter provides a link between the results of the literature review and the empirical exploration about the state of HRD in AMS. The investigation proceeds along the following lines:

- The outcome of chapter 3 is condensed into a compact scheme linking key fields of HRD (chapter 3.3.1) and areas of intervention (chapter 3.3.2). This scheme constitutes the conceptual framework of investigation.
- Based on the framework, instruments in terms of interview guidelines, criteria for selecting good practices and suggestions on the selection of interviewees are put forward. The national experts also received suggestions on the structure of their country reports.

4.2 Framework of investigation

The framework of investigation of HRD practices in AMS is presented on the following pages. Not all boxes of the framework are relevant for deeper empirical exploration. Some boxes with regard to areas of intervention (marked in blue) are kept empty, as for logical reasons such interventions are not plausible. For example, establishment of the TVET council (intervention) is not relevant in general education. Most likely, not all boxes will be filled for every AMS because either respective interventions are not in place or access to relevant data is impossible within the given time-frame.

Table 5: Framework of Investigation

Key fields of HRD / Areas of Intervention in HRD	General education	TVET	Higher education	Corporate Learning & Development	Non-/ informal learning
A. Promote HRD culture					
1. Raise awareness for the importance of HRD					
2. Provide support to individuals and organisations to invest in HRD					
3. Provide advisory and counselling services					
4. Promote pilot initiatives to generate good practices					
5. Improve the image of TVET and non-formal learning					
B. Adopt inclusive approach					
1. Strengthen support for vulnerable groups					
2. Increase enrolment and. completion rates of vulnerable groups					
3. Provide infrastructure for non and informal learning opportunities					
4. Promote recognition, validation and accreditation of non and informal learning outcomes					
C. Strengthen enabling structures					
1. Enhance institutional frameworks for HRD					
2. Strengthen coordination and collaboration of ASEAN sectoral bodies and stakeholders					
3. Strengthen dialogue between ASEAN and ASEAN's external partners					
4. Improve quality and acessibility of megatrends information					
5 Establish pool of funds to support priorities and research					
6. Establish TVET council					

Key fields of HRD / Areas of Intervention in HRD	General education	TVET	Higher education	Corporate Learning & Development	Non-/ informal learning
D. Modernise HRD programmes					
1. Develop new and update existing curricula fostering future skills					
2. Provide quality teaching / learning resources					
3. Align assessment in programmes with future skills					
4. Diversify delivery modes of online and blended learning programmes					
5. Improve pathways into working life in high-skills occupations					
E. Professionalise development of qualified teaching personnel					
1. Introduce formal standards for training of teachers, school-managers and in-company trainers					
2. Attract high-motivated and committed people into the teaching profession					
3. Improve teachers' capabilities in pre- and in-service teacher training					
4. Improve capabilities of school managers					
5. Develop capabilities of in-company (master) trainers					
F. Promote engagement of business sector in HRD					
1. Enhance collaboration between government and business sector					
2. Incentivise companies to invest in HRD					
3. Strengthen business membership organisations to engage in HRD					
4. Assist (SME) employers in designing and implementing HRD business models					
5. Target priority sectors for HRD initiatives					

4.3 Planning and conduct of interviews by national experts

Following the aim and terminological groundwork of this study, the overarching question for the empirical exploration in each AMS can be summarised as follows:

How do state bodies and the business sector encourage, launch, support, promote, and implement areas of intervention in key fields of HRD (general education, TVET, higher education, corporate learning & development, non- and informal learning)?

Areas of intervention in HRD are outlined in the framework of investigation. For each area, guiding questions and procedural advice for the planning and conduct of interviews with stakeholders are suggested (Annex 1). These questions reflect the underlying substance of the respective area of intervention as derived from the literature review. They are designed to provide clear guidance, but also to leave ample scope for adaptation and elaboration according to the stakeholders interviewed.

The interview guidelines addressing six areas of intervention are rather comprehensive. Within the tight time schedule and limited resources, there was a risk that data generated by the national experts would remain superficial and of low value. To optimise utilisation of resources, every national expert was asked to focus the analysis on four out of six areas of intervention. National experts should focus on the most promising and substantial areas. As a result of intensive consultation, the following assignments were fixed:

Table 6: HRD areas of intervention selected in the country studies [33]

Country	Promote HRD culture	Adopt inclusive approach	Strengthening structures	Modernize HRD culture	Professionalise teaching personnel	Promote engagement of Business sector
Brunei Darussalam	x	(x)	(x)	x	x	x
Cambodia		x	x	x		x
Indonesia		x	x		x	x
Lao PDR	x	x	x	x		
Malaysia	x	(x)	x	x	(x)	x
Myanmar	x		x		x	x
Philippines	x	x	x	x	x	x
Singapore	x	x	x			x
Thailand	x	x			x	x
Viet Nam		x	x	x		x

33. "X" indicates that the area of intervention has been investigated in the respective country report. "(X)" indicates that on top of four others the area of intervention has been investigated, although not to the extent of the others.

While all national experts investigated at least four areas of intervention, one expert extended the scope by dealing with all (Philippines) and two also collected and structured some data for those areas going beyond their major focus (Brunei Darussalam, Malaysia). Overall, all areas of intervention were investigated for six AMS at least.

4.4 Readiness questionnaire

Irrespective of the selected priorities for deeper exploration, each national expert was expected to collect data with regard to the "readiness questionnaire" (see annex 2). Apart from some brief context data, it covers the six areas of intervention with one item each. For each item respondents had to be asked to assess the importance and the degree of realisation in their AMS.

The appraisal of "importance / desirability" on one hand, and "realisation / achievement" on the other should identify the degree of readiness as well as the "readiness gap" between intention and implementation for each AMS: How is the country already progressing on its way to a modern HRD system?

For each AMS, at least 25 questionnaires had to be fully completed. Selection of respondents and distribution was left at the national experts' discretion. However, at least three of the following institutional units should have been covered with at least one respondent:

- Ministries
- Primary / lower secondary schools
- TVET schools / academies / colleges
- Universities
- Companies
- Business membership organisations.

Apart from the results from analysing documents, interviewing stakeholders and collecting and analysing data via (small) questionnaires, national experts were to compile the following statistical facts on HRD/LLL in their AMS:

- Mean years of education
- Youth not in employment, education, training (%)
- Literacy, numeracy rates (15-24 age group)
- Literacy and enrolment rates of people from disadvantaged backgrounds
- Primary education enrolment rate (0-14 age group)
- Primary education attainment rate (15-24 age group)
- Secondary education enrolment rate (0-14 age group)
- Secondary education attainment rate (15-24 age group)
- Vocational education enrolment rate (15-24 age group)
- Tertiary education enrolment rate (15-24 age group)
- Tertiary education attainment rate (25-54 age group)

5 . Findings: Comparative analysis and synthesis of country reports

5.1 Context: Sharing experiences from heterogeneous settings

Before results of the empirical exploration are presented in detail, some preliminary remarks put the analysis in context. It is evident that the ten AMS are different in many respects. In particular, the level of socio-economic development as well as the available economic resources differ considerably. In terms of preparing HRD for future challenges, not all start from the same position. Thus, it does not make sense to order the ten AMS into a ranking. Rather, the major objective in presenting the following reports is to safeguard the richness of experiences and to provide food for thought for all.

These considerations go hand in hand with the following. In some of the areas of intervention, so-called 'good practices' are highlighted. 'Good' or even 'best' can only be displayed relative to their context. Structures or processes which are 'good' or 'best' in one AMS may turn out to be less appropriate under the circumstances of other countries. And as an old saying puts it: 'better' is the enemy of 'good' – changing contexts may challenge current 'good practices' and can require new approaches. Against this backdrop, 'good practices' in this report are presented to make readers reflect on how they can trigger ideas for improvement in their own system.

The different levels of development in the AMS with regard to key indicators of the formal education system can at least partly be inferred from the table on the following page. It compiles the data provided in the country reports and shows the commonalities as well as the differences between the states. For example, the mean years spent in education differ considerably between the countries. Also, the share of young people crossing over to secondary and tertiary education varies notably. While due to economic, social and cultural conditions countries start from different positions, all put great emphasis on the advancement of their education system.

Some technical remarks should facilitate the understanding of the table:

- For the sake of easy comparison, age cohorts are defined in line with the "Global Human Capital Index" (HCI) presented in chapter 3.2.3. Also, the definition of the indices conforms with the HCI. If data for respective countries deviate from this definition, it will be pointed out explicitly.
- If available, data are complemented with the reference year. National experts took the data from both national and international sources. Details can be drawn from the respective country reports.
- In four cases (Brunei Darussalam, Malaysia, Philippines, Singapore), data on the attainment rates have been calculated differently to those of the HCI. For example, the primary education attainment rate (15-24 age group) in the HCI is defined as the percentage of the population with at least a primary education. For most AMS, the rate is well beyond 80%. In contrast, in the Malaysian report primary education attainment rate of 15,4% covers only those people older than 15 years who have primary education as their highest grade.
- Data on the indicator "Vocational Education enrolment rate" are based on different definitions of vocational education and should therefore be treated with some caution.
- The indicator "Literacy and enrolment rates of people from disadvantaged background" has not yielded reliable data for a comparison and hence has not

Table 7: Overview on relevant data of ASEAN member states on key indicators of national education system [35]

	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Mean years of education	9,1 (2018)	n/a	8,34 (2020/25+)	n/a	10,2	n/a	9,4 (2018)	11,2 (2019)	9,52	8,2 (2018)
Youth not in employment, education, training (%) [34]	22,0 / 18,6	9,3 / 3,1	26,2 / 15,1	44,9 / 39,1	16,1 / 9,1	20,4 / 9.0	24,1 / 13,8	5,2 / 3,2	18,6 / 11,2	17,4 / 12,1
Literacy, numeracy rates (15-24 age group)	99,7 (2018)	94,6 (2017)	99,76 (2018)	92,5 (2015)	99,1	94 (2014)	98,18 (2015)	99,9 (2018)	98,6 (2020)	98,4 (2018)
Primary education enrolment rate (0-14 age group)	98,0 (2015)	97,8 (2018)	97,64 (2019)	99 (2020)	97,9	86,4 (2014/5-9)	94 (2020/net)	99,7 (2017/ 6-11)	99,8 (2020)	98,0 (2018/net)
Primary education attainment rate (15-24 age group)	Different calculation	82,1 (2019)	83,39 (2019)	82,1 (2020)	Different calculation	67,0 (2017)	Different calculation	Different calculation	98,0 (2020)	95,9 (2018/ 20-24)
Secondary education enrolment rate (0-14 age group)	97,0 (2010)	59,2 (2018)	79,40 (2019)	83,3 (2020)	86,5	63,5 (2014/ 10-13	84,0 (2020/net)	99,8 (2017/ 12-15)	88,0 (- / 12-14)	89,2 (2019)
Secondary education attainment rate (15-24 age group)	75,2 (2019)	45,3 (2019)	58,26 (2019)	88,5 (2020)	Different calculation	34,0 (2017)	Different calculation	74,5 (2019/25+)	83,0 (- / 12-14)	63,7 (2018/20-24)
Vocational education enrolment rate (15-24 age group)	7,8 (2019/net)	n/a	approx. 40	3,8 (2020)	22,7	approx. 10 (2018)	n/a	n/a	6 (2020)	3,5 (2018/ 20-24
Tertiary education enrolment rate (15-24 age group)	15,9 (2018/net)	11,6 (2018/18-22)	30,28 (2019/15+)	n/a	17,8	43,3 (2017/15-20)	35,5 (2017/ gross)	88,9 (2018/ gross)	49 (2020/ gross)	29,0 (2016/Gross)
Tertiary education attainment rate (25-54 age group)	23,8 (2019)	n/a	9,26 (2019/15+)	n/a	26,7 (-/15+)	83 (2017)	16,2 (2017)	48,2 (2019/25+)	20,5 (2017	10,8 (2018/15+)

34.. Data on "Youth NEET" (female / male) covering the age cohort 15-24 years represent ILO figures updated November 9, 2020 (https://www.ilo.org/asia/media-centre/news/WCMS_737997/lang--en/index.htm - retrieved 12.11.2020).

35. Net enrolment is the percentage of enrolment of a defined age group (e.g. 15-24 age group) to the population of that age group. Gross enrolment is the percentage of enrolment in an education sector (e.g. TVET) regardless of age to the population in the defined age group.

Figure 15 reveals the challenges every attempt faces when trying to compile statistical data for comparative purposes. Every figure is bound to presuppositions and definitions which may differ more or less from one AMS to another. For example, tertiary education is sometimes is confined to university programmes leading to an academic degree. In contrast (like in Singapore), tertiary education comprises various forms of post-secondary education, pre-employment training, junior colleges, technical education, polytechnics and university education. Within this broader notion, the line between vocational and higher education is less sharp. And as can also be interpreted from the table, collection of statistical data can be related to different age cohorts.

For this reason, the overview should be treated as a broad approximation to reality in the respective countries. And it is hardly surprising that some of the data deviate considerably deviate from those in the HCI presented in chapter 3.2.3 of this report.

5.2 Overview: Results of the readiness questionnaire

The major intention in launching the readiness questionnaire was to explore the potential gap between the appraisal of importance and desirability of HRD on one hand, and the realisation and achievement on the other hand. In contrast to surveys resulting in some kind of Human Capital Index (see chapter 3.2.3) which try to catch a selection of measurable data, this approach strives for a quick snapshot of the state of HRD based on experts' appraisals. In order to draw a more detailed picture, HRD was broken down into the six areas of intervention and framed into the following hypothesis:

- Promote HRD culture: There is an awareness and culture of HRD empowering people to make them resilient for an environment of constant change.
- Adopt inclusive approach: HRD includes specific programmes and support for vulnerable groups at risk of being left behind.
- Strengthen enabling structures: HRD is clearly visible in terms of legislation, coordinated bodies and ministries at state level, platforms of cooperation, funding and research on labour market developments.
- Modernise HRD programmes: Future skills are fully incorporated into curricula, teaching and learning resources and assessments in general, vocational and higher education.
- Professionalise development of qualified teaching personnel: There are standards for the training of teachers and in-company trainers which address the acquisition of future skills.

- Promote engagement of business sector: In the field of TVET and Higher Education, there are strong links between state bodies and the business sector in terms of public-private-partnerships.

For each AMS, at least 25 questionnaires had to be completed. Selection of respondents had to be taken through convenience sampling but should include the following stakeholder institutions: ministries; primary and lower secondary schools; TVET schools, academies, colleges; universities; companies; business membership organisations.

The realised number of respondents turned out to be different, ranging from 26 to 272. Table 8 provides a comparative view on the exploratory findings.

The table clearly shows that all six dimensions of HRD are appraised to be overwhelmingly important and desirable. Except for few items, at least two third of the appraisals rated the importance of all areas of intervention as "very high" or "high". Correspondingly, all AMS report a significant gap between the degrees of importance and the extent of realisation of the six areas. However, the gaps vary greatly across the countries and across the areas within the countries. Gaps are comparatively large in AMS such as Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Myanmar, Thailand and Viet Nam while they are noticeable but smaller in Malaysia and the Philippines. With regard to the areas of intervention, overall realisation seems to be slightly more advanced in the professionalisation of qualified teaching personnel and the modernisation of HRD programmes.

The limitations of this survey are obvious due to the available timeframe. Although questionnaires underwent some tests before deployment, they could not be validated in an extensive way. Based on a smaller convenience sample, the findings cannot claim representativeness in terms of statistical standards. Rather, the survey was designed as an exploratory approach meant to capture the tendency and broad structure with regard to the topics included. It also aimed at exploring differences between the AMS and across the areas of intervention on a broader scale. While the findings cannot claim robustness in the statistical sense, they provide a broad picture on the state of HRD readiness in AMS.

Table 8: Overview on key findings of readiness questionnaire

Areas of intervention	Brunei	Cambodia	Indonesia	Lao PRD	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
	n=30	n=70	n=36	n=60	n=50	n=26	n=272	n=46	n=33	n=34
Promote HRD culture	27 - 11 90:37%	63 – 32 90:46%	29 – 10 81:28%	39 – 19 65:32%	28 – 6 56:12%	25 – 1 96:4%	243 – 180 89:66%	34 – 13 74:29%	30 – 13 91:39%	28 – 7 82:21%
Adopt inclusive approach	20 – 10 67:33%	59 – 26 84:37%	26 – 10 72:28%	39 – 19 65:32%	26 – 17 52:34%	20 – 0 77:0%	235 – 162 86:60%	30 – 7 65:16%	25 – 9 76:27%	27 – 10 79:29%
Strengthen enabling structures	**22 – 8** **73:27%**	**61 – 25** **87:36%**	26 – 11 72:31%	35 – 19 58:32%	27 – 18 54:36%	23 – 1 88:4%	232 – 161 85:59%	28 – 20 61:44%	32 – 9 97:27%	25 – 11 74:32%
Modernise HRD programmes	**23 – 9** **77:30%**	**62 – 32** **89:46%**	32 – 12 89:33%	40 – 22 67:37%	31 – 22 62:44%	23 – 0 88:0%	238 – 168 88:62%	32 – 12 70:26%	32 – 9 97:27%	21 – 7 62:21%
Professionalise development of qualified teaching personnel	**21 – 10** **70:33%**	**63 – 33** **90:47%**	31 – 15 86:42%	40 – 23 67:38%	32 – 23 64:46%	24 – 1 92:4%	245 – 181 90:67%	29 – 11 63:23%	32 – 8 97:24%	27 – 9 79:26%
Promote engagement of business sector	**22 – 14** **73:47%**	**64 – 30** **91:43%**	31 – 8 86:22%	37 – 22 62:37%	33 – 23 66:46%	24 – 2 92:8%	240 – 163 88:60%	27 – 12 59:26%	29 – 6 88:18%	27 – 7 79:21%

How to read the table? – Exemplified with "Brunei / Promote HRD culture":

- N=30 indicates 30 respondents to the questionnaire
- 27-11: 27 of the respondents marked the two highest items ("very high" / "high") for "important / desirable"; 11 marked the two highest items for "realised / achieved" in the 6-point-scale.
- 90:37: 90% of the respondents marked the two highest items ("very high" / "high") for "important / desirable"; 37% marked the two highest items for "realized / achieved" in the 6-point-scale.

5.3 Detailed analysis: Areas of intervention

5.3.1 Promote HRD culture

This area of intervention encompasses five major sub-areas:

1. Raise awareness for the importance of HRD
2. Provide support to individuals and organisations to invest in HRD
3. Provide advisory and counselling services
4. Promote pilot initiatives to generate good practices
5. Improve the image of TVET and non-formal learning.

Basically, all sub-areas can be realised programmatically or, more concretely, by specific implementation measures. A broad overview on the extent of implementation can be drawn from the readiness questionnaire. As the following table shows, for all AMS there is a gap between the appraisal of importance and the extent of realisation:

Table 9: Number of responses for the two topmost items of the HRD area of intervention "Promote HRD culture"

Promote HRD culture: There is an awareness and culture of HRD empowering people to make them resilient for an environment of constant change.			
Country	**n =**	**Importance Very high / high N / %** [36]	**Realisation Very high / high N / %**
Brunei Darussalam	30	27 / 90%	11 / 37%
Cambodia	70	63 / 90%	32 / 46%
Indonesia	36	29 / 81%	10 / 28%
Lao PDR	60	39 / 65%	19 / 32%
Malaysia [37]	50	28 / 56%	6 / 12%
Myanmar	26	25 / 96%	1 / 4%
Philippines	272	243 / 89%	180 / 66%
Singapore	46	34 / 74%	13 / 29%
Thailand	33	30 / 91%	13 / 39%
Viet Nam [38]	34	28 / 82%	7 / 21%

36. In the questionnaire a six-stage scale was applied for both dimensions: very high (100%) – high (80%) – quite high (60%) – quite low (40%) – low (20%) – none (0%) The figures indicate the number of responses for the two topmost items.
37. In the Malaysian survey, a separate item addressed the responses for "awareness" of HRD. The respective numbers were 30 (60%) – 15 (30%).
38. In the Vietnamese survey, a separate item addressed the responses for "awareness" of HRD. The respective numbers were 27 (79%) – 12 (37%).

The results of this part of the survey reveal noticeable gaps between the degrees of importance and the extent of realisation. Although the gaps vary between the different AMS, all of them are significant. Apart from the quantitative data, the country reports are rich in qualitative evidence with regard to answers, explanations and consideration of the questions guiding the empirical exploration of the national experts. These guiding questions will subsequently also structure the comparative analysis of the country reports. As pointed out in chapter 3, the following country reports focused their investigation on this area of intervention: Brunei Darussalam; Lao PDR; Malaysia; Myanmar; Philippines; Singapore; Thailand.

Are "HRD"/" LLL" key terms in your countries' strategies, policies and programmes in education, employment and labour market policy?

Although the terms "human capital" or "human capacity development" are sometimes used in some documents, HRD and LLL are key terms in countless government documents on different levels of abstraction. In these documents, the notion of "HRD culture" is not self-explanatory. While some understand it to be synonymous with vision or strategic principles on the promotion of people, others regard it as an attitude of individuals to take care of their personal advancement and learning. Analogously, "HRD readiness" may be understood as the willingness of State and government bodies to provide adequate infrastructure and other resources to promote peoples' learning. Or it is regarded as individuals' commitment to invest time and resources for their development.

Many AMS exhibit an overarching long-term development plan including HRD as a pivotal term in the modernisation and development of society, education and economy:

- Within the Brunei Vision 2035, HRD is one of the three main goals: for the accomplishment of an educated and highly skilled population.
- In the Philippines, the long-term 25-year plan called *AmBisyon Natin* 2040 (Our Ambition 2040) along with medium-term Philippine Development Plan (PDP) 2017-2022 and the Philippine Constitution serve as the blueprint for the strategies, policies and other interventions. The PDP, in particular, provides a specific chapter headlined "*Accelerating Human Capital Development* (NEDA)". Within this chapter, three key strategies to ensure lifelong learning opportunities for all are elaborated in detail: (1) to achieve quality accessible, relevant, and liberating basic education for all; (2) to improve the quality of higher and technical education and research for equity and global competitiveness; (3) to improve employability.

- The Thai government has issued a 20-year National Strategy Framework (2018-2037) to invest in both "human capital" and the development of Thai citizens. The abstract framework is put into more concrete terms in the (12th) National Economic and Social Development Plan (2017-2021) and specific policy documents such as the Thailand 4.0 initiative or the workforce development policy (2020-2024).
- In Lao PDR, the Vision 2030 states: "Developing human resources to be a strong production power that could respond to the sustainable socio-economic development in alignment to industrialisation and modernisation …, enables population to access to overall social services and upgrades their living condition." On a more detailed level, in 2020 a Decree for Lifelong Learning was adopted which stated the aim to enable all Lao citizens to access learning opportunities to advance their level of education, to develop sound morals and ethics, and be ready to contribute to national socio-economic development.
- Singapore has a clear vision with comprehensive strategy for HRD policies in the country. Beyond this, there are well-resourced systems and programmes to implement the strategy. Vision and strategy are rooted in the belief that a HRD culture helps to promote economic development and competitiveness.

As can be derived from some of the phrases above, HRD is not an end in itself but very often regarded as instrumental to achieve socio-economic goals. This becomes explicit in the Malaysian report quoting a research study stating HRD in a strongly economic connotation: Malaysia's national HRD is about "managing its workforce, developing talent and human capital, and concerning about labour market reforms to focus on the development and the maintenance of high-quality human resources to fulfil the economic expectations in the face of its key national challenges of ensuring national unity and inclusiveness with an equitable and stable society towards progressing a high-income economy …". Also, in the Malaysian context, some studies are quoted proving the positive effects of HRD on affective commitment, work performance and other variables related to economic efficiency. The Malaysian approach to link HRD closely with economic efficiency is not unique. For example, the Strategic Plan (2018-2022) of Brunei Darussalam includes as one of the strategic objectives the "transformation of human resources towards a performance driven culture".

What target groups are addressed explicitly in countries' strategies and policies with regard to HRD/LLL?

In most documents addressing HRD/LLL, the entire country's population is covered. For example, the Lao Decree on Lifelong Learning points out that "the government

… encourages all Lao citizens … to take any opportunity to develop knowledge, competencies and skills through appropriate flexible learning methods and approaches based on the potential learners' circumstances and context". Following an "age-integrated approach", Singapore provides subsidies to its citizens for harnessing LLL opportunities at all ages.

Sometimes specific groups are highlighted, for example:

- Brunei Vision 2035 targets the whole population with regard to HRD but highlights three main target groups: school leavers; job seekers; and adult learners.
- The Thai National Strategy Framework (2018-2037) focuses on six main target groups: students from pre-school through high school in general education; students at TVET schools and in higher education; workforce; senior citizens; farmers; and talented citizens.
- In the Malaysian strategies and policies with regard to LLL, various target groups are highlighted: students with Malaysian Certificate of Education or a diploma; those preparing for work; people from bottom 40% households or poor communities; single mothers; native or indigenous people; disabled people; and senior citizens.

What key fields of HRD are addressed in countries' strategy and policy papers on HRD?

Out of the five key fields in the framework of investigation (see chapter 2), those under the authority of State bodies (general education, TVET, higher education, non- and informal learning) are addressed in all country reports. All of them are appraised relevant.

Beyond this, some reports explicitly refer to corporate learning and development or synonymous terms (e. g. Brunei Darussalam, Philippines, Lao PDR, Singapore, and Thailand). In some reports (e. g. Malaysia) non- and informal learning receives special attention.

What initiatives of State bodies explicitly promoting HRD culture are in place?

The results of the readiness questionnaire reveal a considerable gap between the appraisal of importance and the realisation in promoting HRD culture. This indicates that in most AMS the implementation of a sound HRD strategy is still in progress. However, most country reports describe specific initiatives of state bodies proving that there are already various interventions in place. The following examples provide an overview of the spectrum of approaches taken:

- Brunei has enhanced the status of HRD by upgrading the HRD Division in the Ministry of Education to a department, now known as the Department of Educators' Management. The Ministry of Education has also established Lifelong Learning Centre (L3 Centre), designed to perform key implementation tasks (e. g. one stop information centre for LLL; to coordinate, promote and regulate LLL programmes and activities; to align and implement strategic initiatives; and to enhance research and development in LLL). The L3 Centre provides programmes under four pillars: workforce development; academic upgrading; personal development; community development.

- In the Philippines several programmes implemented by the government explicitly promote HRD culture. An example is the JobStart Philippines Programme (implemented by the Department of Labour and Employment – DOLE) which aims to shorten the youth's school to work transition by enhancing the knowledge and skills of jobseekers in order for them to become more responsive to the demands of the labour market. Another example is the Philippine Talent Mapping Initiative across all 81 provinces to identify and track the strengths of the current workforce and diagnose weaknesses and gaps in the existing workforce.

- Malaysia puts a strong emphasis on the development of community colleges. One of the objectives for the establishment of community colleges is to provide lifelong education to individuals and the local community to improve the quality of life of the community. For example, these colleges provide a wide range of TVET courses. They also provide an infrastructure for rural communities to gain skills training through short courses as well as providing access to post-secondary education. Within this context, community colleges offer four types of programme with different certificates: (1) Community College Certificate; (2) Special Skills Certificate; (3) Work-Based Learning Diploma; (4) Short Courses on Lifelong Learning.

- SkillsFuture Singapore was set up as a statutory board under the Ministry of Education. Its main task is to drive and coordinate the implementation of the national "SkillsFuture movement", to promote a culture and holistic system of LLL and strengthen the ecosystem of quality education and training in Singapore. Under the roof of SkillsFuture Singapore, a huge number of initiatives, programmes and policies have been launched which in sum represent a coherent implementation framework of HRD/LLL. Some more details are described in chapter 5.3.3.

What advisory and counselling services are available for citizens to get advice on HRD/LLL opportunities?

Advisory and counselling services are important for the advancement of HRD/LLL because they may encourage and orient people to go the next steps in their learning journey. Some AMS report on specific examples of respective services:

- In Brunei Darussalam the L3 Centre provides advisory and counselling services for the public on HRD and LLL opportunities. For example, the public can access the L3 Centre website and social media to obtain updated information on various programmes. Funding assistance is available for the local jobseekers, local employees working in private sector and also companies who are interested in providing training to their local workforce. In addition, the Counselling and Career Unit, Department of Schools of the Ministry of Education also provides counselling services for students at their respective schools or institutions. There the unit provides information on future career, further studies and courses and programmes offered by post-secondary and higher education.
- In the Philippines a "Career Guidance Advocacy Programme" was established to inform and prepare students on taking different careers. Within this context there are further activities offered by different bodies (e. g. Technical Education and Skills Development Authority (TESDA), Department of Education, Department of Labour and Employment), such as: Career Guidance Week; Career Information Seminar; Career Guidance Workshop; Career Guidance through Transmedia Storytelling; Career Ambassadors.
- In Malaysia there are several bodies in place offering advisory and counselling services for Malaysian citizens:
  - A Promotion Committee which promotes and advise on the programmes that are offered by universities, colleges, polytechnics, etc.;
  - Industry Community Advisors who advise on programmes related to the industry;
  - Employability Advisors who provide information on HRD and market trends;
  - and the Skills Development Division of the Ministry of Youth and Sports which advises youth and communities on skill developments.
- Part of the SkillsFuture movement in Singapore provides opportunities for citizens to make well-informed choices regarding training and careers, and to look for career opportunities. Within the SGUnited Scheme, citizens can get advice on HRD/LLL through job coaching and job placement schemes.

What initiatives are in place to improve the image of TVET and non-formal learning opportunities?

There are some striking initiatives in place to improve the image of these fields which often suffer from being assessed as only second best. For example:

- In Malaysia, a couple of activities have been introduced. For example, alumni success stories are shared on TV, radio, and social media; engagement of industry is incentivized to make TVET pathways more attractive; training of instructors has been updated to improve the quality of TVET programmes.
- In the Philippines, part of TESDA's strategy is to intensify promotion and advocacy of TVET through increasing social marketing and advocacy campaign programmes. This includes success stories of K-to-12 graduates who underwent the Technical-Vocational-Livelihood track, and further hosting a "TESDA Idol" on social media to recognise outstanding graduates of the programme. Incentives and rewards are provided by TESDA to generate support and commitment from partners to serve and promote TVET. Based on -a legislation, the 25th of August of every year is declared as the "National Techvoc Day" which mandates the conduct of activities such as job fairs, financial loan assistance and enrolment, with the objective of linking TVET graduates to employment opportunities. For non-formal learning opportunities, every year the Department of Education conducts early registration activities for the incoming school year for all public schools. It is conducted locally with the support of the local officials, civic organisations and the community through a month-long advocacy campaign to seek out children and youth who are not enrolled and bring them back to school.
- Based on a White Paper, Brunei launched a series of activities which target major improvement in TVET. Among others, the following initiatives have been launched within this context: expanding apprenticeship options; more progression opportunities; a new scheme of teaching services; upgrading the training environment.
- In Singapore, efforts have been applied to improve the quality and branding of TVET for quite some time. For example, the Institute of Technical Education (ITE) outlined its sixth branding plan in 2013-2015, which demonstrates how graduates are equipped with skills that make them "ready for the world". In addition, ITE outlines strategic plans every five years which chart the broad directions to be taken to enhance the quality of career and technical education offered. In 2020, ITE launched its latest strategic plan, entitled ITE Create, which aims to build opportunities for students to hone their craft, sharpen their career readiness and broaden their mindsets to ensure that graduates possess employability

resilience and future readiness. Today, TVET is reported to be a well-recognised pathway for Singaporeans.

Good practices

Innovative approaches or good practices may relate to the establishment of new institutions, the launch of new programmes or activities on the micro-level of teaching and learning. The following selection provides examples with references to one of these levels:

- In 2019, Brunei Darussalam established a multi-ministerial committee to coordinate efforts for HRD/LLL and employment called the Manpower Planning and Employment Council (MPEC). It has been designed to bring important education and training providers, industry players, and government / regulators to work together. The establishment of the Manpower Industry Steering Committee (MISC) and the establishment of L3 Centre are also key milestones in addressing HRD/LLL and employment issues.
- In Myanmar a TVET forum was launched in 2016 with the aim to boost TVET and make this key field of HRD more attractive in the country.
- In the Philippines good practices are primarily on the programme level. For example, within the JobStart Philippines Programme there are various initiatives such as the Philippine Talent Mapping, the Workforce Development Initiative, a Talent Score Card, a Workforce Profile per Province, the Free Assessment of Talent for 21st Century Skills, and Labour Market Information. Worth mentioning is also the Universal Access to Quality Tertiary Education Act which institutionalises free tuition and exemption from other fees in universities and colleges. In addition, TESDA's initiative in maximizing online social marketing and advocacy campaign provides a tool to promote the image of TVET.
- Thailand reports initiatives on different levels. On the institutional level, the Thai government established the Thai Professional Qualification Institute (TPQI) to boost the number of skilled labourers in the market and provide certification for non-formal learning. For non-formal learning, there are various platforms for both online and offline learning. The courses include free online lessons on different levels, re-skilling and up-skilling training courses and provisions for career advancement. On the micro-level, there are good practices in terms of incorporating STEM into training or building up entrepreneurship programmes. One further example is the government asking 14 private companies to join the campaign of the "Excellent Model School project". Within this project, TVET should become more attractive by improving vocational curricula to meet industry standards and requirements. Finally, the Office of the Basic Education Commission has developed programmes that encourage collaboration between

educational institutions, the private sector, and TVET schools. The programmes include an apprenticeship programme for young students, invite university faculty members to engage in the design of curricula, and allow general education students to take vocational courses at TVET schools or universities.

- For Singapore, the most striking point is the conceptual integration of HRD as an integral part of nation building and its economic growth strategy. The approach taken can be called both pragmatic and innovative. Economic objectives significantly mould the design of HRD policy. Illustration of the high commitment of the government is indicated by public spending and provision of the necessary infrastructure for HRD / LLL.

Conclusion

- HRD / LLL are key terms in countries' strategies, policies and programmes. Within this context, HRD is often regarded as instrumental in promoting economic development and competitiveness.
- The transition from programmatic intentions to implemented programmes is at different stages across AMS. An advanced example of implementation is Singapore which has an ambitious strategy, roadmap and programmes in various areas, resulting in a coherent HRD approach.
- With regard to target groups of HRD / LLL initiatives, in principle there are no restrictions. However, in terms of prioritisation some AMS emphasise specific target groups often linked with equity and inclusion considerations. This corresponds with the need to include all key fields under the authority of State bodies (general education, TVET, higher education, non- and informal education) in the design and implementation of HRD/LLL.
- Progress in implementation of HRD/LLL ambitions is at different stages across AMS. The spectrum ranges from narrowly defined pilot initiatives to the setup of institutional infrastructures to drive programmes on a coherent and systematic basis. Against this backdrop, some AMS offer advisory and counselling services to provide citizens with relevant information on learning and career opportunities.
- In some AMS, major attempts are made to boost the image of TVET and non- and informal education as learning paths which suffer from low attractiveness. Country reports list a broad range of measures. Some of them are reported to contribute to an improved public perception of TVET.

5.3.2 Adopt an inclusive approach

This area of intervention comprises four sub-areas:

1. Strengthen support for vulnerable groups

2. Increase enrolment and completion rates of vulnerable groups
3. Provide infrastructure for non- and informal learning opportunities
4. Promote recognition, validation and accreditation of non- and informal learning outcomes.

The sequence of these sub-areas indicates the underlying rationale of this area: Inclusion refers to 'vulnerable groups' which have to be defined in the context of the respective countries. Based on this specification, formal and material provisions of state bodies are described (1) and scrutinised with regard to their impact on enrolment and completion rates (2). As non- and informal learning opportunities and the chance to recognise and validate learning outcomes gained in this field are important approaches to support specific vulnerable groups, practices in these key fields of HRD / LLL receive specific attention (3, 4).

The following table introduces the results of the readiness questionnaire for the respective AMS:

Table 10: Number of responses for the two topmost items of the HRD area of intervention "Adopt inclusive approach"

Adopt inclusive approach: HRD includes specific programmes and support for vulnerable groups at risk for being left behind.			
Country	**n =**	**Importance Very high / high N / %** [39]	**Realisation Very high / high N / %**
Brunei Darussalam	30	20 / 67%	10 / 33%
Cambodia	70	59 / 84%	26 / 37%
Indonesia	36	26 / 72%	10 / 28%
Lao PDR	60	39 / 65%	19 / 32%
Malaysia	50	26 / 52%	17 / 34%
Myanmar	26	20 / 77%	0 / 0%
Philippines	272	235 / 86%	162 / 60%
Singapore	46	30 / 65%	7 / 16%
Thailand	33	25 / 76%	9 / 27%
Viet Nam	34	27 / 79%	10 / 29%

39 In the questionnaire a six-stage scale was applied for both dimensions: very high (100%) – high (80%) – quite high (60%) – quite low (40%) – low (20%) – none (0%) The figures indicate the number of responses for the two topmost items.

Again, the table reveals significant gaps between the appraisal of importance and degree of realisation. As a rule of thumb, around three quarters of the respondents appraise this area as being (very) highly important while a bit less than one third assesses a (very) high degree of realisation.

On a more detailed level, the national experts went into depth and collected the available information with regard to a set of guiding questions. Reports from the following AMS provide insights into this area of investigation: Cambodia; Indonesia; Lao PDR; Philippines; Singapore; Thailand; and Viet Nam. Although the focus was put on other areas of intervention, the country reports of Brunei Darussalam and Malaysia also provide some valuable references to the adoption of an inclusive approach.

What vulnerable groups are targeted for inclusive HRD / LLL provisions?

All AMS address the basic fact that on one hand there is universal access to educational provisions for all, on the other hand citizens with specific characteristics have considerable difficulties in materialising their formal rights. So, all reports stated a list of groups marked as vulnerable or disadvantaged. For these groups compensatory provisions in terms of creating favourable conditions and taking specific measures are introduced to adopt an inclusive approach in HRD.

The Viet Nam country report distinguishes between impairment, disability and handicap. "Impairment is any temporary or permanent loss or abnormality of a psychological, physiological or anatomical structure or function. If a person lost an arm in an accident or was born with an abnormal arm, s/he is impaired and reduced physical function of the body part. Disability is a restriction or lack of ability to perform an activity in the manner considered normal for a human being, mostly resulting from an impairment. … Handicap is a set of disadvantages in the individual's social context. Therefore, handicap is not a characteristic of a person but a description of the relationship between the person and his/her environment."

There are some groups included in almost all country reports:

- People with disabilities, or in positive terms: people with special needs (e.g. due to physical and health impairments or learning, social, emotional problems)
- People from low-income families living in poverty; there is a high correlation between the socio-economic status and the level of education
- People from ethnic minorities (Viet Nam, Thailand, Cambodia), religious minorities (Thailand), indigenous people (Philippines, Malaysia), migrants (Thailand)

- Gender is highlighted in the reports of Viet Nam, Philippines, Thailand, and Indonesia. Girls / women suffer from disadvantageous treatment in many areas of society including HRD.

Other characteristics of social groups seem to be country-specific, such as:

- Out of school youth and children (Philippines, Lao PDR)
- Children from broken families who have been abandoned, abused or are homeless (Thailand); orphaned children (Viet Nam)
- Single mothers (Malaysia)
- People from remote and/or poor regions (e.g. villages in mountainous areas, coastal regions, islands, offshore fishermen, and rural labourers / farmers) (Viet Nam, Thailand)
- Overseas workers (Philippines)
- Senior citizens (Philippines, Singapore, Thailand)
- People who have completed their military services (Viet Nam)
- People with drug problems (Thailand)
- People in (juvenile) detention (Thailand)

Which data on enrolment and completion rates of programmes for vulnerable groups are available?

For most AMS, data on enrolment and completion rates for vulnerable group are poor. Hence, in some countries respective data are not available. If any data are reported, they touch on a few aspects but are far from systematic and complete:

- In Viet Nam, the share of students who never attended school or have not gained any qualification is available for the whole population (5,2% / 11,7%) or specific age groups, e. g. those between 20-24 years (1,9% / 2,2%). It is also reported that in a project for the most disadvantaged regions, the net enrolment rate of pupils was increased from the base line of 73% (2008) in the 103 disadvantaged districts to 81,6% in 2014.
- In Indonesia, there are some data showing different literacy rates across provinces. For example, whilst almost 100% of the people aged 15-24 in DKI Jakarta were literate in 2019, only 90% were so in Papua, an eastern province of the country. In 2018, only 90% of disabled people could read and write.
- In Cambodia, there are data on graduation rates of vulnerable students from TVET institutions for the years 2018/2019. For example, out of some 85.000 graduations in short and long TVET courses, some 24.000 were students from minorities and around 1.500 students with disabilities.

- In the Philippines, enrolment in the Alternative Learning System providing learning opportunities for different types of vulnerable groups increased from around 587.000 in 2015/16 to almost 700.000 in 2016/17. Also, there are data on gender disparity in the different fields of formal education. While the indices indicate a (growing) disparity in favour of males in the primary education, there is a status of parity between the sexes in the secondary level and a disparity in favour of females in the tertiary level. In the area of TVET, female enrolees tend to outnumber the male enrolees. The report also points out that while education outcomes exhibit better performances among girls and women, this has not translated into gender equality in the workforce and in sectors where discrimination and gender stereotyping still exist.

What provisions and infrastructure for formal and non- or informal learning opportunities are provided?

Although many AMS report on limited capacity to deal with all special needs' requirements, most of them operate a range of facilities and provisions for at least a considerable number of vulnerable people. Measures are based on legislative provisions which are then translated into strategies, infrastructure and action programmes. In many cases, special units or departments in one of the ministries are in charge of organising and running the infrastructure and programmes. For example, in the Philippines approaches for an inclusive education go back to the 1987 Constitution of the Philippines, which provides that the State shall "establish and maintain a system of free public education in the elementary and high school levels; encourage non-formal, informal, and indigenous learning systems; provide adult citizens, the disabled, and out-of-school youth with training in civics, vocational efficiency, and other skills". These ambitions are taken up in the medium-term plan which, among other things, addresses inclusion programmes to be strengthened. One key approach run by the Department of Education is the "Alternative Learning System (ALS)" intended for out-of-school children, youth and adults who need basic and functional literacy skills, knowledge and values. These people are usually located in far-flung communities with no or limited access to formal schools.

In the Philippines, the ALS is the framework of many programmes targeted to serve the needs of different vulnerable groups. For example, there are programmes for illiterates, for dropouts from formal education, for indigenous people, for Muslim migrants, for people with impairments, for poor families, for vulnerable adults, etc. In 2019, there were around 27.000 Community Learning Centres offering ALS and some 8.500 schools offering special education in the Philippines.

In other AMS, there are similar provisions:

- In Indonesia, legislation stipulates that all citizens with all types of disabilities are compulsorily provided with inclusive education. The Ministry of Education in Indonesia defines "inclusive education" as "an educational system that provides opportunities for all students with disabilities and intelligence potential and/or special talents to participate in education or learning in an educational environment, together with other students in general". This definition is remarkable as it not only claims specific provisions for people with special needs but also seeks to organise these provisions conjointly. In practice, there are two different types of school: Extraordinary Schools and Inclusion Schools. Extraordinary Schools specifically offer educational programmes (only) for people with special needs while inclusion schools treat regular students and those with disabilities under the same educational environment. On a more detailed level, there are different programmes offered to vulnerable groups. For example, there are scholarship programmes, education programmes to promote gender mainstreaming and programmes to assist students from less-developed regions to gain access to higher education. Non-formal education is supported by providing community reading programmes and establishing community libraries. Community Learning Centres are established at regional level to provide literacy and personal, social, intellectual and vocational skills (life skills) for communities.
- In Viet Nam, non-formal education is understood as "continuing education". It aims to eradicate illiteracy and provide short-term skills development courses. The 2019 Education Law has a separate chapter about "continuing education" and the national network of providers ranging from centres for continuing education, centres for short-term vocational education, community learning centres, and other centres for skills development. The centres are licensed and managed by the local governments. Within that context, there are programmes for the disadvantaged regions addressing ethnic minorities, girls and disadvantaged pupils. In the TVET sector, the government provides special support for vocational education to young people who have completed their military services, people from ethnic minorities, people living in poverty, orphaned children, offshore fishermen, and rural labourers / farmers whose lands are acquired by the State. Concrete support includes tuition fee waivers, stipends and food subsidies. Higher education tuition fee waivers for reduced fees and/or stipends are offered to students from ethnic minorities and poor families, and other target groups.
- In Cambodia, the Education Roadmap 2030 is committed to achieving Sustainable Development Goal 4 (SDG) by ensuring "inclusive, equitable, and quality education". The roadmap comprises five priorities, among others

focusing on equal opportunities for men and women, on literacy and numeracy skills for youths and adults and to increase LLL opportunities for all age groups. In addition, policy on education for children with disabilities supports children through awareness raising, providing rehabilitation services, and providing equitable education, life skills and vocational training to children and youths with disabilities. Inclusive education and TVET are also mentioned as one of its nine strategic directions in National Disability Strategic Plan 2019-2023, which informs the policy overseen and facilitated by Disability Action Council. The Law on the Protection of Rights of Persons with Disabilities ensures that students with disabilities have the right to enrol at schools as well as the right to receive a scholarship. In order to achieve the ambitions of inclusive education set out in laws and strategies, a number of activities were launched. For example, five special education schools were established for people with disabilities. Some 80 multilingual community schools targeting indigenous students were integrated into an action plan providing additional resources. In particular, a number of activities were implemented, such as providing scholarship on merit and to poor students, as well as students with disabilities; and training teachers to understand inclusive education, etc.

- In Lao PDR, different projects address groups with special needs. The project Vocational Training and Employment Support Services (VTESS) aims to enable more than 3.000 disadvantaged youth from the provinces to find their way into the labour market or back into education. Based on a decree of the Prime Minister issued in 2020, vulnerable students can benefit from a stipend covering school fees and personal expenditures. A similar approach is operated by the Don Bosco Youth Vocational Centre which provides scholarships for disadvantaged youth with socio-economic difficulties particularly in rural and remote areas.

- Based on two laws, government agencies and educational institutions in Thailand provide different formal and non-formal educational programmes and material support. Thailand has many organisations that are responsible for the support of vulnerable groups. For example, the Department of Skills Development under the supervision of the Ministry of Labor arranges programmes for senior citizens and people from rural areas. Furthermore, the Thailand Professional Qualification Institute (TPQI) runs various initiatives in non- and informal education.

- In Malaysia, policies on inclusive education are also well-articulated. The main objective of respective programmes is to equip vulnerable groups with the skills to live independently and earn money for a decent living. There are many opportunities for different groups to benefit from HRD/LLL programmes offered by respective ministries in Malaysia. For example, the Ministry of Women, Family and Community Development is implementing an Action Plan for People with

Disabilities 2016-2022. One of the core activities includes their participation in TVET. Therefore, a centre for industrial training and recovery has been established to provide vocational training for people with disabilities. Another action plan addresses the needs of single mothers.

- In Singapore, specific provisions are established for people with disabilities, women and older workers. Worth mentioning is also the strengthening of non- and informal learning opportunities. Besides having regional and community libraries all over Singapore, community organisations offer help for social and educational programmes for different vulnerable groups.

What are major barriers and obstacles for specific vulnerable groups to join in increased learning activities?

Despite many efforts to overcome the disadvantages faced by vulnerable groups, challenges continue. Some of the reports address barriers and limitations that need to be overcome if an inclusive approach in HRD / LLL is to be successful:

- Discrepancy between the huge number of vulnerable people and the limited amount of resources invested to deal with their special needs.
- Many AMS lack a targeted approach to reach vulnerable populations systematically.
- Insufficient capacity of trained teachers to deal with special needs in educational institutions or lack of adequate school facilities.
- Discrimination, stereotyping and bullying of members in one of the vulnerable groups (e. g. against women, indigenous people). For example, these can be reasons why learners drop out of school. Experiences from many countries show that respectful language and expectation management are important for achieving better learning outcomes for children with disabilities.
- Persisting poverty may lead families to keep their children out of school because they need them for family work or child labour.
- Another mindset issue is the attitude of some parents who think that children with disabilities or special needs do not have to be educated to a higher level.

What provisions to promote recognition, validation and accreditation of non and informal learning outcomes are available?

One major approach to tie non- and informal learning opportunities to the credential and thus status system of the AMS is to make provision to recognise, validate and accredit competencies in a systematic way. Four country reports addressed this approach explicitly.

- The Viet Nam country report mentioned that the recognition procedure operates by passing a formal test or official examination at a licensed test centre. There are 191 sets of occupational skills standards based on the National Occupational Skills Standards Framework; a test bank has been set up for 82 trades, and 41 test centres have been licensed by the responsible ministry. Almost 50.000 people participated in vocational assessment and 38,000 people were certified in 2019.
- In Malaysia, so-called "Accreditation of Prior Experiential Learning (APEL)" provides an alternative entry route for admission to a formal programme of study for the certificate (level 3) up to the master's level (level 7 of the Malaysian Qualifications Framework). For the skill recognition pathway, the concept of "Recognition of Prior Achievement" is applied. For example, it is common for an individual to obtain the Malaysia Skill Certificate from level 1 up to level 5, by applying this concept at the workplace.
- In Myanmar, assessment centres were established which apply the "recognition of prior learning" approach. The centres are accredited by the Assessment and Certification Committee. So far, almost 200 centres in more than 30 trades in 12 (of 15) of Myanmar's regions have been accredited.
- In Indonesia, recognition of prior learning procedures have been introduced but are still in their infancy.

Good practices

Among the many initiatives described in the country reports, a few have been highlighted as good practices.

- In Brunei Darussalam, the Ministry of Education has established two "Centres of Excellence" (CoE), one is for hearing and sight impairment and the other is for delayed speech and learning behaviour. They are designed as an innovative strategy for teaching and managing children with special needs.
- Thailand is supposed to be an aging society. Many companies have increasingly started to hire people who are older than 60 years. Correspondingly, educational institutions have developed courses to train elderly people in future skills. One of the successful projects is the University of Third Age (U3A) as part of the University of Chiang Rai in northern Thailand. It aims at encouraging older people to gain additional knowledge and skills and offers specific programmes for this target group.
- Cambodia runs the National Institute for Special Education (NISE) which not only provides training to teachers of students with special needs but also conducts research on sign languages and other issues in special education.

Conclusion

- A visible part of all the HRD strategies and policies in the AMS is universal access to education for its citizens, emphasising equity and equality for all. Various efforts to implement affirmative interventions towards the realisation of inclusive education form part of these strategies.
- The definition of "vulnerable groups" differs across the AMS. Some characteristics of vulnerability relate to social attributes (e.g. gender, ethnicity), others result from some kind of socio-economic disparities or difficult living conditions.
- Data on enrolment and completion rates for vulnerable groups remain fragmentary.
- All country reports addressing this area of intervention report on numerous activities, mostly targeted to specific vulnerable groups or regions. Apart from specific learning opportunities, many of these provisions include financial or other material support to the participants (e. g. stipends, scholarships). The provisions can be linked with formal education programmes, or they can be part of non- and informal learning opportunities. Some non- and informal provisions are organised on an institutional level (e. g. set up of community centres or community libraries), whilst others are offered on a programme level (e. g. literacy programmes).
- The notion of "inclusive education" differs across and within the AMS. One meaning regards inclusion as including all people in the provision of educational opportunities, although people with special needs are separated from those without these needs. A second notion goes one step further and understands inclusion as organising educational environments conjointly for people with and without special needs. For example, in Indonesia there are "Extraordinary Schools" representing the first type and "Inclusion Schools" representing the second.
- Despite remarkable approaches to inclusive education in all AMS, there are considerable obstacles to covering larger groups with special needs. Limited resources, the lack of trained teachers to deal with special needs requirements in educational institutions, and prevailing prejudices about people with disabilities are just a few reasons preventing a more comprehensive and systematic inclusion of vulnerable groups in most AMS.
- Some AMS have made notable progress in introducing procedures to promote recognition, validation and accreditation of non- and informal learning outcomes..

5.3.3 Strengthen enabling structures

This area of intervention comprises six sub-areas:

1. Enhance institutional frameworks for HRD
2. Strengthen coordination and collaboration of ASEAN sectoral bodies and stakeholders
3. Strengthen dialogue between ASEAN and ASEAN's external partners
4. Improve quality and accessibility of mega-trends information
5. Establish pool of funds to support priorities and research
6. Establish a TVET council.

'Structure' in this area manifests itself in different dimensions. First of all, they may become visible in legislation and subsequent strategy documents or action plans. Structures may also be apparent in institutions such as ministry departments, agencies, (temporary / permanent) networks or working groups. They can also take effect in funding of specific HRD programmes or enduring sourcing of research activities.

The following table introduces the results of the readiness questionnaire for the respective countries:

Table 11: Number of responses for the two topmost items of the HRD area of intervention "Strengthen enabling structures"

Strengthen enabling structures: HRD is clearly visible in terms of legislation, coordinated bodies and ministries at state level, platforms of cooperation, funding and research on labour market developments.			
Country	**n =**	**Importance Very high / high N / %** [40]	**Realisation Very high / high N / %**
Brunei Darussalam	30	22 / 73%	8 / 27%
Cambodia	70	61 / 87%	25 / 36%
Indonesia	36	26 / 72%	11 / 31%
Lao PDR	60	35 / 58%	19 / 32%
Malaysia [41]	50	27 / 54%	18 / 36%
Myanmar	26	23 / 88%	1 / 4%
Philippines	272	232 / 85%	161 / 59%
Singapore	46	28 / 61%	20 / 44%
Thailand	33	32 / 97%	9 / 27%
Viet Nam [42]	34	25 / 74%	11 / 32%

40 In the questionnaire a six-stage scale was applied for both dimensions: very high (100%) – high (80%) – quite high (60%) – quite low (40%) – low (20%) – none (0%) The figures indicate the number of responses for the two topmost items.

41 In the Malaysian survey, the item was separated into sub-items addressing the different facets of "enabling structures". The respective sub-items / numbers were: Legislation (27:20 – 54%:40%); government agencies (29:22; 58%:44%); non-government agencies (26:19 – 52%:38%); platforms of cooperation (29:18 – 58%:36%); funding on labour market developments (25:18 – 50:36%); research on labour market developments (26:18 – 52%:36%). The value in the table represents an average of the results for the sub-items.

42 In the Vietnamese survey, the item was separated into three sub-items addressing the different facets of "enabling structures". The respective sub-items / numbers were: legislation, policies, plans (85%:47%); coordinating agencies, platforms, funding (67%:30%); research on labour market development (68%:30%). The value in the table represents an average of the results for the sub-items.

Again, the table shows significant gaps between the appraisal of importance and degree of realisation. While these gaps are very high in some AMS, they are moderate in others. The higher the number of responses the higher is the share of those who appraise the degree of realisation as comparatively high.

Interventions in these sub-areas are not all at the discretion of national policy-makers alone. For example, sub-areas 2 and 3 have an international perspective and can only be realised in the context of international collaboration. As the country reports prioritise activities within the scope of national actors, the guiding questions were focused and geared towards a national perspective.

Report from the following AMS provide insights into this area of investigation: Cambodia; Indonesia; Lao PDR; Malaysia; Myanmar; Philippines; Singapore; Viet Nam. Although the focus in their reports was put on other areas of intervention, the country report of Brunei Darussalam provides some valuable references with regard to this area of intervention.

What are the formal rights based on legislation with regard to HRD / LLL that a citizen in the AMS can claim?

Legislation in all AMS stipulates compulsory schooling up to a defined grade. For example, in Indonesia education is compulsory and provided free of charge at public schools from grades 1-9 (i.e. elementary and junior secondary levels). The national education system in Singapore consists of compulsory primary education (6 years), secondary education (4 years), post-secondary education, and workplace / alternative education. Net enrolment rates at both primary and secondary levels are close to 100% for the resident population. The decision of parents on the pathway of their children after primary education is to a large extent influenced by mechanisms of early sorting and tracking of pupils. At the end of grade 6, pupils take the Primary School Leaving Examination, which assesses their suitability for secondary education and places them in one of the different tracks offered at secondary levels. Singapore will be removing streaming labels from the 2024 Secondary One cohort onwards and introducing full subject-based banding instead, which allows students to offer subjects at a more demanding level, based on their subject-specific abilities and interests.

In Myanmar, the law provides compulsory free education for all children until the age of 12 with the aim to complete lower secondary education. In the Philippines, education in the elementary level is compulsory and free, access to education in the high school level, in TVET and in higher education is also free. In Viet Nam, primary education and attendance at schools from grades 1-5 (aged 6-10) is mandatory and it is provided free of charge. Lower secondary education for grades 6-9 (aged

11-14) have also been provided universally, albeit this is not legally mandatory. The different duration of compulsory schooling explains the variation in mean years of education between the AMS.

What bodies are in charge of HRD / LLL on the State level? What bodies are in charge of development, implementation, monitoring and updating HRD / LLL-strategy? How are HRD / LLL programmes and initiatives on the State level coordinated?

In most AMS, different ministries assume the overall responsibility for the provision of HRD / LLL offerings. Some of them have sub-ordinate agencies which take care of the operational implementation of programmes and initiatives. As HRD is a complex field of policy making, often there are coordinating bodies made up of the key stakeholders to develop, monitor and revise HRD / LLL-strategies.

For example, in Viet Nam, the Ministry of Education and Training (MoET) and Ministry of Labor, Invalids, and Social Affairs (MoLISA) take the central responsibilities for the provision and monitoring of all education and training levels of the national education system. Beyond this, some other ministries also govern specialized training institutions in their specific sectors. The Ministry of Planning and Investment (MPI) takes a coordinating role especially in the implementation of programmes and initiatives.

In the Philippines the State bodies in charge of HRD / LLL are the Department of Education for formal and non-formal basic education, the Commission on Higher Education (CHED) for tertiary and graduate education, and the Technical Education and Skills Development Authority (TESDA) for technical-vocational, middle level education and skills development. These three state bodies are mandated to undertake development, implementation, monitoring, and updating of HRD / LLL strategy. Within the bodies particular offices deal with different issues. At the State level for HRD / LLL, programmes and initiatives are coordinated through the PQF-National Coordinating Council (PQF-NCC) headed by Department of Education with members from CHED, TESDA, DOLE, the Professional Regulation Commission (PRC), and representatives from the economic and industry sectors.

In Indonesia, the Ministry of Education and Culture (MoEC) and the Ministry of Religious Affairs are responsible for overseeing formal and informal education. The MEC is in charge of planning and implementing educational services at primary, secondary and tertiary levels. While planning is organised by the central government, implementation and monitoring are the responsibilities of provincial and district governments. Coordination also includes the Ministry of Human Development

and Cultural Affairs, the Ministry of Economic Affairs, and the Ministry of National Development Planning.

In Brunei Darussalam, HRD in the public sector is administered by the Prime Minister's Office (PMO). The Civil Service Department under the PMO deals with the planning, managing and developing of human resources in government departments. The Manpower Planning and Employment Council (MPEC) is in charge of formulating plans of action to address national HRD matters and issues including manpower planning, employment and education; and developing national human capacity building programmes for preparing school leavers, graduates, jobseekers and adult learners for employment. The Ministry of Education provides education and training which aim to prepare students for life including for employment through formal education (from primary to higher education level) including LLL. The Ministry of Culture, Youth and Sports provides non-formal learning, i.e. learning outside formal school, which is related to capacity building and promoting employability for both youth and adults.

In Malaysia, there are many ministries in charge of HRD at different levels, among them the Ministry of Human Resource, the Ministry of Higher Education, the Ministry of Youth and Sport, and the Ministry of Rural Development. At the national level, there are several governmental agencies and also industry-led bodies to plan and coordinate HRD initiatives. For example, the Malaysia Digital Economy Corporation provides up-skilling opportunities and technology talent development to the workforce for the digital era. Under the Ministry of Higher Education (MoHE), there are several platforms of cooperation between the MoHE and external stakeholders such as the Industry Advisory Council and others.

In Singapore, different ministries take major responsibilities in the country's HRD strategy. Two pillars are the Ministry of Education (MoE) and the Ministry of Manpower (MoM), accompanied by two statutory boards SkillsFuture Singapore (SSG, under the MoE) and Workforce Singapore (WSG, under the MoM). The SSG drives and coordinates the implementation of the national SkillsFuture movement (see good practices). The WSG oversees the transformation of the local workforce and industry to meet ongoing economic challenges, and promotes the development, competitiveness, inclusiveness, and employability of all levels of the workforce.

In Lao PDR, the National Resource Development Committee coordinates HRD issues. The committee is chaired by the Minister of Education and Sports and has members from different ministries, the Head of the Parliament Committee on Social and Cultural Affairs, and the President of the Lao National Chamber of Commerce and Industry. The committee has equivalents on the provincial level.

In Cambodia, general and higher education are under the Ministry of Education, Youth and Sports (MoEYS), while Technical and Vocational Education and Training (TVET) is under the Ministry of Labour and Vocational Training (MLVT). Moreover, the Ministry of Social Affairs, Veterans, and Youth Rehabilitation (MoSVY) and the Ministry of Women Affairs (MoWA) run TVET centers for people with disabilities and Women Development Centers (WDCs) for women in rural areas, respectively. The Ministry of Tourism (MoT) operates and manages tourism-related TVET.

In some AMS, coordination bodies are missing. For example, in Myanmar there are six ministries (Education; Agriculture, Livestock and Irrigation; Border Affairs; Labor, Immigration and Population; Planning, Finance and Industry; Social Welfare, Relief and Resettlement) running schools in TVET. However, a formalised platform or coordination mechanism is still lacking.

Who is in charge of researching, compiling and interpreting relevant information on mega-trends, skills forecasts, and (sector-specific) developments in the labour market?

All AMS value the importance of future-related information on HRD relevant developments. However, approaches to gain this information are different, partly due to available funding and research capacities in different countries. Hence, while in some AMS research is conducted systematically, in others there are just sporadic surveys carried out on specific issues of interest. And although not all AMS run their own institutes undertaking field research, most of them have some procedures in place to process information from available sources on a regular basis.

In the Philippines, DepEd, CHED, TESDA and most other government agencies have their own research and planning offices that set research agendas and protocols for informed policies. Other agencies such as the Department of Labour and Employment (DOLE), the Department of Trade and Industry (DTI), and the Philippine Institute of Development Studies (PIDS) release periodic research and surveys related to HRD / LLL. For example, the Institute of Labor Studies (ILS), the policy research and advocacy arm of DOLE, produces research papers on issues related to labour employment and Labour Force Survey Reports. TESDA produces the Labour Market Intelligence Report that provides insights on trends and challenges in the local and international labour markets.

Similar structures exist in Indonesia. For example, research on HRD / LLL issues is carried out by the Indonesian Institute of Sciences and the Agency for the Assessment and Application of Technology. Within the Ministry of Manpower, there

is also a Manpower Planning and Development Agency with sub-units in charge of capturing and producing relevant data.

In Viet Nam, alongside HRD-related research carried out by various universities, ministries and local governments have their own entities to conduct research on the labour market and skill forecast in specific economic sectors. It has been reported that the studies are not always translated into robust development.

In Brunei Darussalam, the Manpower Planning and Employment Council (MPEC) is in charge of researching, compiling and interpreting relevant information on mega-trends, skills forecasts, and sector specific developments in the labour market. MPEC is subsumed under the Prime Minister's Office (PMO) with members comprising 6 Ministers: the Minister of Home Affairs, the Minister of Primary Resources and Tourism, the Minister of Development, the Minister of Education, the Minister of Transport, and the Minister of Culture, Youth and Sports. MPEC is supported by a working committee comprising 5 Deputy Ministers: 2 from the Ministry of Finance and Economy, and one each from the Ministry of Energy, the Ministry of Development, and the Ministry of Education.

In Cambodia, the National Employment Agency takes a lead role in sharing labour market information and conducting surveys with employers from lead industries to identify skills gaps. In Malaysia, so far, many data related to future skills are captured by different agencies without a consistent framework. In 2019, the Malaysia Research Center for TVET was established to improve research activities in the field of TVET. It is to serve as a one-stop data centre which will carry out research activities such as collection, analysis, evaluation and dissemination of TVET data to relevant stakeholders in Malaysia.

What established pool of funds is available to support priorities and research?

All AMS devote a certain share of the public expenditure to HRD. For example, in the Philippines in the fiscal year 2021 education accounts for 16,7% of the total budget. Within the budget, priorities for specific fields are defined and corresponding funds are allocated. For example, in Cambodia the most significant effort in supporting HRD / LLL is waiving enrolment payment for primary and secondary school students. The respective ministry provides scholarships to poor students to enable them to complete the 9-grade basic education and career counselling to reduce the drop-out rate of secondary education students.

Apart from regular funding within the public budget, there may be funds such as the HRD fund in Malaysia (see good practices) to promote core areas. In terms of

research funding, the Ministry of Higher Education provides research funding every year through the Fundamental Research Grant Scheme.

In Singapore, as part of the SkillsFuture movement a so-called Workforce Development Applied Research Fund (WDARF) is set up to encourage inter-disciplinary research in the area of HRD/LLL. The aim of this fund is to support evidence-informed policies and to collect good practices. Research grants, administered by the Institute of Adult Learning, are awarded through an open, competitive bidding process. The WDARF also funds commissioned projects. Researchers based at Singapore's Institutes of Higher Learning are eligible to apply.

What are the priority issues for a TVET council to advance the quality and attractiveness of TVET in your country? Apart from the TVET council working on ASEAN level, is there any corresponding body in place in your country?

The ASEAN TVET Council has been launched in September 2020. In the Philippines, TESDA wants this body to promote better coordination among member states in advancing TVET, particularly in the following areas: the labour market information system, skills competitions, and skills needs anticipation; TVET research; improving the image of TVET; capacity-building for trainers and assessment of their quality; TVET quality assurance in AMS; and TVET implementation and financing. One further concern could be the impact of the 4th Industrial Revolution on economy and industries.

Apart from the ASEAN TVET council, there are already bodies promoting TVET on the national level:

- In 2018, the National TVET Council was established in Malaysia to strategise HRD in the country. One year later, the TVET Empowerment Committee was established to harmonise the TVET actors and work for the advancement of TVET in Malaysia.
- In Cambodia, the National Training Board (NTB) serves as a TVET council. NTB comprises of 42 members who are representatives of relevant line ministries, business membership organisations, employee and employer federations, training service providers, and development partners. NTB has three committees: quality and standard assessment; test and accreditation; and labour market information. Furthermore, there are Sector Skill Councils (SSC) serving as a platform for skill development.
- In Lao PDR, the national TVET council deals with issues of curriculum development and harmonisation of demand and supply in the labour market.

- In Myanmar, the planned TVET law which in 2020 is still under deliberation in parliament. It foresees the establishment of a TVET council. Among other issues, the council is supposed to improve the coordination between the line ministries.
- Indonesia so far does not have a TVET council but established a national vocational committee in 2018.

Good practice

Among the many initiatives described in the country reports, the following have been highlighted as good practices.

- The Human Resource Development Fund (HRDF), as an agency under the Malaysian Ministry of Human Resources, plays a pivotal role in skills development and capacity building programmes. It provides financial assistance for HRD programmes for industrial sectors. HRDF registered employees are allowed to reimburse the cost of attending parts of training conducted by HRDF registered training providers.
- In Myanmar, a system for assessing and certifying workers based on labour market-oriented standards was introduced. The initiative strengthens Myanmar's National Skills Standards Authority (NSSA) which was established in 2007 as a public-private partnership. The Ministry of Labour, Immigration and Population plays the leading role in the implementation of the NSSA, according to the Employment and Skills Development Law of 2013, in collaboration with concerned ministries and industry sectors. The NSSA is mandated to develop a national skills standard system, to promote systematic competency-based training and certification of skilled workers, and to support the recognition of prior learning with occupational skills assessments and certification.
- A striking feature of the Singapore HRD approach is the coherent thread from a clear vision to well-designed implementation measures in terms of legislation, institutions and resourcing. A focal point in the approach is the SkillsFuture movement. The overarching objective is the promotion of a culture of LLL by providing an ecosystem of quality education and training for all ages. Implementation is driven and coordinated by SkillsFuture Singapore (SSG), a statutory board under the MoE. Based on respective legislation (SGG Agency Act 2016), the board has launched and funded numerous initiatives. In collaboration with lead agencies in different economic sectors, employers and unions, SSG co-developed medium-term manpower and skills plan for each key sector in order to support industry growth and enhance productivity of the workforce. So-called "Industry Transformation Maps" have been developed for 23 industries to address issues within each industry and deepen partnerships between government,

companies, industries, and business membership Organisations.

Another component of SSG is the SkillsFuture Credit programme which aims to increase personal ownership for learning. Since 2016 all Singaporean citizens aged 25 and above can receive a credit for use for over 10,000 approved skills development courses spanning some 60 areas of interest. Additionally, to improve individuals' access to career transition programmes, a one-off SkillsFuture credit is provided to every Singaporean citizen aged 40 to 60. The underlying philosophy of such approaches is not only to provide a monetary grant but to strengthen personal ownership for LLL and skills advancement.

Conclusion

- Legislation in all AMS stipulates compulsory schooling up to a defined grade. Enrolment rates within the range of compulsory schooling and with regard to subsequent non-compulsory provisions differ considerably across the states.
- In most AMS, responsibilities for HRD provision are allocated to different ministries. Some of them have sub-ordinate institutions in charge of the operational implementation of assigned tasks. Coordination between the bodies can turn out to be quite complex and is not always reported to be running smoothly.
- Some AMS earmark specific funds for initiatives in HRD / LLL.
- A major challenge in all AMS is to make HRD-provision future-ready. Countries arrange for different approaches to deal with this task. Some have bodies to compile relevant information generated by international and national Organisations. Others try to conduct research on trends closer to national developments or even on requirements in targeted economic sectors.
- Many AMS have made considerable efforts to promote TVET as a fully-fledged and attractive field of HRD. In some countries, specific bodies have been established to strengthen support and advocacy for TVET in the national context. These bodies can become excellent contact points for the newly established TVET council on the regional level.

5.3.4 Modernise HRD programmes

This area of intervention comprises five sub-areas:

1. Develop new and update existing curricula fostering future skills

2. Provide quality teaching and learning resources
3. Align assessment in programmes with future skills
4. Diversify delivery modes of programmes with online and blended learning
5. Improve pathways into working life in high-skills occupations.

The sub-areas address the quality and relevance of HRD programmes. 'Quality' programmes in this context are learning opportunities, which to a large extent incorporate "future skills" as defined in the theoretical foundation of this report (see chapter 3.2.2). Quality can refer to different objects: curriculum, teaching and learning materials, assessments and the use of digital technologies.

'Relevance' emphasises the link between HRD programmes and the requirements of society and the economy. In that sense, HRD programmes are relevant if they address societal or economic needs. In particular, the link between HRD programmes and working life / labour market requirements in high-skills occupations is of specific interest.

The following table indicates the gap between the respondents' appraisal of importance and realisation of HRD in the AMS:

Table 12: Number of responses for the two topmost items of the HRD area of intervention "Modernise HRD programmes"

Modernise HRD programmes: "Future skills"[43] are fully incorporated into curricula, teaching and learning resources and assessments in general, vocational and higher education.			
Country	**n =**	**Importance** **Very high / high** **N / %** [44]	**Realisation** **Very high / high** **N / %**
Brunei Darussalam	30	23 / 77%	9 / 30%
Cambodia	70	62 / 89%	32 / 46%
Indonesia	36	32 / 89%	12 / 33%
Lao PDR	60	40 / 67%	22 / 37%
Malaysia [45]	50	31 / 62%	22 / 44%
Myanmar	26	23 / 88%	0 / 0%
Philippines	272	238 / 88%	168 / 62%
Singapore	46	32 / 70%	12 / 26%
Thailand	33	32 / 97%	9 / 27%
Viet Nam [46]	34	21 / 62%	7 / 21%

Despite significant differences between the appraisal of importance and the realisation of "future skills" incorporated in teaching and learning practice, there is a great variety in the degree of achievement between the AMS. The share of those appraising realisation as 'very high / high' ranges from 0 – 62% which indicates a great variance in terms of high-quality and relevant HRD programmes in practice. The following descriptions from the following AMS go into more details: Brunei Darussalam; Cambodia; Lao PDR; Malaysia; Philippines; and Viet Nam.

As is the case with other areas of investigation, presentation of the key results of the country reports is structured along a set of guiding questions. Data collection of the national experts here was different to other areas of intervention, and was organised by means of a questionnaire sent out to a small sample of experts from general education, TVET and higher education (for details, see annex 1). The following table states the number of respondents from the respective fields:

Table 13: Number of respondents with regard to questionnaire on HRD programmes

Country	General Education	TVET	Higher Education
Brunei Darussalam	138	51	43
Cambodia	171	134	37
Lao PDR [47]	16	270	49
Malaysia	78	40	40
Philippines	90	192	20
Viet Nam	109	105	97
Overall	**602**	**792**	**286**

43 "Future skills" comprise especially (1) cognitive skills (numeracy and literacy as foundation skills; low- and high order skills, e.g. critical thinking, creating / innovating); (2) ICT skills / digital literacy; (3) STEM skills; (4) social skills; (5) learnability (e.g. readiness to learn, learning motivation; curiosity, self-learning strategies); (6) character qualities (e.g. ethical reflection and action, social and cultural awareness, agility, initiative); (7) problem-solving in complex, technology-rich environments."

44. In the questionnaire a six-stage scale was applied for both dimensions:
very high (100%) – high (80%) – quite high (60%) – quite low (40%) – low (20%) – none (0%)
The figures indicate the number of responses for the two topmost items."

45. In the Malaysian survey, the item was separated into sub-items addressing the different key fields. The respective sub-items / numbers were: General education (30:21); TVET (32:22); Higher education (32:24). The value in the table represents an average of the results for the sub-items.

46. In the Vietnamese survey, the item was separated into three sub-items addressing the different key fields. The respective sub-items / numbers were: General education (20:6); TVET (23:7); higher education (24:8); non-formal community learning, workplace learning (18:5). The value in the table represents an average of the results for the sub-items.

47. In addition the Lao PDR questionnaire was sent out to 29 people engaged in teacher education.

To what extent are "future skills" incorporated explicitly and significantly in curricula in general education, TVET and higher education? To what extent do assessments address "future skills" in general education, TVET and higher education?

The notion of "future skills" was shared in all the country reports. In some AMS, specific skills are prioritised (e. g. ICT, learning and innovation, and social, life and career skills in the Philippines), whilst other AMS extend the list of relevant skills. For example, in the Viet Nam report "green skills and environment awareness" and "foreign language skills" are emphasised explicitly. SkillsFuture Singapore introduced a set of three so-called "critical core skills" which comprise a total of 16 competencies grouped into three clusters of skills that workplaces deem most essential:

- Thinking critically (e. g. problem solving, creative thinking, transdisciplinary thinking, sense making)
- Interacting with others (e. g. collaboration, building inclusivity, customer orientation, developing people)
- Staying relevant (e. g. learning agility, adaptability, digital fluency, self-management).

While teachers prepare their lessons with adequate teaching and learning resources (and to a lesser degree with curricula), students look at assessment and examination tasks to validate the relevance of the learning content. Thus, if future skills are to be rated relevant by students, they must become part of the assessment.

The following table provides an overview of the overall appraisal with regard to future skills already incorporated in (a) the curricula; and (b) assessments in the respective countries.

Table 14: Degree of coverage of future skills in curriculum and assessment

Country	Future skills incorporated in the curriculum / assessment								
	Numer./ Literacy	High Cognit.	ICT skills	STEM	Learn-ability	Social skills	Character Qual.	Problem Solving	Green Skills
Brunei Darussalam.									
General Edu.	+ / +	+ / +	(+) / (+)	(+) / (+)	(+) / (+)	+ / (+)	+ / (+)	(+) / (+)	
TVET	+ / +	+ / +	+ / +	(+) / (+)	+ / +	+ / (+)	+ / (+)	+ / +	
Higher Edu.	+ / +	+ / +	+ / +	+ / +	+ / +	+ / +	+ / +	+ / +	
Cambodia									
General Edu.	+ / (+)	(+) / (+)	(-) / (-)	(-) / (+)	(+) / (+)	(+) / (+)	+ / (+)	(-) / (+)	
TVET	(+) / (+)	(+) / (+)	(+) / (+)	(-) / (+)	(+) / (+)	(+) / (+)	(+) / (+)	(+) / (+)	
Higher Edu.	(+) / (+)	(+) / (+)	(+) / (+)	(-) / (+)	(+) / (+)	+ / +	(+) / (+)	(+) / (+)	
Lao PDR									
General Edu.	**(+) / (+)**	**(-) / (+)**	**(-) / (+)**	(-) / (+)	(+) / (+)	(+) / (+)	(+) / (+)	(-) / (-)	
TVET	**(+) / (+)**	**(+) / (+)**	**(+) / (+)**	(+) / (+)	+ / +	+ / (+)	+ / (+)	(+) / (+)	
Higher Edu.	**(+) / (+)**	**(+) / (-)**	**(+) / (+)**	(+) / (+)	(+) / (+)	(+) / (+)	(+) / (+)	(-) / (+)	
Malaysia [48]									
General Edu.	++ / ++	++ / +	+ / +	+ / +	+ / +	+ / ++	+ / +	(+) / (+)	(+) / +
TVET	++ / ++	++ / ++	++ / ++	++ / ++	++ / ++	++ / ++	(+) / +	+ / +	++ / +
Higher Edu.	++ / ++	++ / ++	++ / +	++ / ++	++ / ++	++ / ++	++ / ++	+ / ++	+ / +
Philippines	++ / +								
General Edu.	+ / +	++ / ++	+ / +	+ / +	++ / ++	++ / ++	+ / +	+ / +	
TVET	++ / ++	+ / +	+ / +	(+) / +	+ / +	+ / +	+ / +	+ / +	
Higher Edu.		++ / ++	+ / ++	+ / ++	++ / +	++ / +	++ / +	++ / ++	
Viet Nam [49]									
General Edu.	+ / +	(+) / (+)	(+) / (+)	+ / (+)	(+) / (+)	+ / +	+ / +	(-) / (-)	(+) / +
TVET	+ / (+)	(+) / +	+ / +	(-) / (+)	+ / +	+ / +	+ / +	(-) / +	+ / +
Higher Edu.		(+) / (+)	(+) / (+)	(+) / (+)	+ / (+)	+ / +	+ / +	(-) / (+)	+ / (+)

Legend: ++ very high / + high / (+) quite high / (-) quite low / - low

Overall, the table shows that future skills as defined in literature have broadly arrived in the AMS investigated. All AMS report on curricula in general education, TVET and higher education that have incorporated future skills to some extent. With regard to the type of (future) skills, some differences are noticeable:

- "Social skills" and "character qualities" have achieved very positive ratings. On average, all appraisals are at least "quite high", most of them are "high" or "very high".

48 In addition, "foreign language skills" were part of the Malaysian questionnaire. Overall, results were "quite low" for General Education and "quite high" for TVET and Higher Education.

49 In addition, "foreign language skills" were part of the Vietnamese questionnaire. Overall, results were "low" for General Education and TVET and "quite high" for Higher Education.

- In contrast, curricula in some AMS attach limited importance to "high order cognitive skills", even in higher education. This suggests that in many parts of the education system, teaching and learning is still focused on the transmission of knowledge and puts less emphasis on dealing with challenging tasks and complex problems.
- Even lower ratings were given to skills for "problem-solving in complex, technology-rich environments". For all key fields, scores indicate that there is considerable room for improvement
- There is also some room for improvement in most AMS for ICT- and STEM skills.

The table above reveals that curricula and assessment are congruent with each other in most cases. However, there are a few exceptions. In some cases, assessment of future skills is above, and in some cases it is below the degree of incorporation in the curricula. As the level of abstraction is high and the number of respondents is heterogeneous, the table can only provide some broad orientation and suggest deeper investigation in cases of difference. In particular, if incorporation of future skills in assessment remains below that for the curricula, there is a risk of leaving good intentions high and dry.

Although limited to general education and based on just 25 respondents, beyond the readiness questionnaire a survey conducted in Singapore revealed some interesting results. Contrary to the overarching picture in the table above, STEM, problem solving and ICT skills score highly, while social skills and character qualities receive comparatively low ratings with regard to incorporation in curricula and assessments.

To what extent do teaching and learning resources (textbooks; online resources; others) provide support for promoting "future skills"?

For teaching personnel, it is less the curricula that facilitate their teaching but media and supportive resources which make teaching easier for them. Such resources can take many different shapes, for example: they present content in a structured and motivating way, introduce challenging learning tasks or visualise abstract content or processes. Traditionally, teaching resources are highly content-driven. For promoting future skills, they should gradually become part of modern teaching and learning concepts and cover more than just learning content.

In the questionnaire, one item asked how traditional media (namely textbooks) and online resources used in teaching and learning processes already address the promotion of future skills. In addition, respondents could name further teaching

and resources they feel relevant for fostering future skills. The following table summarises the findings from country reports with information on the share of respondents stating that textbooks / online resources already support the promotion of future skills[50]:

Table 15: Share of respondents with positive statements on future skills content in learning material

Country	Textbooks			Online resources		
	GE	TVET	HE	GE	TVET	HE
Cambodia	42%	29%	34%	41%	33%	41%
Lao PDR	0%	23%	31%	6%	28%	18%
Viet Nam	42%	29%	34%	41%	33%	41%

Data from the three AMS show that so far future skills are only partly addressed in teaching and learning resources. In that respect there are no major differences between textbooks and online resources. The use and application of online resources evidently depends on the existing infrastructure in the fields of education. This assumption is backed by the data provided from Brunei Darussalam, where compared to textbooks, online resources have already incorporated future skills to a significantly higher degree.

Table 16: Degree of involvement of future skills in learning material in Brunei Darussalam

Country	Textbooks			Online resources		
	GE n=138	TVET n=51	HE n=43	GE n=138	TVET n=51	HE n=43
Brunei Darussalam	3.25	2.92	3.02	3.85	4.00	4.30

Legend: 5-very high / 4-high / 3-quite high / 2-quite low / 1-low

Similar findings result from the Singapore survey for general education. It clearly suggests that online resources are perceived to be providing more support than physical textbooks.

To what extent are digital technologies part of innovative teaching and learning concepts with blended learning arrangements (selected phases online) or within completely online learning programmes?

Some people reported "digital technologies" and "innovative teaching and learning concepts" as one entity. However, research literature clearly makes a difference between the two. Digital technologies may be part of tedious, demotivating and ineffective teaching and learning, while learning environments without digital technologies may be thrilling, motivating and effective. With every learning arrangement there

50. The numbers indicate the share of responses stating "very high" or "high". Reports from the Philippines, Brunei Darussalam and Malaysia interpreted the questions slightly different and structured their findings in different ways.

is a distinction between the surface level (describing the components of the arrangement) and the deep structure (making up for the quality and real impact of the arrangement). It is not the surface of the arrangement but the way it is shaped in concrete learning processes that counts.

The questionnaire with the question outlined above could just address the surface structure. In times of Covid-19 it is interesting to know, to what extent and in which way (surface) digital technologies have become part of (innovative) teaching and learning concepts. The following table summarises the findings from country reports with information on the share of respondents stating the use of digital technologies as part of innovative teaching and learning concepts in their country [51]:

Table 17: Share of respondents articulating use of digital technologies within teaching concepts

Country	Blended Learning			Online resources		
	GE	TVET	HE	GE	TVET	HE
Cambodia	54%	33%	37%	35%	26%	40%
Lao PDR [52]	n/a	n/a	31%	n/a	n/a	20%
Viet Nam	30%	30%	35%	25%	18%	27%

Data show that blended learning arrangements applying digital technologies for selected parts of the teaching and learning process are more common than purely online learning arrangements. Data from Brunei Darussalam confirm this tendency, although differences seem to be smaller:

Table 18: Degree of involvement of digital technologies in teaching concepts in Brunei Darussalam

Country	Blended Learning			Online resources		
	GE n=138	TVET n=51	HE n=43	GE n=138	TVET n=51	HE n=43
Brunei Darussalam	3.07	3.76	4.19	3.18	3.45	4.09

Legend: 5-very high / 4-high / 3-quite high / 2-quite low / 1-low

To what extent are students exposed to the following provisions in (lower) secondary education: Career guidance counselling; vocational orientation; work experience / internships; entrepreneurship courses; others?

A smooth transition from compulsory schooling to subsequent stages of an educational and/or vocational career is a key objective in most education systems. A well-proven component is to let students at an early stage during secondary education reflect on potential options to take after leaving school. In the questionnaire four components to promote reflection have been included.

51. The numbers indicate the share of responses stating "very high" or "high".Reports from the Philippines, Brunei Darussalam and Malaysia interpreted the questions slightly different and structured their findings in different ways.
52. Data for general education and TVET are currently under investigation.

Although the questionnaire required recipients to provide data only from secondary education, two country reports also included responses from TVET and higher education. The following table summarises the share of respondents stating the use of the different components in their country[53]:

Table 19: Share of respondents articulating different formats of support for transition into working life

Country	Career guidance counselling	Vocational orientation	Work-experience	Entrepreneurship courses
Cambodia				
· General education	27%	32%	20%	15%
Lao PDR				
· General education	0%	6%	19%	6%
· TVET	33%	26%	34%	29%
Viet Nam				
· General education	30%	26%	21%	18%
· TVET	54%	56%	60%	29%
· Higher education	38%	n/a	54%	26%

How is permeability between TVET and higher education programmes regulated?

Permeability between TVET and higher education is important for two reasons: (1) Some students are late bloomers, so in order to unleash their talents it is necessary to provide opportunities at a later stage in their educational career. (2) In many AMS, TVET is supposed to be a second choice for school graduates, partly because it is regarded as a dead-end street with lower paid and less demanding jobs.

In some AMS, there are either established pathways or at least opportunities to move from TVET to higher education programmes. For example, Brunei Darussalam defined such opportunities for further educational attainment for qualified TVET graduates. In Singapore, the five polytechnics have been partnering with various international universities to offer special pathways to university degrees. As part of the SkillsFuture Work-Study Programme, the Singaporean polytechnics and universities started to launch a new pathway programme.

In Viet Nam, according to the TVET survey most respondents contend that the legal framework is in place, but mainly on paper. In practice, for some reasons only a limited proportion of TVET college graduates continue onto a university bachelor's degree. However, TVET colleges can establish a partnership with a university to design specific bachelor curriculum of top-up 2-year programmes for TVET college graduates. In Cambodia, the Cambodia Qualifications Framework (CQF) addresses the formal pathways from TVET to higher education, but is not widely implemented,

53. The numbers indicate the share of responses stating "very high" or "high". Reports from the Philippines, Brunei Darussalam and Malaysia interpreted the questions slightly differently and structured their findings in different ways.

nor is it based on the sectors. Additionally, people may find opportunities to get admission for a bachelor programme at university on the basis of the recognition of prior learning.

Overall, it seems that in practice pathways from TVET to higher education are still exceptions. Thus, it is an area for further reflection and possibly for advancement

Good practices

Results of the survey indicate that integration of "future skills" has been improved in many education programmes. Apart from these continuous efforts, some further initiatives regarding modernisation of HRD programmes are conducted in different AMS:

- In the Philippines, there are three practices worth highlighting. One in the higher education sector applies to the implementation of an enhanced, outcomes-based, locally responsive, and globally attuned college curriculum that is aligned to K-12 and respective qualification frameworks. It is designed to prepare Filipino learners for the 21st century, increase work readiness, deepen opportunities for practice and immersion, aligned with local requirements, and compliant with international standards. As an overarching approach, an online educational platform was created to serve the needs of public and private school teachers. An online portal with Open Educational Resources (OERs) is available to support flexible learning for the continuity of higher education in the country. It contains course materials in text, media, and other digital assets that are useful for teaching, learning, and research purposes. It is intended to be used by students and educators to a) maximise the use and increase the availability of educational materials; b) raise the quality standards for educational resources by gathering more contributors; c) enhance opportunities for self-learning at home; and d) support learner-centred, self-directed, peer-to-peer, and social or informal learning approaches. In TVET, there is a local initiative on innovation in TESDA Women's Center (TWC). It develops the competencies of students in using strategies and techniques to be able to adapt to new situations and create new and practical solutions to problems. It involves exposing students to authentic learning that will help them develop their creative potentials and to be critical in making new ideas work. It is supported with additional empowerment training, mentoring, provision of starter tool kits and business incubation programme
- In Brunei Darussalam, there have been some changes to improve the image and status of technical education by creating new pathways from TVET into higher education. Whilst the mission of TVET is still to prepare graduates for employment, there is some provision for those with advanced standing to have significant opportunities to undertake higher level certification. For example,

those with a range of accreditation are eligible to apply for polytechnic programmes (namely GPA ≥ 2.0 [Based on a 3 points system] for National Diploma (ND) (Level 4 in the BDNQF/Brunei Darussalam National Qualification Framework); or GPA ≥ 2.7 [Based on a 4 points system] for Diploma (Level 4 in the BDNQF) in a related field; or GPA ≥ 2.7 [Based on a 4 points systems] for HNTec (Level 4 in the BDNQF) in a related field).

- In Viet Nam, all the educational laws have provisions on the permeability between different levels and between sectors of education, such as TVET and academic programmes, non-formal continuing education and formal education. The launch of the Viet Nam Qualifications Framework (VQF) in 2016 has also facilitated pathways between and within TVET and higher education as shown in the figure below. However, according to the TVET survey, most respondents contend that whilst the legal framework is in place, it is mainly on paper. In practice, only a limited proportion of TVET college graduates continue on to a university bachelor degree. The country report points out several reasons for this low rate of uptake. For example, TVET graduates would be able to find a good job soon after graduation and are not interested in continuing to a bachelor degree. The majority of TVET students come from families with low affordability, hence university tuition fees become too burdensome.

- In 2019, Lao PDR joined the Southeast Asia Primary Learning Metrics (SEA-PLM) programme which is a new regional assessment that aims to set a common approach to assessing student learning outcomes at grade 5 as an alternative to other international large-scale assessments and national assessments. The main survey was conducted in 2019 with over 4,600 Grade 5 students from 292 schools participating. It covered Reading, Writing, Maths and the Global Citizenship module. Background questionnaires for students, teachers, school principals and parents were also administered. Findings from the SEA-PLM Grade 5 learning assessment in the six participating countries are consolidated in a Regional Report launched in December 2020.[54]

Conclusion

- Overall, "future skills" have become part of curricula and assessments in the AMS investigated. Those future skills identified in the literature review are confirmed as highly relevant. Some AMS add further skills to the list (e. g. "green skills and environment awareness").

- On a more detailed level, incorporation of specific skills into curricula and assessments turns out to be advanced to different degrees. While "social skills" and "character qualities" already score highly, problem solving, ICT- and STEM

54 https://www.seaplm.org/PUBLICATIONS/regional results/SEA-PLM 2019 Main Regional Report.pdf (retrieved: 26.1.2021)

skills reveal some room for improvement in most AMS.

- Although curricula and assessments are congruent in the majority of cases, there are also some discrepancies between the two interrelated components of HRD programmes.
- Teaching and learning resources are supposed to support teaching personnel in planning and conducting their teaching. Surveys in three AMS show that so far textbooks and online resources only partly support promotion of "future skills". Countries with advanced digital technology infrastructures (e. g. Brunei Darussalam, Singapore) report the increasing importance of online resources as opposed to traditional textbooks.
- If digital technologies are applied as part of teaching and learning arrangements, blended learning concepts are more common than pure online arrangements.
- In three AMS, surveys have been conducted to appraise provisions supporting students to reflect on the next stages of their educational and / or vocational career. While such provisions in general education are still limited, those in TVET are increasingly applied.
- Despite some exceptions, pathways from TVET to higher education are not common.

5.3.5 Professionalise teaching personnel

This area of intervention comprises five sub-areas:

1. Introduce formal standards for training of teachers, school-managers and incompany trainers
2. Attract highly-motivated and committed people for teaching profession
3. Improve the teachers' capabilities in pre- and in-service teacher training
4. Improve the capabilities of school managers
5. Develop capabilities of in-company (master) trainers.

These sub-areas address different facets of professional teaching personnel. The first sub-area remains on a formal level and aims at laying a solid and binding groundwork through quality standards for three main target groups. Sub-areas 2

and 3 focus on recruitment and progression of teachers in different type of schools. Sub-areas 4 and 5 address two groups often neglected when discussing capacity building of teaching personnel, namely school managers and in-company (master) trainers.

The following table summarises the findings from the readiness questionnaire, contrasting appraisal of importance and realisation:

Table 20: Number of responses for the two topmost items of the HRD area of intervention "Professionalise development of qualified teaching personnel"

Professionalise the development of qualified teaching personnel There are standards for the training of teachers and in-company trainers which address the acquisition of "future skills".			
Country	n =	Importance Very high / high N / % [55]	Realisation Very high / high N / %
Brunei Darussalam	30	21 / 70%	10 / 33%
Cambodia	70	63 / 90%	33 / 47%
Indonesia	36	31 / 86%	15 / 42%
Lao PDR	60	40 / 67%	23 / 38%
Malaysia [56]	50	32 / 64%	23 / 46%
Myanmar	26	24 / 92%	1 / 4%
Philippines	272	245 / 90%	181 / 67%
Singapore	46	29 / 63%	11 / 23%
Thailand	33	32 / 97%	8 / 24%
Viet Nam [57]	34	27 / 79%	9 / 26%

In all AMS this area of intervention is regarded as highly important. Respective scores vary between 63 and 97%. And as is the case with other areas of intervention, there is a significant readiness gap, ranging between 18 and 88%.

55 In the questionnaire a six-stage scale was applied for both dimensions: very high (100%) – high (80%) – quite high (60%) – quite low (40%) – low (20%) – none (0%) The figures indicate the number of responses for the two topmost items.

56 In the Malaysian survey, the item was separated into sub-items addressing the different key fields. The respective sub-items / numbers were: General education (30:21); TVET (32:22); Higher education (32:24). The value in the table represents an average of the results for the sub-items.

57 In the Vietnamese survey, the item was separated into three sub-items addressing the different key fields. The respective sub-items / numbers were: General education (20:6); TVET (23:7); higher education (24:8); non-formal community learning, workplace learning (18:5). The value in the table represents an average of the results for the sub-items.

On a more detailed level, the national experts went into depth and collected the available information with regard to a set of guiding questions. Reports from the following AMS account for insights into this area of investigation: Brunei Darussalam; Indonesia; Myanmar; Philippines; and Thailand. Although the focus in their report was put on other areas of intervention, the country report of Malaysia also adds some valuable information to the development of qualified teaching personnel.

What formal standards are in place for the training of teachers? Which of the future skills and capabilities related to modern teaching concepts (e.g. learner-centric teaching methods; concepts of technology-enhanced learning) are part of teacher training standards?

In all AMS, governments pay significant attention to the importance of professional teaching personnel. However, formal and substantive implementation works differently.

In Brunei Darussalam, teacher training standards and implementation is highly elaborated. Training of teachers at Brunei Darussalam Teacher Academy (BDTA) is aligned to Brunei Teacher Standards and the Teacher's Performance Appraisal. Furthermore, there is a Teacher Professional Development Framework and Guidelines to assist schools and school leaders on quality standard criteria. On the implementation side, BDTA provides continuous professional development courses for teachers to keep up with the standards. Part of the courses are modules to develop the competences needed to empower 21st-century learners. Teachers are called on to be activators of meaningful learning, being creative in choosing from a wide range of teaching strategies, and to make use of the enabling role of digital technologies. Students shall not only acquire new knowledge and lead their own learning, but also develop as lifelong learning citizens. Future skills are embedded in this portfolio of training courses to different degrees: While numeracy and literacy skills and learnability score very highly, ICT skills and problem-solving in complex, technology-rich environments reveal considerable room for improvement.

In Indonesia, like in many other AMS, teacher training is offered at Higher Education Institutions. As a result, it is subject to regulations in place for the accreditation and certification of bachelor programmes. Future skills can be part of these programmes to a different degree. While social skills, learnability and character qualities are well embedded, for high-order cognitive skills, ICT and STEM skills, and problem-solving skills in complex, technology-rich environments are comparatively less advanced.

In the Philippines, despite many efforts to address professional development, teacher training remains a challenge. Most of the teacher training takes place in schools. Within this context, some reasons are reported that hinder teachers from engaging in professional development (e. g. lack of time, no provision in remote areas, and financial constraints). However, the Philippine Professional Standards for Teachers (PPST) was updated in 2017 and comprises many references to future skills.

In Thailand, professional standards for teachers and certification standards are in place with some references to ICT, language and communication skills. Similarly, in Malaysia, a teacher training curriculum aligned with the Malaysian Qualifications Framework governs the formal training required to become a professional teacher. In Myanmar, there are no recognised national standards for teacher training. According to expert respondents in the interviews, existing training opportunities comprise many references to future skills

What approaches are taken to attract highly-motivated and committed people into the teaching profession?

In all AMS, there is high awareness that recruitment of people for the teaching profession is key to raise the quality of education in all fields. At the same time, many challenges are recognised which often compromise attractiveness and prevent talented candidates from entering a career as a professional teacher. A major challenge in many AMS is compensation in comparison with employment in industry or other areas. Related to compensation are (limited) promotion opportunities and weak appraisal systems in the teaching profession (systems which often correspond with higher salaries). Also closely linked to these factors, the public status and reputation of teachers is low, and is accompanied by a lack of appreciation for their work within and outside the school. In some AMS teachers complain about (too) many structural and administrative burdens which are energy-sapping and compromise their passion for teaching.

Hence, ministries and persons in charge try to introduce different measures to deal with these challenges:

- In Myanmar, apart from the provision of higher financial benefits some efforts focus on the establishment of a conducive teaching and learning environment which makes teaching pleasant and triggers intrinsic motivation of the teachers. Furthermore, teaching awards and certificates of excellence have been designed to increase the recognition of the value of the teaching profession.
- Malaysia promotes the lateral movement of qualified candidates from the

industry to teaching institutions, allowing for the same or even higher salaries to those selected.

- Thailand offers scholarships to 12th grade students who wish to become teachers returning to work in their hometowns in distant regions. Additionally, each candidate is guaranteed a governmental position in a local school at the end of their studies.
- In the Philippines, ministries are working on a career progression programme which should make teachers no longer have to wait for a vacancy to get promoted.
- In Indonesia, a new certification process for teachers accompanies specific allowances, which have led to considerable pay increases for certified teachers. This has improved teachers' status as equal to professions in the field of law and medicine. It has also provided incentives for teachers to upgrade their qualifications and to work in remote areas.
- In Brunei Darussalam, there are three selection stages before the recruitment of teachers takes place making up a rigorous screening and appraisal process. For applicants, it can be quite challenging to pass these stages and be selected. Part of the selection and recruitment process involves immersion and apprenticeship programmes, exposing candidates in different ways to practical teaching and assessing them against explicit criteria.

What formal standards are in place for the training of school-managers?

Systematic training of school-managers has been increasingly introduced in many AMS. For example, in Brunei Darussalam the first nationwide school leadership training for school leaders started in 2010. Between 2010 and 2015, a total of 664 educators from 223 schools participated in the School Leadership Programme. Subsequently, the programme was revised and split for three different leadership positions. The programme advanced to a comprehensive framework that comprises 5 standards with 16 competencies. Many of these competencies are closely linked to future skills. Based on this framework, the Brunei Darussalam Teachers Academy (BDTA) designed an extensive leadership professional curriculum to school leaders to build and up-skill their leadership professionalism.

Similar activities can be reported from other AMS. In Indonesia, the required competences for school supervisors and school principals are specified by the Ministry of Education and Culture. A Principal Preparation Programme has been conducted in some regions to promote these competences. In the Philippines,

Professional Standards for Supervisors and School Heads are about to be adopted. Even without these standards, the Department of Education already refers to them when developing training programmes for school leaders.
An interesting approach to accelerate school improvement through systematic, district-led transformation has been introduced in Malaysia. The Ministry of Education has developed a state and district transformation programme (District Transformation Programme) to enable all states and districts to substantially improve schools. The programme includes employing full-time teacher and principal coaches to support principals and teachers in lower-performing schools.

What formal standards are in place for the training of in-company trainers?

For training of in-company trainers, the ASEAN In-Company Trainer Standard provides a valuable reference in many AMS. Based on these standards, Brunei Darussalam runs a training and certification programme with five modules, lasting 40 contact hours, with 24 hours of self-directed learning and industry-based and monitored learning. In the Indonesian country report, based on (seven) interviews the appraisal of the standards with regard to future skills was very favourable: All future skills covered by the standards scored highly on appraisal.

Good practices

Although the initiatives outlined above can at least partly be regarded as good practices, some more shall be highlighted:

- In the Philippines, TESDA implemented the National TVET Trainers-Assessors' Qualification Programme for TVET trainers to ensure consistent delivery of quality training services across the country. In addition, the Trainer Development Programme addresses the need to upgrade the institutional competences of TVET institutions. Moreover, in 2017, the National TVET Training Academy as a unit of TESDA was launched. It is tasked with the function of providing trainers' development programme in response to the demand for quality trainers who will manage and implement the TVET system in the Philippines.
- In Brunei Darussalam, registered training organisations and industry training providers must have qualified and certified trainers to conduct training using an HRD government fund for training. Currently, SEAMEO VOCTECH offers train-the-trainer programmes and certification that refers to the ASEAN in-company trainers' standard. The mode of training is a mix

of face-to-face training (40 hours) and industry-based self-directed learning and supervision (24 hours).

- Thailand offers a programme called "Thai-Meister Best Practice". Thai instructors are sent to a German Chamber of Craft in the fields of mechatronics, electronics, automotive, information technology, and others. Within this exchange, participants become familiar with modern technologies and teaching practices.

Conclusion

- Teacher training in AMS is formally grounded and organised in different ways. Most countries have professional standards for training and certification of teachers in place. They guide the training programmes organised by specific teacher training institutes or Higher Education Institutions.
- Although some future skills are included in the standards and / or the respective training programmes, others still play a minor role.
- An important driver for professionalisation of teaching personnel is the recruitment of highly-motivated and committed applicants. In many AMS, becoming a teacher is less attractive as a result of poor compensation, limited promotion opportunities and low status. However, there are promising approaches and good practices in some AMS targeted to not only increase extrinsic motivation but also to trigger intrinsic motivation factors.
- With regard to standards and programmes for training of school-managers, there are some experiences in AMS which have put stronger emphasis on this target group recently. Different to pre-service teacher training, the needs of school-managers are quite diverse and require flexible and adaptive implementation structures.
- For training of in-company trainers, the ASEAN In-Company Trainer Standard provides a reference document acknowledged by many experts. However, the provision of programmes reflecting these standards is far from common practice.

5.3.6 Promote the engagement of the business sector

This area of intervention comprises five sub-areas:

1. Enhance collaboration between government and business sector in HRD
2. Incentivise companies to invest in HRD
3. Strengthen business membership organisations to engage in HRD

4. Assist (SME) employers in designing and implementing HRD business models
5. Target priority sectors for HRD initiatives.

Engagement of the business sector in HRD is key for improving the relevance of any HRD programmes and initiatives. Generally, there are many opportunities to realise public-private-partnerships to share responsibilities between government and the business sector in HRD (sub-area 1). To support this, there can be incentives, provided by the State, to companies to invest more in HRD (sub-area 2). In particular, SME need some extra assistance to make HRD part of their business activities (sub-area 4). An important part of promoting HRD can be taken by business membership organisations, both as service providers in HRD for their members or as ambassadors putting more emphasis on HRD (sub-area 3). From a government's point of view, it may be reasonable to focus HRD support on target priority sectors and to align HRD policy with economic development objectives (sub-area 5).

The following table summarises the findings from the readiness questionnaire contrasting appraisal of importance with realisation:

Table 21: Number of responses for the two topmost items of the HRD area of intervention "Promote the engagement of the business sector"

Promote engagement of business sector: In the field of TVET and Higher Education, there are strong links between state bodies and the business sector in terms of public-private-partnerships in HRD.			
Country	**n =**	**Importance Very high / high N / %** [58]	**Realisation Very high / high N / %**
Brunei Darussalam	30	22 / 73%	14 / 47%
Cambodia	70	64 / 91%	30 / 43%
Indonesia	36	31 / 86%	8 / 22%
Lao PDR	60	37 / 62%	22 / 37%
Malaysia	50	33 / 66%	23 / 46%
Myanmar	26	24 / 92%	2 / 8%
Philippines	272	240 / 88%	163 / 60%
Singapore	46	27 / 59%	12 / 26%
Thailand	33	29 / 88%	6 / 18%
Viet Nam	34	27 / 79%	7 / 21%

58. In the questionnaire a six-stage scale was applied for both dimensions: very high (100%) – high (80%) – quite high (60%) – quite low (40%) – low (20%) – none (0%) The figures indicate the number of responses for the two topmost items.

In all AMS this area of intervention is regarded as highly important. Respective scores vary between 59 and 92%. And as is the case with other areas of intervention, there is a significant readiness gap, ranging between 20 (Malaysia) and 84% (Myanmar). The high importance is also proven by the fact that nine of the ten AMS decided to select this area of intervention as a field for deeper investigation. National experts from the following AMS provided in-depth information with regard to a set of guiding questions: Brunei Darussalam; Cambodia; Indonesia; Malaysia; Myanmar; Philippines; Singapore; Thailand; and Viet Nam.

To what extent is the business sector engaged as a partner in (a) TVET and (b) in Higher Education in key areas of HRD?

As key areas the following options were introduced for TVET:

- Delivery of TVET programmes (e.g. internship / apprenticeship)
- Provision of equipment / teaching materials to schools / HEI
- Partnership in assessments and examinations
- Support in the training of teaching personnel
- Support in development of curricula and skill standards
- Engagement in TVET bodies on a national or local level.

For Higher Education these options were adjusted according to the different institutional context:

- Support in the development of courses and programmes
- Support in the delivery of courses and programmes
- Support in the training of HE personnel
- Conduct of joint projects
- Provision of equipment / teaching materials
- Operation of industry – academia transfer institutes.

National experts were asked to conduct a small survey with a six-stage-scale for each of the options outlined above (ranging from “to a very high extent” to “none”) to collect a detailed appraisal. Apart from the pre-set options, national experts were free to address further areas of engagement in either TVET or Higher Education.

Overall, the extent of engagement with regard to the different options turned out to be very limited. On average, all values rank in the lower half of the scale. In particular, this applies to Higher Education. Apart from the overall picture, especially in TVET

there are many efforts and some good practices to increase the level of collaboration between government and the business sector in HRD. In some AMS, the business sector supports the professional development of teachers (e. g. Philippines) or provides equipment to schools (e. g. Cambodia). Although mostly on a limited scale, a number of AMS started to introduce internships and / or apprenticeships which demand more systematic effort on the part of the business sector (e. g. Malaysia, Cambodia, Indonesia). It is notable that some AMS establish platforms to bridge TVET institutions with industries. Examples are the Industrial Training Institute Communication Forum or the Apprenticeship Network Communication Forum in Indonesia.

In Viet Nam, different forms of engagement of the business sector in HRD are suggested which partly reach beyond the suggested options. One interesting type is the business sector engaging as investors and owners of private education institutions. For that purpose, a comprehensive legal framework has been introduced. According to 2018 data, 440 private upper secondary schools account for 15% of the total number of schools at this level. 65 private universities represent 27% of all universities, and 677 private TVET institutions represent 35% of all TVET providers. In another area of engagement, companies provide scholarships for students as part of Corporate Social Responsibility or as part of talent acquisition and corporate workforce succession plans. In Higher Education, the business sector commissions research and consultancy, takes part in joint publications, or becomes a partner in innovation and knowledge transfer.

In Singapore, there are some examples of close cooperation between TVET, higher education institutions and the business sector. For internships and placements, the polytechnics involve employers in the grading process as the employers are involved in the training. In terms of TVET teaching personnel, the polytechnics work closely with industry partners to deploy teaching staff for industrial attachment and industry engagement activities on a regular basis. There is also cooperation with industry partners in the development of curricula and skills standards.

The Institute of Technical Education (ITE), which is funded by the Ministry of Education, serves as an important platform in TVET. Besides the six publicly-funded ('autonomous') universities and the five Polytechnics, the ITE as a vocational training institute is one of the "Institutes of Higher Learning". This structure makes apparent that TVET is regarded as a major pillar within tertiary education in Singapore. ITE takes about 25% of each Singapore cohort for its full-time National ITE Certificate/Higher National ITE Certificate courses. About 49% of each Singapore cohort pursues publicly-funded full-time diploma courses offered by the Polytechnics, Arts Institutions and ITE, with some progressing from ITE's National ITE Certificate/Higher National ITE Certificate courses. One innovative manifestation of the close link between the different "Institutes of Higher Learning" is the SkillsFuture Work Study Diploma (WSDip). The programme is

designed to create an upgrading pathway for ITE graduates. The trainee is employed by a company to undergo a WSDip course leading to a diploma awarded by ITE. During the period of training, the trainee is an employee of the company and receives a monthly salary as well as benefits similar to other full-time employees. All course fees are fully paid by the sponsoring company. In addition to theory and practical lessons conducted at ITE, trainees perform on-the-job training on actual jobs. The WSDip courses offered by ITE are developed and delivered in close partnership with key employers. ITE also works closely with employers to ensure that supervisors within the company are able to take on the role of training.

The Indonesia country report reflects on potential reasons for the limited involvement of the business sector in collaboration with state bodies. Potential explanations range from cultural reasons assigning (the finance of) HRD to the State by tradition, avoiding the risk of investing too much in HRD because well-trained personnel may be poached by competitors once training measures have been successfully completed.

What incentives are offered by the State to incentivise companies to invest in HRD? What State provisions are available for employers (esp. in SMEs) in support of HRD activities?

One approach to deal with the reluctance of companies to invest in HRD is to offer incentives such as tax exemptions, subsidies, or the like, granted by the State. Beyond making public allowances to companies, the State or specific economic sectors may run a levy grant system which benefits those who invest in HRD and adds burdens to the companies without such investment.

Some country reports put such incentive approaches on record but emphasise their limited scope and impact. For example, Cambodia runs a levy system to implement an apprenticeship scheme which support staff training. It has also implemented a pilot programme called the Skill Development Fund which aims at upgrading skills for SMEs and builds skilled workforce in response to labour market demand. Malaysia has introduced different type of incentives, including a double tax deduction on expenses incurred by companies as well as subsidies for defined HRD measures. Thailand also operates income tax exemptions for training expenses. Indonesia offers subsidies for companies to open internship programmes; it also has a tax deduction system in place for businesses investing in developing talent, although implementation is reported to be limited. The Brunei country report points out that as company tax is low in the country, tax incentives or similar incentives are not likely to have a great impact on companies' decision making on HRD issues.

Viet Nam provides specific support for SMEs' HRD activities. SMEs are entitled

to State financial support for HRD, including support for induction training and business management; for on-the-job training for staff working in manufacturing and processing industries; for short vocational training courses for employees at elementary level, or for any top-up course under three months.

Singapore runs different initiatives to strengthen HRD in the private sector. One prominent programme is the WSG-Adapt and Grow Scheme which provides incentives to companies to train their employees through the subsidising of salaries. The government also provides grants to support many SMEs in the development of their people. An initiative called the "Global Talent Programme" is available for SMEs. It provides subsidies for internships so that companies will hire workers and train them for future requirements. It also aims to build a pipeline of talent for Singaporean enterprises through exposing more Singaporeans to internships and overseas work opportunities. Recently, a new Enterprise Leadership for Transformation Programme was launched to help local SMEs undertake a one-year curriculum designed to address knowledge gaps in leadership and business fundamentals. Another key effort by the government is the HR Industry Manpower Plan which is designed to strengthen the HR profession and HR services sector in Singapore. The objective is to upgrade and lift the HR profession in Singapore to become more agile, so that they in turn, can help their organisations to transform.

Overall, although most AMS have introduced some kind of incentives, country reports suggest that they are of limited impact. Financial support alone does not seem to suffice if awareness of companies on the need of HRD investment is limited. If only small parts of the business sector feel responsible for the promotion of their current or future staff, financial incentives will not gain much attention.

What business membership organisations are prepared to deliver HRD-related services? How are they financed? How do they cooperate with State bodies, higher education institutions, schools, training institutions, etc.?

The most common business membership organisations (BMO) are chambers and business associations working on a sectoral or regional basis. Often, business associations are members of a chamber. BMOs operate in different models and for different goals.

For example, in Viet Nam the most established BMO is the Viet Nam Chamber of Commerce and Industry. Its members are businesses, entrepreneurs, and business associations. Although the chamber is a non-governmental organisation, it is managed by the State authority and its leaders are civil servants. Besides the membership fees and revenue from issuing certificates for exporting products from Viet Nam, the chamber receives the government fund for business promotion and HRD activities.

The chamber offers regular training activities to businesses with priorities given to its members. Apart from the chamber, there are around 450 business associations / sectoral membership organisations which also offer HRD provisions for their members.

Equally diverse and complex is the BMO-scenery in the Philippines and Malaysia. Important players in the Philippines in the context of HRD are the Philippine Chamber of Commerce and Industry, Philippine Business for Social Progress, and Philippine Business for Education. They are partnering with TVET and Higher Education institutions in delivering HRD-related services. In Malaysia, BMOs such as chambers, business associations, federations, and guilds assist companies in their HRD efforts. For example, the Federation of Malaysian Manufacturers runs an institute to provide industry-relevant skills training for the manufacturing and services sectors. The institute on average conducts more than 1,000 programmes and trains 18,000 participants in various categories of programmes nation-wide annually.

BMO play an important part in supporting HRD activities in Singapore. The Singapore Business Federation (SBF), the Singapore International Chamber of Commerce (SICC) as well as the Association of SMEs are appointed organisations which help to provide HRD programmes to their members.

Other AMS also come up with a list of BMOs taking responsibilities in HRD issues. Myanmar has such organisations, partly operating on a regional or sectoral basis. Some of them represent the interest of specific groups (e. g. the Myanmar Women Entrepreneurs Association; and the Myanmar Young Entrepreneurs Association). Cambodia has a similar structure with BMOs ranging from the Cambodia Chamber of Commerce to business associations for specific sectors (e. g. the Garment Manufacturing Association; and the Association of SMEs Cambodia) and target groups (e. g. young entrepreneurs; women entrepreneurs). In Indonesia, there are also different types of BMOs some of which are quite active in providing HRD programmes ranging from internship / apprenticeship programmes up to training for trainer programmes. In Thailand, a Joint Public and Private Sector Consultative Committee was established to assist BMOs with business advancement issues. Part of the activities deal with HRD promotion. Furthermore, the Federation of Thai Industry has recently established an academy offering various kinds of HRD programmes.

What are the priority economic sectors for HRD initiatives in your country's economy?

All country reports list a number of key industries which enjoy specific attention. The enumeration includes industries which are currently important in running the economy and keeping up the level of the economic stage of development and prosperity. The list reflects the current economic structure and comprises industries

such as agriculture, food processing, tourism, healthcare, the textile industry, and financial services, just to name a few. In the Viet Nam report, different economic target sectors are specified for four key economic regions.

In most AMS, the list comprises industries which for the respective AMS are new and as such can be named next-generation industries. Among those are industries such as automotive future technologies, intelligent electronics, high-tech industries, software development, or green technologies.

Good practice

A very comprehensive and institutionalised approach linking HRD-partnership to economic development goals is applied in Singapore. Based on so-called Industry Transformation Maps outlining growth and competitiveness goals for 23 major economic sectors, Manpower Development Plans are developed. For each of the different business sectors, skill sets are mapped out in consultation with employers, unions, associations, lead agencies and education institutions. In order to ensure employees can catch up with future skill requirements, public funding of the SkillsFuture programme provides subsidies for enrolment on courses related to skills assumed to be needed in the future. Skill sets also provide a reference point for the different stakeholders to make informed choices on their career development and for employers to design progressive HRD practices to recognise and develop those skills.

Conclusion

- There are many options for the business sector to collaborate with public educational institutions both in TVET and higher education. Despite a number of good practices and increasing efforts from the governments and engaged stakeholders in the business sector, the extent of engagement is still limited.
- There are many different reasons for the reluctance of the business sector to engage in public-private-partnership arrangements on HRD. Financial incentives or other state provisions may convince part of the business sector to increase their engagement if economic reasons prevail. In practice, financial support alone for companies turns out to be of limited impact. At least equally important is the companies' awareness that HRD investment is an essential factor for a thriving business in the future.
- An important role in efforts to increase the level of engagement of the business sector in HRD is played by business membership organisations (BMO). To a large extent, they are financed by membership fees, but they may also receive public funding for programmes promoting HRD activities in the business sector. By statute, BMOs work for the benefits of their members, and economic issues are at the core of their mandate. However, there is an increasing awareness that HRD is a major component in preparing business to tackle future challenges.

6. Conclusion

The HRD readiness study provides the conceptual foundation, empirical explorations and comparative findings on HRD in AMS. It starts from the assumption that various global trends result in a high pace of continuous changes and the need for societies and individuals to deal with a high degree of uncertainty. HRD offers a conceptual framework to both empower individuals to develop their potential and to guide State bodies and the business sector to design supportive and conducive interventions.

This regional report offers a snapshot of the state of HRD readiness in the ten AMS. It describes existing practices and introduces options for future policies, as guided by a conceptual framework of investigation. In particular, it explores approaches taken in AMS that are currently applied with regard to HRD in reaction to future challenges in changing world of work. It reveals considerable gaps between the appraisal of importance and desirability on one hand, and the extent of realisation and achievement of different areas of HRD interventions on the other hand. As a result, the study encourages the member states to speed up their approaches to make people resilient to face the impending landscape of the future of work and skills.

Each of the ten country reports offers a picture on the current state of national HRD policies, practices, challenges and available resources to promote HRD / LLL initiatives in the region. A considerable number of good practices could be highlighted, but also critical factors for further improvement in HRD areas of intervention have been identified. The situation in countries differs in many respects, but from a bird's eye view some overarching findings with regard to the six areas of interventions can be emphasised:

1. HRD / LLL are core concepts in most AMS. They are components in official documents such as long- and medium-term strategies, legislative provisions, policy papers, or the like. Programmatically expressed intentions have been implemented to different degrees in the AMS. This is partly due to the different amount of financial resources available for future-oriented investments. Against this backdrop, close collaboration across AMS in HRD / LLL is both promising and urgent.

2. Within their HRD / LLL strategies and policies, AMS offer provisions of inclusive education addressing the specific needs of vulnerable groups as an important component. The notion of "inclusive education" is interpreted

differently across and within the AMS. Detailed data on enrolment and completion rates for these groups are widely absent. Country reports also reveal considerable obstacles to implementing inclusive education approaches on a large scale. Against this backdrop, AMS should be encouraged to reinforce their efforts and improve the statistical basis to allow for a more evidence-based implementation policy. This includes approaches to promote recognition, validation and accreditation of non- and informally acquired competencies.

3. Some AMS apply a coherent and consistent framework for HRD, comprising a clear vision and strategy backed up by legislation and accountable institutions, and resources devoted to put programmatic intentions into practice. Others still suffer from lack of coherence or funding which makes the governance of HRD policy look (partly) fragmented and inefficient. Thus, governance of the HRD framework should be scrutinised against criteria of coherence, consistency and efficiency. If necessary, adequate changes should be launched.

4. Generally, "future skills" are, to some degree, already part of curricula, assessments and teaching and learning materials. However, implementation is still in progress, and some important skills have only been incorporated marginally. The same applies to the use of digital technologies as part of teaching and learning arrangements. In addition, provision in general education, TVET and higher education, to make students reflect on future learning and / or work stages, is available but can be improved considerably. Hence, identification, integration and implementation of future skills should become a major part in the innovation of HRD programmes in general education, TVET and higher education.

5. Professionalisation of teaching personnel comprises competency development of individual teachers and trainers as well as the creation of conducive frame-conditions to recruit and motivate high-performing candidates for the profession. Both areas are interrelated. In all AMS there is a high level of awareness of the importance of recruiting and training highly qualified teaching personnel. While pre-service teacher training is already quite advanced in all AMS, in most countries there is some room for improvement with regard to in-service teacher training, provisions for school-managers and in-company trainers. Initiatives for the further advancement of teaching personnel in different areas and different levels of professionalisation should be enhanced.

6. Public-private-partnerships between educational institutions and the business sector have accelerated but are still at a moderate level. There is

a broad range of potential forms of collaboration and a growing number of good practices. All this makes this area of intervention a promising field for development.

While each country would have to identify their specific areas of concern and to launch initiatives within their respective national priorities, the following considerations are highlighted to address urgent issues which could also be jointly explored and developed at the regional level.

- In terms of HRD culture, the message of a rapidly changing, uncertain future which is impossible to prepare for with narrowly defined learning outcomes, needs to be spread around with more rigour. Many stakeholders still regard HRD primarily as an approach for short-term up- and re-skilling activities. Awareness of long-term, future-oriented perspectives on peoples' learning and development needs to be strengthened.
- Although there is some awareness in all AMS of the need to design HRD inclusively, the practical approaches often reach only a comparatively small number of target groups affected. This is partly due to a lack of financial resources and personal capacities spent in this area. One step to pursue inclusive approaches which are evidence-based and more systematic could be to collect reliable data on enrolment and completion rates of vulnerable groups on a continuous basis.
- Although "future skills" have partially entered HRD programmes, relevant skills such as problem solving, ICT- and STEM skills need to be incorporated more prominently into curricula and teaching and learning material.
- Digital technologies have become part of teaching and learning practices in many programmes, mostly realised in blended learning concepts. However, there is still room for improvement in leveraging the full didactic potential of these technologies.
- The potential of digital technologies in the design of learning arrangements can only be exploited if qualified teaching personnel are in place. In many AMS, recruitment of highly qualified teaching personnel suffers from the lack of attractiveness of teaching as a profession.
- With regard to standards for teaching personnel, "future skills" often play a minor role.

More specifically, the following topics with regard to TVET may be of particular interest for the newly established ATC:

- In contrast to general and higher education, TVET is often still on the backseat in HRD and education. There are good practices from some AMS which may serve to make TVET more attractive both for school graduates and the business sector.

- TVET in many AMS is not only realised in formal HRD or education settings but also in the informal economy. Hence, concepts such as informal apprenticeships or other forms of training in the informal economy should be analysed and consideration given to upgrading and linking them to formal TVET qualifications. In order to appreciate informally acquired skills, procedures to promote recognition, validation and certification need to be strengthened and applied on a larger scale.
- Sometimes responsibilities for TVET are fragmented among many bodies in government and administration. This can compromise the effectiveness and advocacy power of TVET as opposed to competing policy areas.
- In many AMS, national TVET councils or analogous bodies have been set up. As these bodies pursue similar objectives, there is some potential to catalyse their work by establishing ways for them to share practices and even embark on projects of mutual interest.
- Engagement of the business sector in TVET is not widely achieved for many reasons. For priority industries, so far sporadic and loose activities and areas of engagement of the business sector in TVET (including business membership organisations) need to be transformed into systematic concepts. As part of this endeavour, engagement of the business sector in the operation and advancement of TVET needs solid anchorage in TVET governance.

Finally, this analysis ends with some hypotheses for further reflection and debate:

1. **The COVID-19 pandemic jeopardises gains achieved to date, which makes an urgent case for new investment in HRD / LLL policies!**
   Over the past decades, many AMS have made considerable progress in improving their record in HRD / LLL. The COVID-19 pandemic with its foreseeable implications such as reduced fiscal space for public spending and setbacks in many economic sectors jeopardises those gains. Urgent action is needed to protect advances already won in HRD policies, particularly with regard to the vulnerable groups in society.

2. **The world of work is changing globally but starting points in HRD to meet the challenges are different!**
   Economies are interdependent on a global scale; and digital transformation is a ubiquitous phenomenon challenging policy in all countries. The nature of workforces and workplaces has changed significantly. However, resources and opportunities to deal with these challenges vary considerably across AMS. This requires measures on a regional level to counteract the "Matthew effect" (Merton) of accumulated advantage making the better-off stronger and the underprivileged poorer.

3. **Vulnerable groups are most at risk in a changing world of work!**
   COVID-19 revealed the vulnerability of all nations, but most of all of the vulnerable groups in the countries. For example, initial narratives on COVID-19's impact suggest that the groups most affected negatively by closure of schools are children from disadvantaged social groups. These insights back up the view that technological developments often run the risk of discriminating against the vulnerable in society. Thus, inclusive education on a larger scale is more important than ever!

4. **HRD is more than an instrument for promoting economic goals!**
   HRD is not an end in itself. Undoubtedly, HRD is an important measure for promoting economic goals such as higher growth, productivity, prosperity or competitiveness. But it is more than that. If implemented well, it can also contribute to the enhancement of cohesion and social integration in society and may become a driver of poverty reduction. On the individual level, it can contribute to personal development, self-fulfilment, agility and trust in society and public institutions. Non-economic goals are often prominent in rhetoric, but in practice they do not attract the same weight as economic targets.

5. **HRD is not an event but a journey with different time-horizons!**
   As learning is not just a passage before working life starts but a companion embracing all ages, HRD also needs a multi-dimensional perspective addressing immediate, medium-term and transitional requirements. As a result, HRD takes care of short-term re-skilling needs, addresses medium-term skills development needs due to substantial changes in working processes and respective role profiles, and pro-actively prepares organisations and individuals for long-term fundamental transformation processes in society and working life.

6. **High-quality HRD strives for sustainable, deep learning approaches!**
   In order to become sustainable, HRD approaches need to reach deeper levels of learning and development activities. Memorising facts and content as well as reproducing routine tasks may make up (a smaller) part of learning processes but are insufficient in themselves. Future skills embrace the acquisition of cognitive processes, skills and attitudes which cannot easily be replaced by technology but are more demanding to learn. What counts in the future are dispositions such as social skills, resilience, dealing with complexity and uncertainty, self-efficacy, and the like.

All considerations and analysis may be summarised in the final statement:
HRD / LLL is no longer an option but a necessity!

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Annex 1: Interview Guidelines

A Promote HRD culture

Guiding questions:

1. Are "HRD"/" LLL" key terms in your countries' strategies, policies and programmes in education, employment and labour market policy?
   What notion of these terms is common (please quote key documents or statements in English)?
2. What target groups are addressed explicitly in countries' strategies and policies with regard to HRD/LLL? (state the top 3-5)
   What are key messages towards these target groups?
3. What key fields of HRD are addressed in countries' strategy and policy papers on HRD (e. g. general education, TVET, higher education, corporate learning & development, non- and informal learning)?
4. What (pilot or regular) initiatives of state bodies explicitly promoting HRD culture in your country are in place (please provide some details with regard to objectives, target groups, funding, etc.)? Are there any appraisals (or even studies) on the impact of such initiatives?
5. What advisory and counselling services are available for citizens to get advice on HRD/LLL opportunities?
   If available: Which of these services provide information about TVET and higher education programmes, which services focus on personal development issues?
6. What initiatives are in place to improve the image of TVET and non-formal learning opportunities (e. g. awareness raising campaigns)?

Procedural advice for national experts:

- Please draw on available documents providing information on the issues raised in the questions.
- You may then identify officials from ministries in charge of the issues and conduct interviews. In these interviews you may clarify relevant aspects not clear in the reviewed documents. You may also ask for additional information on aspects in the questions which you feel had not been sufficiently addressed in the documents.
- Although there may be many more ministries dealing with aspects of the questions, a selection of 2-3 respondents (individuals or small focus groups) should suffice. In the interviews you may also include questions from other areas of intervention to realise synergies.

- With regard to A6, you could also contact respondents from business membership organisations.
- If any of the information from your respondents sounds exemplary or highly interesting for other countries, please note this as a candidate for good practices as part of your country report (max. 1 page). Potential good practices may relate to:
  - Informative and inspiring strategies, policy documents, and advisory services on the dedicated promotion of HRD/LLL (A1-3, 5)
  - Outstanding initiatives with a focus on promoting HRD culture (A4)
  - Outstanding programme on promoting image of TVET or non-formal learning (A6)
- For your documentation in your country report, all guiding questions should be addressed. It may well happen that despite all efforts on your part, information is not or only partly available. Please do note this in the report.

B Adopt inclusive approach

Guiding questions:

1. What vulnerable groups are targeted for inclusive HRD / LLL provisions?

   What are the objectives guiding the initiatives?

   If available: How many people are targeted with the initiatives? (broad figures)

2. Which data on enrolment and completion rates of programmes for vulnerable groups are available? What rates are targeted for the future? What initiatives are planned to increase the rates?
3. What are major barriers and obstacles for specific vulnerable groups to join in increased learning activities?
4. What provisions (e. g. access to open educational resources, support of organisations that offer learning opportunities, locations for in- or non-formal learning such as community centres or libraries) are (a) implemented; (b) planned; (c) desirable in your country?
5. What provisions to promote recognition, validation and accreditation of non- and informal learning outcomes are (a) implemented; (b) planned; (c) desirable in your country? If implemented: How is the process structured? Which institutions are involved?

Procedural advice for national experts: Analogous to A.

C Strengthen enabling structures

Guiding questions:

1. What are formal rights based on legislation with regard to HRD/LLL that citizens in the country can claim for (e.g. compulsory schooling; right to join TVET programme; right to access academic programme; allowances / credit for attending educational programme)?
2. What bodies are in charge of HRD / LLL on the state level (e.g. which ministries, state run agencies)?
3. What bodies are in charge of development, implementation, monitoring and updating HRD/LLL-strategy?
4. How are HRD / LLL programmes and initiatives on the state level coordinated?

   What bodies are in place to enable collaboration in HRD / LLL issues on the national and local level?
5. What platforms and forums of cooperation between state bodies and external stakeholders on HRD / LLL are (a) already implemented; (b) planned; (c) desirable?
6. What platforms and forums of cooperation with external partners, including international organisations, on HRD / LLL are (a) already implemented; (b) planned; (c) desirable?
7. Who is in charge of researching, compiling and interpreting relevant information on mega-trends, skills forecasts, and (sector-specific) developments on the labour market? What kind of data is provided? What data are missing to design HRD / LLL policies and programmes?
8. What pool of funds established to support priorities and research is (a) already implemented; (b) planned; (c) desirable?
9. What are priority issues for a TVET council to advance the quality and attractiveness of TVET in your country?

Procedural advice for national experts: Analogous to A.

D Modernise HRD programmes

Guiding questions:

1. To what extent are the following "future skills" incorporated explicitly and significantly in curricula in general education, TVET and higher education?

	General Education	TVET	Higher Education
Numeracy and literacy skills			
High-order cognitive skills (e.g. analysing; critical thinking; creating)			
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)			
STEM skills			
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)			
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)			
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)			
Problem-solving in complex, technology-rich environments			

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

2. To what extent do teaching and learning resources provide support for promoting "future skills"?

	General Education	TVET	Higher Education
Textbooks			
Online resources			
Others:			

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

3. To what extent do assessments address “future skills”?

	General Education	TVET	Higher Education
Numeracy and literacy skills			
High-order cognitive skills (e.g. analysing; critical thinking; creating)			
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)			
STEM skills			
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)			
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)			
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)			
Problem-solving in complex, technology-rich environments			

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

4. To what extent are digital technologies part of innovative teaching and learning concepts?

	General Education	TVET	Higher Education
Blended learning (selected phases online)			
Online learning			

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

5. To what extent are students exposed to the following provisions in (lower) secondary education:

	Extent
Career guidance counselling	
Vocational orientation	
Work experience / internships	
Entrepreneurship courses	
Others:	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

6. How is permeability between TVET and higher education programmes regulated?

Procedural advice for national experts:

- Responses to D1-4 should be organised with a small questionnaire for respondents from each of the three key fields (a) general education; (b) TVET; (c) higher education. Questions, items and answer categories are synonymous in the three questionnaires. Selection of respondents works differently in the three key fields.
- In general education question D5 should be incorporated into the questionnaire. A sample of at *least 60 respondents* should fill in the questionnaire. Depending on the expected response rate, a higher number of potential respondents need to be contacted in the first place. The following sub-groups should be included: (1) headmasters; (2) teachers in core subjects of the school. The share of respondents from primary and (lower) secondary schools should be broadly equal. At least 10 of the 60+ respondents should be headmasters. Please make sure that headmasters are from different schools. With regard to the teachers, at least 20 different schools should be represented.

  A questionnaire (which can be adapted to given contexts and terminology by national experts) is provided in Annex 2a.
- In TVET a sample of *at least 40 respondents* should fill in the questionnaire. Depending on the expected response rate, a higher number of potential respondents need to be contacted at the first place. At least 5 of the 40+ respondents should be headmasters. Please make sure that headmasters

are from different schools. With regard to the teachers, at least 10 different schools should be represented.

A questionnaire (which can be adapted to given contexts and terminology by national experts) is provided in Annex 2b.

- In higher education a sample of *at least 40 respondents* should fill in the questionnaire. Depending on the expected response rate, a higher number of potential respondents need to be contacted in the first place. Respondents should teach at the higher education institution (HEI) in one of the Bachelor programmes and be familiar with the overall curriculum of the programme which can be assumed if they are employed full-time at the HEI). Please make sure that the respondents teach in different Bachelor programmes. At least 10 different HEI should be represented.

  A questionnaire (which can be adapted to given contexts and terminology by national experts) is provided in Annex 2c.

- Responses to D6 can be organised by consulting relevant documents (e.g. law, regulations) or drawing on reliable information from officials in ministries.
- If any of the information from your respondents sounds exemplary or highly interesting for other countries, please note this as a candidate for good practices as part of your country report (max. 1 page). Potential good practices may relate to:
  - Map the representing structure of state bodies and external stakeholders in taking roles within HRD / LLL in the country (C1-5) (please summarise key ideas, in English)
  - Overview on research issues with regard to labour market developments and/or HRD investigated on a regular basis (C7) (please summarise key ideas, in English)
- For your documentation in your country report, all guiding questions should be addressed. It may well happen that despite all efforts on your part, information is not or only partly available. Please do note this in the report.
  - Examples of curricula to systematically and comprehensively incorporate "future skills" (D1)
  - Examples of approaches taken to prepare students for a transition into high-skills occupations (D5)

E Professionalise development of qualified teaching personnel

Guiding questions:

1. What formal standards for training of teachers are in place?
2. Which of the following capabilities are part of teacher training standards?

	Extent
Facilitate acquisition of the following "future skills": · Numeracy and literacy skills · High-order cognitive skills (e.g. analysing; critical thinking; creating) · ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications) · STEM skills · Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence) · Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies) · Character qualities (e.g. ethical reflection; social and cultural awareness; agility) · Problem-solving in complex, technology-rich environments	
Promote active, learner-centric teaching methods	
Evaluate concepts of technology-enhanced learning	
Focus on instructional alignment of objectives, teaching methods and assessment	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

3. What approaches are taken to attract highly-motivated and committed people for teaching profession?
4. What formal standards for training of school-managers are in place?
5. What formal standards for training of in-company trainers are in place?
   If any: Which of the following capabilities are part of these standards?

	Extent
Facilitate acquisition of the following "future skills": · Numeracy and literacy skills · High-order cognitive skills (e.g. analysing; critical thinking; creating) · ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications) · STEM skills · Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence) · Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies) · Character qualities (e.g. ethical reflection; social and cultural awareness; agility) · Problem-solving in complex, technology-rich environments	
Promote active, learner-centric teaching methods	
Evaluate concepts of technology-enhanced learning	
Ensure alignment of objectives, teaching methods and assessment	
Raise awareness in the workforce to take care of LLL	
Contribute to the design and delivery of high-quality iTVET programmes and cTVET courses	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

Procedural advice for national experts: Analogous to A.

F Promote engagement of business sector in HRD

Guiding questions:

1. To what extent is the business sector engaged as a partner in TVET in the following areas of HRD?

	Extent
Delivery of TVET programmes (e.g. internship / apprenticeship)	
Provision of equipment / teaching material to schools	
Partner in assessments and examinations	
Support in training of teaching personnel	
Support in development of curricula and skill standards	
Engagement in TVET bodies on national or local level	
Others:	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

2. To what extent is the business sector engaged as a partner in Higher Education in the following areas of HRD?

	Extent
Support in development of courses and programmes	
Support in delivery of courses and programmes	
Support in training of university personnel	
Conduct of joint projects	
Provision of equipment / teaching material	
Operation of industry – academia transfer institutes	
Others:	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

3. What incentives are offered by the state to incentivise companies to invest in HRD (e. g. subsidies, tax exemption, training funds, levy grant system)?
4. What business membership organisations in your country are prepared to deliver HRD-related services? (please name relevant BMO and their activities)
   How are they financed?
   How do they cooperate with state bodies, higher education institutions, schools, training institutions, etc.?
5. What state provisions are available for employers (esp. in SMEs) in support of HRD activities?
6. What are key priority economic sectors for HRD initiatives in your country's economy? (please name 3-5 sectors or branches)

Procedural advice for national experts: Analogous to A

Annex 1a: Sample Questionnaire: General Education

Introduction (some key aspects):

- Purpose of this short questionnaire
- Time requirement: max. 10 minutes
- Analysis remains anonymous
- Thank you very much for your participation!

School type:

- Primary school (students up to 10 years old
- (Lower) secondary school (students 11 – up to 16 years old)

Function:

- Headmaster
- Teacher in the following subjects:

_____

_____

1. To what extent are the following "future skills" incorporated explicitly and significantly in curricula in general education, TVET and higher education?

	Extent
Numeracy and literacy skills	
High-order cognitive skills (e.g. analysing; critical thinking; creating)	
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)	
STEM skills	
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)	
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)	
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)	
Problem-solving in complex, technology-rich environments	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

2. To what extent do teaching and learning resources provide support for promoting "future skills"?

	Extent
Textbooks	
Online resources	
Others:	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

3. To what extent do assessments address "future skills"?

	Extent
Numeracy and literacy skills	
High-order cognitive skills (e.g. analysing; critical thinking; creating)	
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)	
STEM skills	
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)	
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)	
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)	
Problem-solving in complex, technology-rich environments	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

4. To what extent are digital technologies part of innovative teaching and learning concepts?

	Extent
Blended learning (selected phases online)	
Online learning	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

5. To what extent are students exposed to the following provisions in (lower) secondary education:

	Extent
Career guidance counselling	
Vocational orientation	
Work experience / internships	
Entrepreneurship courses	
Others:	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

Annex 1b: Sample Questionnaire: TVET

Introduction (some key aspects):

- Purpose of this short questionnaire
- Time requirement: max. 10 minutes
- Analysis remains anonymous
- Thank you very much for your participation!

Name of the school:

_____

Function:

- Headmaster
- Teacher in the following subjects:

_____

_____

1. To what extent are the following "future skills" incorporated explicitly and significantly in curricula in general education, TVET and higher education?

	Extent
Numeracy and literacy skills	
High-order cognitive skills (e.g. analysing; critical thinking; creating)	
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)	
STEM skills	
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)	
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)	
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)	
Problem-solving in complex, technology-rich environments	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

2. To what extent do teaching and learning resources provide support for promoting "future skills"?

	Extent
Textbooks	
Online resources	
Others:	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

3. To what extent do assessments address "future skills"?

	Extent
Numeracy and literacy skills	
High-order cognitive skills (e.g. analysing; critical thinking; creating)	
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)	
STEM skills	
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)	
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)	
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)	
Problem-solving in complex, technology-rich environments	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

4. To what extent are digital technologies part of innovative teaching and learning concepts?

	Extent
Blended learning (selected phases online)	
Online learning	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

Annex 1c : Sample Questionnaire: Higher Education

Introduction (some key aspects)**:**

- Purpose of this short questionnaire
- Time requirement: max. 10 minutes
- Analysis remains anonymous
- Thank you very much for your participation!

Name of the Higher Education Institution:

_____

Name of the Bachelor programme / Faculty:

_____

Subject(s) / course(s) I teach:

_____

1. To what extent are the following "future skills" incorporated explicitly and significantly in curricula in general education, TVET and higher education?

	Extent
Numeracy and literacy skills	
High-order cognitive skills (e.g. analysing; critical thinking; creating)	
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)	
STEM skills	
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)	
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)	
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)	
Problem-solving in complex, technology-rich environments	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

2. To what extent do teaching and learning resources provide support for promoting "future skills"?

	Extent
Textbooks	
Online resources	
Others:	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

3. To what extent do assessments address "future skills"?

	Extent
Numeracy and literacy skills	
High-order cognitive skills (e.g. analysing; critical thinking; creating)	
ICT-skills / digital literacy (e.g. applying devices and tools; reflecting impact of ICT applications)	
STEM skills	
Social skills (e.g. communication; cooperation in teams; conflict resolution; empathy; emotional intelligence)	
Learnability (e.g. readiness to learn; learning motivation; curiosity; self-learning strategies)	
Character qualities (e.g. ethical reflection; social and cultural awareness; agility)	
Problem-solving in complex, technology-rich environments	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

4. To what extent are digital technologies part of innovative teaching and learning concepts?

	Extent
Blended learning (selected phases online)	
Online learning	

Extent: (1) very high; (2) high; (3) quite high; (4) quite low; (5) low; (6) none

Annex 2: Readiness Questionnaire

Thank you very much for supporting us with your expertise!

The questions are supposed to receive your appraisal on six main areas within Human Resource Development. For each area we would like your appraisal with regard to its importance and realization. There may be gaps between what is desirable and what has already been achieved.

For your responses in the following questionnaire you will need between 5-10 minutes!

Your responses will be kept anonymous and strictly confidential!

Your institutional affiliation

▫	Ministry of _____ (if applicable, please complete name of ministry)
▫	Primary / lower secondary school
▫	TVET school / college / academy
▫	University / research institution
▫	Company
▫	Business membership Organisation
▫	Other: _____ (if applicable, please specify)

Main expertise in the following fields:

▫	General / basic education
▫	Technical and vocational education
▫	Higher education
▫	Corporate learning & development
▫	Non-formal / informal education
▫	Other: _____ (if applicable, please specify)

Areas of intervention	Important / Desirable						Realised / Achieved					
	Very high (100%)	High (80%)	Quite high (60%)	Quite low (40%)	Low (20%)	None (0%)	Very high (100%)	High (80%)	Quite high (60%)	Quite low (40%)	Low (20%)	None (0%)
Promote HRD culture: There is an awareness and culture of HRD empowering people to make them resilient for an environment of constant change.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Adopt inclusive approach HRD includes specific programmes and support for vulnerable groups at risk for being left behind.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Strengthen enabling structures HRD is clearly visible in terms of legislation, coordinated bodies and ministries at state level, platforms of cooperation, funding and research on labour market developments.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Modernize HRD programmes „Future skills" [58]are fully incorporated into curricula, teaching and learning resources and assessments in general, vocational and higher education.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Professionalize development of qualified teaching personnel There are standards for the training of teachers and in-company trainers which address the acquisition of "future skills".	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Promote engagement of business sector In the field of TVET and Higher Education, there are strong links between state bodies and the business sector in terms of public-private-partnerships in HRD.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

58. Future skills" comprise especially (1) cognitive skills (numeracy and literacy as foundation skills; low- and high order skills, e.g. critical thinking, creating / innovating); (2) ICT skills / digital literacy; (3) STEM skills; (4) social skills; (5) learnability (e.g. readiness to learn, learning motivation; curiosity, self-learning strategies); (6) character qualities (e.g. ethical reflection and action, social and cultural awareness, agility, initiative); (7) problem-solving in complex, technology-rich environments.

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