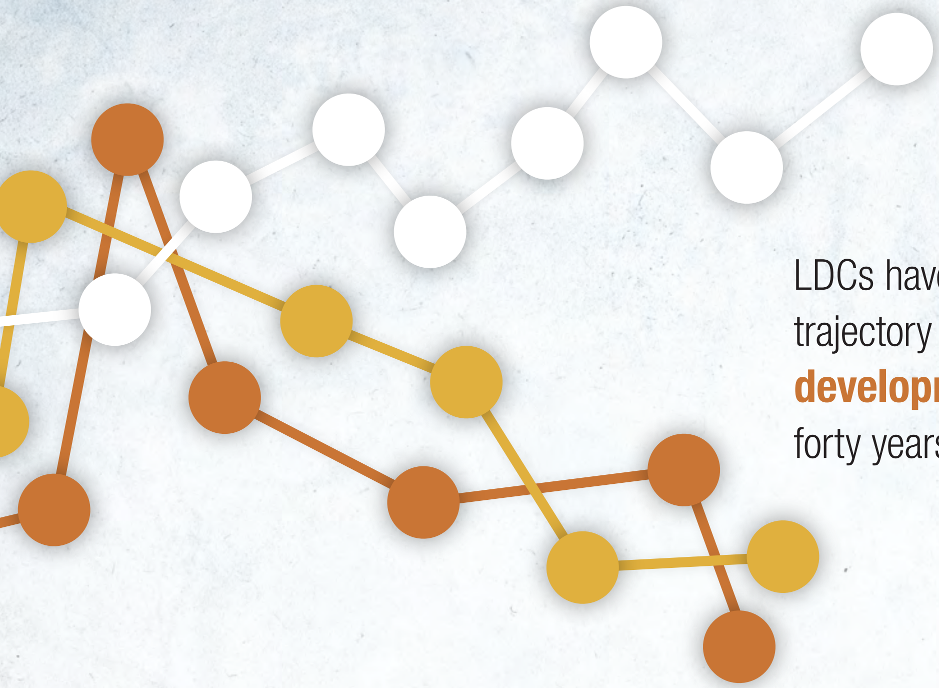
CHAPTER

5

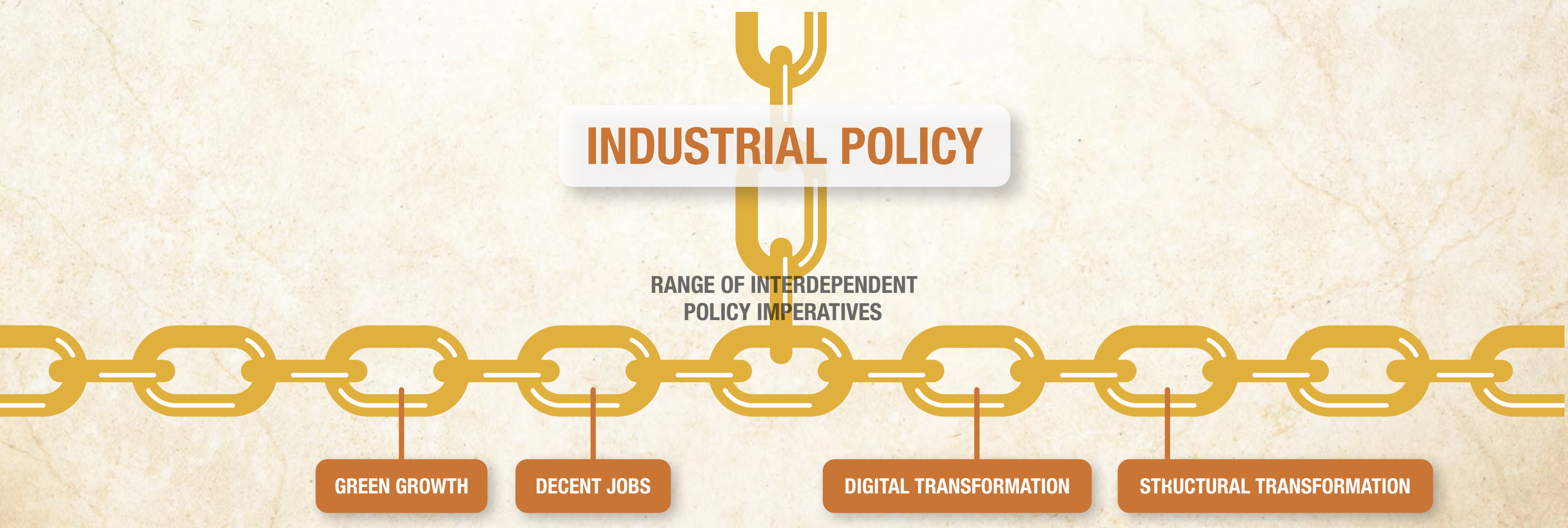
From lessons learnt to future development trajectories



LDCs have realized an erratic growth trajectory and **missed most development targets** set during forty years of programmes of action

The development model has largely overlooked **the domestic supply side** and prioritised external demand side concerns

To build forward and transform,
LDCs need to adopt an industrial policy mindset



CHAPTER 5

From lessons learnt to future development trajectories

A. Challenges for the next decade of development in LDCs

1. Introduction

The past 50 years of experience of the LDC development trajectory have highlighted the struggle of these countries to achieve sustainable development, as evidenced by their erratic growth trajectory over this period, but also by their widening income gap vis-à-vis other developing countries (ODCs). These reflect the failure of most of these countries to decisively advance in their structural economic transformation, as shown by Chapter 2 of this report. As a group, LDCs have realized significant improvements in GDP growth over the past 50 years of the existence of the category; however, consistent progress across the multiple dimensions of development has been elusive. The combination of these outcomes explains the disappointing results in the graduation record from the LDC category, including the failure to meet the graduation target included in the Istanbul Programme of Action (IPoA).

The policy efforts put in place by the international community and national authorities during the past half century have progressively become more focused and specific, as shown by Chapter 3. The sustainability and resilience of development outcomes in LDCs remains markedly fragile, with most of the development goals and targets set during 40 years of LDC programmes of action not fully achieved. This long period of policy efforts and the progression in policymaking have been insufficient to reverse the disappointing outcomes alluded to above. This has been mainly due to a combination of:

(i) the mis-oriented growth and development model, which – especially since the 1980s – has been largely focused on exports and foreign demand, while overlooking the domestic side of the economy;

(ii) weak domestic demand, due to low average incomes and high levels of poverty, which brings in its wake weak domestic demand-side stimulus to domestic supply, and which thereby fails to create a dynamic supply-demand virtuous circle;

(iii) weak domestic input-output linkages (partly deriving from the two shortcomings above), which fail to create dense linkages among companies (whether domestic or international, public or private), sectors, industries, different areas of the countries (e.g. rural and urban) and, therefore, fail to stimulate the development of productive capacities;

A majority of LDCs is heading into the new decade significantly below full strength

(iv) not placing structural impediments to sustainable development (such as low level of productive capacities and insufficient investment leading to structural transformation) at the centre of development planning and policymaking;

(v) largely insufficient level of resources (financial, institutional) made available to reach the desired development goals;

(vi) weak alignment between the priorities of development partners and those of national authorities, which fails to create synergies between the interventions and policies of these actors.

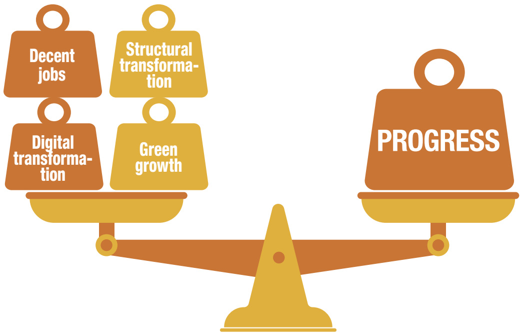
These results clearly indicate that ambition levels among the international community and domestic authorities needs to be raised. Looking forward, the estimates presented in this report – in spite of the uncertainties surrounding precise figures and the caveats expressed in Chapter 4 – clearly show that LDCs face enormous investment and spending requirements to reach the Sustainable Development Goals. Critically, these requirements by far exceed the amount and modalities of financing presently available to these countries.

2. Priorities for LDCs and for the international community

Coupled with the persistent existence of the LDC grouping, there is an apparent divergence within the grouping, with a majority of LDCs heading into the new decade significantly below full strength (UNCTAD, 2020g). This is compounded by the ongoing fallout from the COVID-19 global crisis and attendant risks of hysteresis.[1] There is a fresh sense of urgency to the LDC underdevelopment problem; this represents an opportunity for a renewed and heightened focus on how to engineer a lasting transformation of development realities in LDCs. Countries need to progress concurrently on several

[1] The theory of hysteresis suggests that if an economy experiences a recession for a long time, the average long run growth rate will be lower. https://voxeu.org/article/hysteresis-and-fiscal-policy-during-global-crisis

LDCs need to **progress concurrently on several dimensions of development**



dimensions of development, otherwise imbalances between the different dimensions could jeopardize progress in other dimensions.

The development trajectories of LDCs show that they are exceptionally vulnerable to boom-and-bust cycles. In this respect, the COVID-19 shock has aggravated pre-existing development challenges. Avoiding hysteresis is a priority at present and the risk of another lost decade in development is real. The remaining to-do list on achieving viable development is both long and long-term in nature.

As the global economy becomes ever more interdependent and global challenges multiply, there are correspondingly many more moving parts to be taken into consideration in the global quest of “prosperity for all” and “leaving no one behind”. The impacts from the slowly rising threat of global climate change and the COVID-19 shock epitomize this complexity and interdependence, requiring coordinated, complementary, fair and mutually beneficial responses. The international community’s failure to address the underlying causes of global imbalances imposes high adjustment costs on LDCs, with episodic global economic downturns continuing to present a difficult environment for the achievement of lasting development progress in these countries. Consequently, the challenge related to functional policy in LDCs and at the systemic global level remains.

The heterogenous nature of the conditions in individual LDCs advocates for a careful and strategic focus on the core underpinnings of their development challenges and the prioritization of transformational impact. It is now abundantly clear that the export-driven model that has underpinned past LDC plans of action suffers from fundamental weaknesses in respect of assuring sustainability through economic resilience and inclusivity because it eschews some productive transformation objectives. This growth model can deliver growth, as evidenced by the fact that the LDCs as a group realized the greatest improvements in their growth trajectories from the mid-1990s; however, globalization’s main failing as a model is that it accords insufficient attention to the requirement for a strong domestic enterprise base with requisite productive capacities.

Insufficient attention to the concrete measures and targets needed to build productive capacities in LDCs, as well as woeful progress on the implementation of the few such measures included in past PoAs, have hamstrung the development of resilient productive sectors in LDCs, and undermined multilateral efforts and commitments to overcome LDCs’ structural impediments to development. Consequently, and despite 40 years of international action, the economic bases and requisite human capital expansion in LDCs remain insufficient for them to meaningfully participate in the global economy today, as well as their preparedness to do so in the foreseeable future.

The same shortcomings of the development trajectory of LDCs during the first 50 years of the existence of the group have been an impediment to the full realization of human rights, including the right to development. Such rights inform UNCTAD’s overall actions overall in favour of LDCs (UNCTAD, 2016c: 14(a)), and should underpin future development efforts, including actions by the international community in support of the LDCs (United Nations, 2020).

The preceding analysis points to the need for an overhaul of the development policies and strategies pursued both by LDCs and the international community in the next decade. The following sections provide a contribution to the formulation of the new PoA, and the implementation of development policies. These sections draw attention to desirable priority areas for action and to the principles that underpin commitments to take into consideration, both for the formulation of the programme of action for the decade 2022–2031, and its subsequent implementation during that period.

B. The global community’s interest in LDC development and support for it

A renewed and strengthened partnership for development cannot be disassociated from the urgent need to reassert, as global priorities, the importance of LDC development and of international support for it. This is a prerequisite towards giving a new lease of life to the notion of fair differentiation in the special treatment of LDCs within the group of developing countries. An authentic global partnership in support of LDCs goes well beyond the moral commitment to "leave no one behind". International support for structural transformation in LDCs is not an act of charity in favour of the weakest members of the international community.[2] Ultimately, in an interdependent global economy, it is an investment in systemic resilience, because developmental successes among LDCs solidifies global systemic resilience.

The marginalization of developing countries in the global race to vaccinate against the COVID-19 virus is emblematic of the scourge of self-defeating short-sightedness by richer countries in their responses to the COVID-19 pandemic, with LDCs most left behind. Official development aid (ODA) to LDCs rose by 1.8 per cent in 2020 – a rise spurred by spending on COVID-19-related programmes,[3] which cannot be considered as an indication of a rising trend of development finance flows to LDCs. Development partners are therefore encouraged to take up the mantle of advocacy for continued and increased allocations of ODA, especially with respect to their domestic public. If the domestic public of donor countries were better aware of the self-interested nature of ODA, it can only strengthen political and parliamentary support for increasing ODA, especially to LDCs.

LDCs facing a lengthy timeline to graduation are among the most marginalized countries in the global economy and, because of this, are the natural focus of international efforts. However, the fragility of the progress towards structural transformation of graduating countries also makes it crucial for the international community to continue to pay attention to them during their period of transition to developing country status.

Advancing the structural transformation of LDCs through building productive capacities remains the single most viable route to inclusive and sustainable development. While it can be expected that reflections on the next PoA will be geared towards post-COVID-19 recovery and other development agendas, including climate change, this should not overshadow the long-term development goals of the LDCs, which pre-dated the COVID-19 pandemic, but have become even more pressing since its outbreak. Rather, the implementation of short-term emergency measures should be undertaken with the longer-term objectives in mind and lead in that direction.

Post-COVID-19 recovery should not overshadow LDCs' long-term development goals

So far and in the face of the new realities, strategies on global development coalesce around growth driven by the interaction between: (i) rapid technological innovation; (ii) sustainable infrastructure investment; and (iii) increased resource productivity. All are elements of productive capacities and capabilities which are severely lacking in LDCs, and which imply substantial and practical needs for technology and significant resources transfers. LDC reliance on natural resources, including the minerals, energy and agriculture sectors, call for a substantial transformation of these sectors, not only in terms of green and environmental proofing but also in terms of the transfer of resources to other sectors. It is difficult to envision how LDCs that are heavily dependent on primary commodities for the bulk of their export earnings and fiscal revenues can realize rapid diversification from primary production without adopting an industrial policy mindset.

Industrial policy has become even more relevant than before in the context of technology transfer. This need became evident with the emergence of the digital economy, and more so in the wake of the COVID-19 pandemic. In this respect, policymakers need to refocus on the role of industrial policy and its interaction and interdependence with a range of other sectoral policies, including the gendered dimensions of the digital divide, and the changing nature of production and sectoral interdependencies.

Most LDCs have substantial proportions of their populations lacking in basic standards of living and access to public services, and are burdened by enormous deficits in decent jobs. This has implications not only for their successful transition but also for financing it, as well as assuring its inclusivity and maintaining the needed macroeconomic stability to incentivize private sector expansion (the main route to accelerating quality job creation). Social well-being

[2] The wrong impression that ODA is motivated by charity in favour of poorer countries has long permeated common perceptions of ODA. In the 1980s ODA directed to food aid, emergency and distress relief was called "charity" (Hynes and Scott, 2013). The lingering perception of ODA as charity was reinforced in the 2000s by the emergence of private philanthropy in the aid architecture (OECD, 2018), which was a component of the increased number of actors in the aid architecture (UNCTAD, 2019).

[3] https://www.oecd.org/newsroom/covid-19-spending-helped-to-lift-foreign-aid-to-an-all-time-high-in-2020-but-more-effort-needed.htm

Green growth efforts should not come at the expense of developmental opportunities for LDCs

should be promoted, including through investing in health, education and social safety nets and support networks. Export growth and access to external development finance should likewise be maintained. For LDCs to benefit from green growth, it needs to be adapted to their current structural features, and aligned to their fundamental development needs. The priority for LDCs is "to build forward and to transform" – in tune with the motto of the 2030 Agenda for Sustainable Development, and set a more solid basis for sustainable development over the mid- to long-term. This is much more ambitious and transformative than "building back better".

C. The new programme of action: objectives

1. Structural transformation through the development of productive capacities

Structural transformation remains at the core of the LDCs' quest for economic dynamism and resilience. The focus on building productive capacities and their corresponding capabilities is rooted in the need to steer a path to development that assures economic, social and environmental sustainability (UNCTAD, 2021). It can best be pursued if corresponding policies are guided by the following principles:

- Build resilience to present and future shocks through the strengthening, upgrading, diversification and expansion of the domestic enterprise base in LDC economies across all productive sectors, including manufacturing, services and agriculture.
- Achieve dynamic job-creating and inclusive growth underpinned by enhanced access to basic services, with the aim of addressing critical cross-cutting issues of poverty and equity across all its dimensions.
- Ensure appropriate orientation and coordination of domestic policies and international support measures (ISMs) directed at the economic, social and environmental dimensions to align support to the overarching objective of structural transformation through the development of productive capacities, including through the implementation of a new generation of ISMs.
- Operationalize internationally agreed principles of common but differentiated responsibility on climate change. Ensure that adequate climate finance, technical assistance and technology transfer are mobilized to foster mitigation efforts in LDCs, and that the global transition towards a low-carbon economy reinforces their sustainable development prospects.
- Ensure that LDC interests are duly reflected in on-going discussions on the reform of the global international financial architecture, and in particular with respect to: (i) the revision of debt sustainability framework to enhance its alignment with the SDGs; (ii) the establishment of an effective debt workout system; (iii) the provision of technical assistance and capacity development to improve debt management and related transparency in LDCs; and (iv) the provision of debt relief, where appropriate.

2. Green growth and the call to build forward and transform

Good economic policy lies at the heart of any strategy for green growth (OECD, 2011). Addressing the question of climate change should not be conditional upon a contraction of overall economic activity. Accordingly, domestic policies and strategies implemented by development partners should take into consideration the economic circumstances and needs of LDCs. It is important to realize that LDCs are at the forefront of climate change impact and disproportionately affected by extreme weather events, with daunting costs of inaction. At the same time, it is equally critical that efforts towards green growth do not come at the expense of developmental opportunities for LDCs. If it is to be a catalyst for economy-wide structural transformation and poverty eradication green growth; however defined, it should support a virtuous transition towards more and better jobs, be geared towards domestic value addition and a qualitatively superior process of integration into regional and global value chains (GVCs) by the LDCs.

LDCs and their development partners should take into consideration the positive potential that they can possibly bring, such as shorter GVCs, stronger expansion of green sectors in which LDCs have comparative advantages, and scope for leapfrogging, etc.; they should take into account the risks of further marginalization brought about by the introduction of "green" measures.

LDCs have embraced the green transition through their Intended Nationally Determined Contributions (INDCs), or their Nationally Determined Contributions (NDCs) commitments, but progress is lacking on addressing the fundamental question of their polarization. Given the potential for national responses to climate change in richer countries to generate negative international spillovers, it will be crucial for the multilateral system to guard against and prevent harm to LDCs, including from the rise of protectionist measures.

The following principles are desirable to guide the implementation of actions on climate change and green growth:

- The common recognition that LDCs, being among the most vulnerable countries to the consequences of climate change but the least well positioned to shield themselves from its impact, need effective multilateral mechanisms to ensure that their voices are heard, and that they can participate in decisions taken on matters of climate change. With developed countries currently taking the lead on the development of strategies for green growth, intensified efforts to move discussions to multilateral fora are needed to ensure that agreements and policies with global reach and consequences are inclusive and just to all members of the international community, especially the most economically vulnerable countries, i.e. the LDCs.
- The "polluter pays" principle is pivotal to the success of international action on climate change and green growth, and underpins a fair and just transition for all countries. Concrete progress by the international community to urgently identify workable and equitable solutions for compensating losers from global actions on climate change will contribute to the realization of this fundamental principle.
- There is a large gap between advocacy, commitments and actual investments to support developing countries in their transition to low-carbon, climate-resilient economies. The global pursuit of green growth requires commitments on climate finance to match disbursements, and achieving a greater balance between addressing the concerns for adaptation and mitigation in LDCs.
- The pursuit of green growth is reliant on public regulation and public inducements (i.e. incentives), which are fundamentally elements of industrial policy.
- The global pursuit of green growth strategies should consider the specificities and interests of LDCs. These countries have the right and responsibility to consider the cost-benefit analysis of climate and green growth actions and identify their national priorities according to their specific national circumstances. Development partners are invited to take into account the consequences arising from their environmental policies on LDCs (e.g. carbon border adjustment measures), and assist them in evaluating the impact these policies will likely have on LDC economies.

The pursuit of green growth is reliant on **PUBLIC REGULATION** and **PUBLIC INCENTIVES**

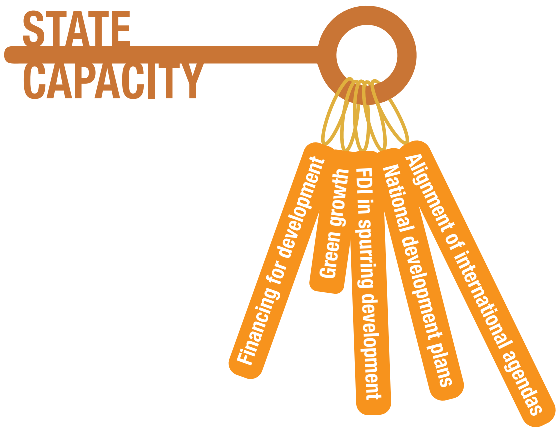
D. National measures: new priority actions for consideration

1. Strengthening state capacity and agency

The responsibility of countries for their own development is enshrined in numerous international policy documents, including past programmes of action for the least developed countries, the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda (AAAA). All successful development experiences have occurred in the presence of a state whose capacities have co-evolved with those of the productive sphere. It is necessary to strike the right balance between short- and long-term transformational policy measures, and managing trade-offs between the different dimensions of development and related strategies. They also need to recognize and successfully leverage development opportunities, which form the basis for maintaining consistent progress on several dimensions of development at the same time and weathering periodic shocks.

State capability is a condition for the full enjoyment of human rights, including the right to development, by any country. It is therefore a distinct component of national development, and it cannot be separated from LDC ownership and leadership concepts, and

STATE CAPACITY is part of the meaning and usefulness of policy space



the ultimate responsibility they have for their own development (a core principle in all PoAs). As argued by UNCTAD, LDCs need strong developmental states to overcome their structural impediments (UNCTAD, 2010, 2018a, 2019a). However, state capacity in LDCs has not recovered from the debilitating austerity measures related to the structural adjustments instituted since the mid-1980s.

State capacity assumes paramount importance especially in the context of the growing complexity of the current environment of economic relations and international diplomacy. An ever-growing number of actors (whose interests can often be widely dissimilar) can now be found within the new international development cooperation architecture. A distinctive feature of 21st century development cooperation is that a wide variety of policy communities want their voices to be heard but there is no unified theory, or definition of development, or how to achieve it. While the diversity of players in international development cooperation broadens opportunities for LDCs in terms of potential risk diversification and lower concentration in markets and partners, it also imposes demands for greater state capacity, including in areas of effective negotiations with different trade partners and sources of external finance, trade and technology. Not least, the choice and sequencing decisions among the various Goals and targets of the Sustainable Development Goals is complex. Inevitably, simultaneously pursuing these different (and sometimes competing) global and national goals and applying diverse policy approaches to development involves trade-offs and, therefore, the capacity to analyse and weigh them, and come to well-grounded decisions.

The COVID-19 pandemic has revealed the limits of the private sector not acting in collaboration with the state – especially in LDCs – and the critical role of the state, even as it has exposed its weaknesses in LDCs. It has also underscored the co-dependence between markets and a well-functioning public sector, as well as the critical intersection and interdependence between health policy and the industrial policy objectives of safeguarding the vigour and continued operation of economies for global social well-being, as recalled once again by the lingering extremely unequal access to COVID-19 vaccines. This underlines the fact that the role of the state evolves but cannot retrench. Moreover, leveraging the potential benefits of FDI often requires actions by the developmental state to strengthen the capacities of local private sectors as an additional factor in LDCs.

State capacity is part of the meaning and usefulness of policy space and underpins: (i) the alignment of international agendas embodied by LDC preferences; (ii) effective action on financing for development, the potential role of FDI in spurring development; and (iii) green growth with national development plans and priorities. In this context, action to improve LDCs' state capability and capacity to identify and effectively manage inherent trade-offs in development strategies can no longer be soft-pedalled by future PoAs. It is one area where the potential of measurement in incentivizing cross-cutting change could deliver transformative results. Failure to act on this issue renders the notion of self-reliance both hollow and unrealistic. Actions at the international level to secure and safeguard policy space for LDCs are undermined if these countries are unable to use it effectively.

Strengthening state capabilities is an area that has tremendous scope for capacity-building by a variety of development partners, including UNCTAD. The transformative developmental potential of South-South and triangular cooperation and peer learning among LDCs has long recognized by the international community (United Nations, 2019). This report therefore recommends that every priority action determined by the new PoA include at least one relevant goal and/or measurable target to enhance state capacity for implementation. It is desirable that such measures are cross-referenced to a matching goal and/or measurable target on international support, to ensure the appropriate allocation of resources to this pivotal area of action.

a. Principles

In addition to broadening the policy space available to LDCs, useful principles underpinning the strengthening

Equip LDCs with national capacity to undertake synchronic policy trade-offs

national state capacity by the international community that could be considered in the new PoA are, first, to adopt a more holistic view of capacity development and technical assistance to LDCs. This important because current existing initiatives tend to suffer from two major shortcomings: (i) they are overly sectoral and unintegrated (e.g. focusing on trade policy, financial policy, macroeconomic management, while often losing sight of broader development processes); and (ii) they tend to suffer from the biases of the delivering agencies and are still often influenced by the basic tenets of the Washington Consensus (fiscal and monetary prudence, trade liberalization, implementation of international treaty obligations, etc.). Besides this more holistic view, the second principle to strengthen national state capacity is to develop instruments that enable gauging state capacities. They would facilitate the monitoring and evaluation of development strategies and plans, including the new PoA.

b. Priority areas of action

Some specific priority areas that could be considered for strengthening domestic state capacity and agency include broad areas, include:

- Equipping LDCs with national capacity to undertake synchronic policy trade-offs involving choices between policy resource allocations (such as budget resources/institutional capacities) between competing priorities, and diachronic trade-offs that involve arbitrages along time, and which require the sequencing of initiatives and balancing of competing priorities.
- Equipping LDCs with national capacity to mainstream industrial policy objectives, including the design and implementation of strategic FDI policy to facilitate the expansion of the local entrepreneurial base, and foster green growth across all sectors of the economy.
- Equipping LDCs with ramped up capacity on domestic resource mobilization, including:
  - > tax policy design, enhanced efficiency and effectiveness of revenue collection;
  - > public financial management and financial planning;
  - > strengthened capacity to combat illicit financial flows (IFFs), including simplified and fast-tracked access to international cooperation.
- Equipping the national development banks of LDCs with greater levels of capacity to support the growth of the local entrepreneurial base and their productive capabilities. Just under two-thirds of LDCs have a national development bank (OECD and UNCDF, 2020).
  - > Local firms tend to have less access to financing and less accumulated historical wealth and assets, but a larger base of investors (including in the context of blended finance, FDI and DFI operations) entering high-risk LDC contexts. The focus will be on those companies with a capable management team, a strong track record, transparent business models, and an ability to measure results–conditions which are virtually absent in local SMEs (UNCTAD, 2019a, 2020a).
  - > Given the profile of most local SMEs, there may be good reasons for commercial banks to reduce their credit exposure or avoid financing small businesses in the wake of the COVID-19 crisis, and it may take several years for the sector to grow again. Of concern, greater job losses may arise in the interim in the context of already high unemployment. With domestic financial sectors limited in their ability to scale up support and limited fiscal space, and in so far as the COVID-19 crisis leads to the widespread decimation of local SME sectors in LDCs, the knock-on effects could lead to economic and social collapse.
- Equipping LDCs with levels of statistical capabilities to accurately measure the impact of development spending allocations, and improve the design and ownership of development programmes, including in the areas of:
  - > capacity to monitor the overall process of development and develop related indicators appropriate to country specificities and dimensions of development not usually considered by conventional statistics and development indicators. This entails developing a national statistical capacity that goes well beyond the sphere of Sustainable Development Goals' indicators;
  - > capacities to generate relevant information necessary to effectively support strategic engagement in external economic relations and international diplomacy, especially in the fields of trade, finance, investment and technology.

Meso- and micro-levels policy responses to address the challenges of the digital era are needed

2. Expanding the local enterprise base

The existence of a strong, diverse and appropriately balanced national entrepreneurial class as a critical condition for sustainable development, including in the acquisition, accumulation and upgrading of productive capacities, and the achievement of the critical goal of domestic resource mobilization has been emphasized by UNCTAD (2018a, 2019a, 2020). These are industrial policy objectives that have been insufficiently addressed by past PoAs for the LDCs. Such insufficiencies amount to bad risk management, in so far as they hinder investments in technology and forfeit options for productivity gains across various economic sectors. Moreover, economic growth is lost to population growth because the youth in LDCs have limited opportunities beyond swelling the informal economy. It further ignores the core problem inherent in the glaring inability of the international community to assure sustainability and consistency in external development finance. All these factors expose the systemic failure to effectively operationalize an integrated approach to development and, now more than ever, assume critical importance.

Developing the entrepreneurial base of LDC economies implies addressing systemic impediments to their establishment and growth, such as access to finance and the low levels of human capital endowment of countries. One critical cross-cutting issue for expanding the enterprise base and accelerating inclusive development is for LDCs to make the best use of all their existing human resources. The transformative expansion of opportunities and raising the level and quality of the contributions of hitherto vulnerable and marginalized groups (such as women, youth and ethnic minorities) in any economy is critical for harnessing all available opportunities for growth and equity. This is a much-favoured policy area for development cooperation is often seen to offer quick wins in terms of self-employment through the expansion of access to (micro-) finance. However, the COVID-19 pandemic has once again exposed the fallacy of development paths pursued through an over-reliance on these quick fixes, which are often associated with low-value high-volume entrepreneurship or employment.

Most local firms in LDCs operate at levels of productive capacities severely lacking in technological capabilities, and still struggle to leverage production technologies associated with the second industrial revolution; they are also lagging behind developed countries where firms are already leveraging fourth industrial revolution production technologies (UNCTAD, 2020a). The marginalization of LDCs in the world economy is set to worsen as digital technologies underpin ever greater swathes of global economic and social transactions, with the digital economy becomes increasingly inseparable from the functioning of most economies. UNCTAD research confirms that LDCs are falling behind in the global digital transformation evidenced by the apparent trend of a widening digital divide between and within countries. It is also clear that traditional support programmes for small- and medium-sized enterprises (SMEs) are unlikely to be effective in addressing technological capabilities gaps (UNCTAD, 2020a).

Strengthening domestic entrepreneurship also requires strengthening the national innovation system, as it allows domestic companies to build technological capabilities and introduce products, processes that are innovative in the national context. This includes their absorptive capacity, and also entails addressing some of the structural impediments to the growth and expansion of local companies, e.g. their access to finance, which is a constraint especially for micro-, small and medium-sized enterprises (MSMEs).

In the context of the central aims of fostering competitive productive activities and structural economic transformation in LDCs, economic theory and emerging evidence from UNCTAD research (UNCTAD, 2020a) suggests that policy responses need to descend from the macro to the meso- and micro-levels to address the challenges of the digital era. This is particularly needed as technological capabilities are vested in economic actors at the level of the firm, or in other productive units, e.g. farms. While the critical role of Information and communications technologies (ICTs) as an obligatory gateway to the digital economy is undisputed, access to ICTs and other economic infrastructure needs to be complemented by investments in technological capabilities to fulfil the promise of enhanced productivity.

Many gaps in knowledge remain on how to boost quality local entrepreneurship, especially among marginalized segments of society. It is also an area in which national and cultural contexts and nuances perhaps matter the most, and for which generalizations and generic programmes can carry a greater risk of unintended consequences. For instance, it is increasingly recognized that development policy needs to ensure that the inclusion of gender equity concerns does not further marginalize or entrench gender inequalities (Henry et al., 2016; Redien-Collot and O'Shea, 2015). This raises a wealth of opportunities for more targeted cooperation between the national and international community on research, application and innovative design of development policy on different areas of entrepreneurship, including on youth and SMEs generally, to simultaneously address inequalities and industrial policy objectives. It is an area of policy action that urgently needs the application of a productive capacities and capabilities lens to broaden the scope of entrepreneurship policy. It is also another area where South-South Cooperation and peer learning can potentially support structural transformation and inclusive development.[4]

The call to reinstate industrial policy objectives made in this report echoes that of other publications in recent years (Crespi et al., 2014; OECD, 2016; UNCTAD, 2018g, 2016b, 2014). As the COVID-19 pandemic plays out, the swift deployment of industrial policy measures – even by countries that traditionally preach a more laissez-faire approach – has decisively re-introduced industrial policy to the political economy and development policy debate.

Industrial policy objectives thus underpin the fundamental thesis of the policy recommendations of this report, which is two-fold: (i) for the programme of action for the decade 2022-2031 to prioritize the accumulation, continuous upgrading and dynamic utilization of productive capacities as the overarching framework of support for the least developed countries; and consequently: (ii) for policymakers in LDCs and the international community to implement novel policy initiatives and programmes aimed at accelerating the development of productive capacities, and the structural transformation of LDC economies. LDC's integration into the international trading system, enhancing macroeconomic governance and market efficiency may remain valid instruments for the LDCs, but cannot be pursued at the expense, or neglect of LDCs' productive capacities, and the central goal of structural transformation.

3. Strategic approach to human capital and labour policies

Human capital and labour policy underpin the expansion of the productive base and the creation of decent jobs in any economy. It is the dynamic interaction between human capital, labour policies and productive capacities that enables a virtuous cycle of productivity increases, rising specialization and continuous upgrading that is at the heart of structural transformation and sustainable development. Thus, LDCs cannot hope to progress towards the realization of human rights, including the right to development, as well as attain goals on equity without adopting a more strategic view to investments in human capital. LDCs already face the struggle of recovering from the negative impacts of COVID-19 lockdowns on school enrolment and completion, which may have knock-on generational effects on inclusivity and employability. A longstanding lack of strategic investments in local talent carries important risks for peace and stability, in addition its potential to suffocate dynamic growth (UNCTAD, 2018a, 2019a: 19, 2020a). The COVID-19 crisis has raised awareness on the vulnerability of large chunks of the working poor in LDCs. More active labour market policy, including social policies, are likely to add to the ranks of pandemic-taught lessons.

Adopt a more strategic view to investments in human capital

Skills acquired through education and employment determine the utilization of all other productive capacities, including hard and soft assets (e.g. infrastructure, institutions and policies). Societies need to bear the cost of maintaining and educating the youth before they join the labour market, as human resources need to be transformed into human capital. Many LDC economies are potentially poised to reap the demographic dividend. However, such a dividend is contingent on: (i) prior investments in the professional, intellectual and technological capabilities of their burgeoning young populations; (ii) investments aligned to an explicit lifelong learning framework that respects the fundamentally interrelated nature of all levels of education (e.g. the quality of primary education has a bearing on achievable outcomes at that level and for all the following higher levels, including eventually the labour market); and (iii) if it is fit-for-purpose in terms labour market entrants' ability to meet current and future market requirements. The failure to fulfil these conditions renders the economy unable to make the best productive use of its human resources to enhance its overall performance. This is one of the major weaknesses of the export-driven model of development that was more oriented to the

4 This includes leveraging the UNCTAD Regional Centres of Excellence and similar initiatives by other multilateral bodies and agencies.

ISMs are at the heart
of the international partnership to advance development in the LDCs

outcome of integrating LDCs into the global trading system and ambiguously shifted the emphasis to market access concerns.

At the core of policies to bridge the technology gap between LDCs and ODCs and LDCs and developed countries are targeted public investments in education and skills development at the level of production. Ultimately, prior adequate investments in human capital determine the returns on investments in technology by firms, including how existing production systems are utilized and the potential to realize the structural changes needed to improve the production systems. Advances in fourth industrial revolution technologies will require current and future employees or economic actors to rapidly develop new competencies to keep abreast of technological innovations. Labour employability gaps in many LDCs impose a drag on both traditional and emerging sectors, and discourage the appearance of new economic activities. This is a critical issue that requires urgent attention to align with the conditions necessary to realize the dividends from investments in human capital and a youthful and growing population. A need also exists to simultaneously expand access to education and drastically improve the quality and diversity of human capital in LDCs.

E. A new generation of international support measures

The available options for LDCs to pursue different development paths and trajectories are strongly conditioned (but not pre-determined) by the international economic environment in which their economies are inserted, particularly in the context of the global production networks dictated by the process of globalization. In addition, the level of dependence that most LDCs have on international trade, international financing (including ODA, despite its declining trend) places ISMs at the heart of the rationale for the existence of the LDC category, and the logic of an international partnership to advance development in the LDCs. ISMs encompass international support in terms of financial resources, capacity building and technical assistance. Such measures were traditionally associated with the agency of northern donors. The international partnership has evolved to recognize the important contributions of South-South cooperation – a cooperation which plays a complementary role to the rest of the international architecture, and raises no conflict of interests with North-South cooperation (United Nations, 2019).

Historically, the expansion of ISMs has at different times been driven by the implementation of individual initiatives adopted variously at the unilateral, bilateral and multilateral levels. They have often been external to the PoAs for LDCs. The consequence of this uncoordinated and fragmented approach to the development, design and implementation of ISMs is that existing LDC-specific ISMs do not necessarily represent a coherent and mutually supportive system of support for the development of LDCs. Worse, some are ineffective either because they are worded in ways that do not compel compliance or impose accountability (e.g. art. 66.2 of the TRIPS Agreement of the World trade Organization – WTO), or impose burdens on LDCs in terms of cost, access and operationalization.

1. Principles to guide the new generation of ISMs

A new generation of ISMs could consider alignment with the following principles:

- The need to establish coherence and synergy among ISMs in the fields of trade, finance, technology and capacity-building and their governance by a specially designed overarching multilateral framework.
- The new generation of ISMs should be aligned with the overall objective of fostering the development of productive capacities aimed at structural transformation, as advocated in this report and by other LDC development stakeholders.
- The aim to strengthen the effectiveness of existing and new ISMs in facilitating the LDCs in overcoming their structural impediments to

development, especially in the fields of financing for development and technology. ISMs in these domains should promote increasing the flows of financial resources and technology, widening the coverage and stabilizing the availability of resources allocated to financing structural economic transformation in LDCs, including the acquisition of technology and technological capabilities by economic agents in LDCs.

- The need to adapt ISMs to 21st century realities, including the lingering effects of the COVID-19 crisis, the principle of common but differentiated responsibility in relation to the climate change crisis, and the accelerated digitalization of the world economy.
- The need to adopt a coherent system of ISM monitoring and evaluation, which strengthens the mutual accountability of LDCs and their development partners; this includes adopting mechanisms for greater transparency in the operation of these ISMs.

2. Trade

The possibility to expand special treatment in future agreements has been tabled at the WTO, but some developed countries are pushing for the review of the notion of special and differential treatment (Pauwelyn, 2012; Trebilcock, 2015). It remains in the interest of LDCs to preserve trade multilateralism, as this is one of the areas in which special and differential treatment for LDCs by the international community has established unity on the recognition of the LDC category and the treatment of LDCs. This is unlike the case of other (non-multilateral) ISMs, whereby ISM instruments are adopted on a case-by-case basis, e.g., the G20-led Debt Servicing Suspension Initiative (DSSI). Such a case-by-case approach offers low predictability for LDCs, whose weak institutional capacities countries puts them at a severe disadvantage in negotiations of this nature. Trade multilateralism has increasingly been marked by the expansion of issue-by-issue negotiations under the aegis of the WTO, whereby small groups of advanced states push to set norms on difficult issues, first through negotiations among themselves and then striving to plutilateralize or multilateralize them (Pauwelyn, 2012). Such procedures deny LDC agency and negate the recognition enshrined in the PoAs that negative international spillovers undermine the ability of LDCs to pursue and achieve development. It likewise prevents the identification of decisive multilateral mechanism to address systemic global imbalances, which are at the root of the LDCs' development underperformance.

Systemic global imbalances are at the root of the LDCs' development underperformance

Possible goals and targets that could be considered for inclusion in the new PoA include:

- Taking up the various elements of the different proposals already tabled by the LDC Group at the WTO, including: (i) commitments on joint action to safeguard special and differential treatment as a permanent feature of future WTO agreements; (ii) commitments on joint action to achieve tangible results towards completing the unfinished business in respect of the negotiations on the duty-free and quota-free (DFQF) regime, especially rules of origin.
- Actions that align the coverage and depth of tariff cuts, rules of origin and administrative procedures of DFQF schemes with the productive and institutional capacities of LDCs. This is to ensure their full utilization and increase their ability to stimulate the growth of the local enterprise base and international investments.
- Secure the commitment of development partners to sustain and strengthen their support in facilitating the accession of LDCs to the WTO.
- ISMs aimed at facilitating the leverage of (new) opportunities from regional and sub-regional integration, e.g., from the Regional Comprehensive Economic Partnership (RCEP), South Asian Free Trade Area (SAFTA) and the African Continental Free Trade Area (AfCFTA).

3. External financing for development

Chapter 4 of this report has shown the scale of investments required by LDCs in their pursuit of Sustainable Development Goals. It has also made clear that domestic resource mobilization will not suffice in meeting the financing needs of LDCs, hence the importance of external financing for development. Chapter 4 mentioned some of the options available. Hereafter, the discussion is broadened in of the light of the proposed new generation of ISMs for LDCs.

LDCs stand to lose the most from declining trust in multilateralism, especially in respect of the external financing on which they are most dependent. The ongoing emergence of the new architecture for development cooperation provides a wider array of actors and financing instruments but this has yet to

Assess financial risks and contingent liabilities of blended finance projects

translate into meaningful increases in development finance. Also of concern is the fact that new forms of financing add complexity, but render transparency management and coordination a lot more difficult for LDCs. This raises questions in relation to LDCs' agency in: (i) optimizing the level and destination of mobilized financing; (ii) assessing its genuine additionality; (iii) monitoring its effectiveness; and (iv) alignment with national policies.

Increased pressures on aid budgets in the aftermath of the COVID-19 crisis add more uncertainties around the future of external official flows. The amounts associated with the aid spending target of 0.7 per cent of donors' gross national income (GNI) shrank amid the economic fallout of the pandemic. Yet scaling-up financing will be critical in reducing the risk of LDCs slipping further behind. Donor responses to LDC needs to mitigate the impact of the COVID-19 crisis have tended to rely on bringing forward funding previously programmed for delivery over a longer period. In addition, as donors have been striving to adopt adequate countercyclical responses to the crisis, increased demands for development assistance strain their financial resources. Some donors have reduced their aid budgets since 2020, and announcements made on planned increases by other donors are unlikely to be sufficient to offset these cuts in ODA. These cuts have affected individual countries directly or through allocations to projects and programmes at the bilateral and multilateral levels, including in key sectors of the Sustainable Development Goals (Devex, 2021a; Devex, 2021b; *The Guardian*, 2021).

Another thorny issue in the blended finance debate is ensuring the equal treatment of domestic private sector and foreign investors, including those originating from the country whose ODA is utilized in the blending. Moreover, it remains critical to assess the specific financial risks and contingent liabilities that certain blended finance projects may generate, for instance in the case of de-risking instruments. It is thus important to assess on a case-by-case basis whether blended forms of finance represent the most appropriate use of public development finance, considering the development rationale for the intervention, as well as related modalities, partnerships and broader relations with the domestic business ecosystem.

It is imperative to avert the risk that the emergence of new forms of financing weaken the linkages between external development finance and national development priorities. These developments seriously challenge the institutional capacities of LDCs, already crippled by: (i) low levels of domestic resource mobilization; (ii) a sluggish trend in ODA flows; (iii) worsening levels of concessionality; and (iv) deteriorating debt sustainability (UNCTAD, 2019a). While the OECD DAC Blended Finance Principles Guidance represents a step in the right direction, it is clear that strengthening LDC institutional capacities related to newly created financial instruments, be it in the area of blended finance, of sustainable bonds, or other instruments linked to the environmental, social and governance (ESG) investing, remains of the utmost importance.

In this context, excessive trust and reliance on blending and blended finance using ODA as the main response to the challenges of mobilizing development finance in LDCs is to be avoided. As argued by UNCTAD (2019a), policymakers need a better understanding of the development impact of blended finance and its true costs to ensure value for money, and the effective allocation of aid. A critical consideration is the extent to which sources of development finance touted as alternatives to ODA contribute to the structural economic transformation of LDCs and creating more fiscal space. With the emergence of new forms of private sector engagement, blended finance is being pursued with enthusiasm by donors, but despite these high hopes, this report cautions that the scalability of blended finance as a tool in LDCs is severely limited in attracting private capital because of their structural features, which donor private sector engagement and blended finance are unlikely to compensate for. UNCTAD also cautions that to adequately address LDC needs, private sector engagement and the application of blended finance must heed the lessons from the structural adjustment era of the 1980s and 1990s. Being overly focussed on fostering FDI, the latter failed to ensure the emergence of a strong and resilient local entrepreneurial base as the core factor in sustainable development in LDCs through the acquisition of productive capacities (UNCTAD, 2018a).

The Least Developed Countries Report 2019 (UNCTAD, 2019a) shows that LDCs accounted for 6 per cent of the capital mobilized in the period 2012–2017, equivalent to only 5.8 per cent of the volume of ODA disbursed to LDCs. Moreover, the distribution of that capital across LDCs was uneven and concentrated in a few countries; an additional problem was that development finance institutions (DFIs) and multilateral development banks (MDBs) were not yet mobilizing large pools of institutional capital.[5] The top three recipients accounted for nearly 30 per cent of all additional private finance, while the top ten countries, accounted for about 70 per cent. UNCTAD analysis incorporating the year 2018 shows only a marginal change, with the LDCs' share (excluding regional allocations) accounting for 6.3 per cent of the total capital mobilized from private sources, and 6.9 per cent of private capital distributed to individual countries. Mobilized private capital remains insignificant, and accounts for about 5.8 per cent of the total volume of ODA disbursed (Abalkina, 2021). The sectoral distribution of mobilized private capital also shows a concentration in revenue-generating sectors in LDCs, especially energy, banking, financial services, industry, mining and construction. These are sectors that would in any case be likely to attract commercial finance, which puts into question the implicit additionality of blending. UNCTAD's findings and concerns are largely echoed by other sources (OECD and UNCDF, 2020; Meeks et al., 2020; Attridge and Gouett, 2021). While OECD and UNCDF (2020) highlights the potential for LDCs of blended finance as a tool in the long-term, it remains an agenda for action rather than a solution in the short- to medium-term. (Attridge and Gouett, 2021) show that countries in the lowest decile of per capita income received less than 2 cents of every dollar invested by DFIs and MDBs. They further highlight the limited countercyclicality of DFI and MDB investment in lower-income countries, and the concentration of blended concessional capital in the form of senior loans, which is unlikely to meet the risk-mitigation needs of private investors, especially in these countries. These collective findings serve to underline the continued need of LDCs for traditional official development finance.

Moreover, the mechanisms to align these investments with national development plans and priorities, and hold the private sector accountable to ODA recipients, remain unclear. The ability of LDC governments to design autonomous policies could be constricted by demands to allocate scarce resources (and thus relinquish fiscal space) into creating attractive conditions for private finance. In so far as the practice of blending relies on LDC government-backed guarantees, a case can be made for LDCs to impose conditionalities linked to national priorities on building productive capacities and structural transformation.

International financial flows to LDCs are likely to be volatile in the coming decade

In the coming decade international financial flows to LDCs are likely to be quite volatile. Most LDCs will be prone to boom-and-bust cycles, and exposed to climate change and social pressures triggered by the COVID-19 crisis. For resilience-building, it will be imperative to try to prevent growth deceleration and huge shocks, and build capacity to react to them more effectively.

FDI inflows are forecast to remain sluggish in 2022, even as LDCs struggle to cope with the COVID-19 shock (UNCTAD, 2021c). Aggregate FDI flows to LDCs as a group remained stable in 2020, and the share of LDCs in global flows rose from 1.5 to 2.4 per cent – the highest percentage increase since 2003. However, at the country level, FDI declined in the majority of LDCs, mirroring bilateral official flows in its tendency to be unevenly distributed across these countries. The decline in FDI in LDCs affected investment announcements in sectors relevant for the Sustainable Development Goals, which is of concern for plans to help these countries graduate from LDC status.

What is clear is that LDCs have differing levels of fiscal space to mount the necessary countercyclical measures to mitigate the impacts of the COVID-19 crisis. Compared to more developed and other developing countries, LDCs have relied on small fiscal packages and are severely constrained in sustaining such expenditures. ISMs need to include targeted debt relief as a measure to increase LDCs' policy space. Existing initiatives, such as the G20-led Debt Servicing Suspension Initiative (DSSI)[6], are not sufficient to address the debt vulnerabilities of many LDCs. Public debt in the form of private sector loans and bonds has also introduced new vulnerabilities. The limited debt relief received from official sources risks being diverted into payments to private creditors in the absence of a mechanism to ensure equal treatment across creditors, thereby generating perverse incentives in the negotiations for debt rescheduling or write-off. Development partners should accord particular attention to schemes, such

5 This is a concern given that FDI declined in the majority of LDCs in 2020 and their current sluggish growth in GDP.

6 https://www.imf.org/en/About/FAQ/sovereign-debt#DSSI

A renewed commitment by donors to obligations on ODA

as The Financing for Development in the Era of COVID-19 and Beyond Initiative, co-led by Canada, Jamaica and the United Nations, which contains many policy options targeted or highly relevant to LDCs.

As already mentioned in section B, development realities in LDCs advocate for an increase in grant-based ODA. In addition, it is desirable that ISMs aimed at mobilizing financing for development ensure allocations of external financing are aligned to the core objective of achieving sustainable structural transformation by enhancing the productive capacities and capabilities of LDCs, as well as that of economic actors (private sector), at the level of the state.

Areas for priority action on the mobilization of external financing that could be considered by the new PoA and its implementation include:

- A renewed commitment by donors to international obligations on ODA through a:
  - > Call to donor countries to fulfil longstanding and regularly reaffirmed obligations concerning aid quantity and quality;
  - > The reiteration of the ODA targets endorsed by the 2030 Agenda for Sustainable Development for donors to achieve the target of 0.15–0.2 per cent of gross national income to LDCs and to increase both the quantity (0.15/0.2 per cent of GNI), and quality of aid to LDCs to ensure that ODA supports the sustainable development of LDCs and is put to the best possible use;
  - > Scaling up financing for development in LDCs should not increase debt burdens further. The redefinition of ODA in grant-equivalent basis may, in this respect, reinforce donors' incentives to provide highly concessional loans; nonetheless, the need to use of grants as the primary modality of support for LDCs is reinforced by the fact that many LDCs are already struggling with deteriorated debt sustainability outlooks.
- LDCs need to be empowered to participate in the measurement of the effectiveness and alignment with LDC-determined national priorities and impact of important new aid modalities and instruments, e.g. blended finance.
  - > The design of LDC-specific modalities in this respect may need to be considered;
  - > The provision of targeted funds for LDC capacity development to best leverage development interventions through blended instruments also deserves some consideration.
- Aligning the design and implementation of country-owned financing frameworks envisaged by the AAAA. These financing frameworks aim to help countries: (i) manage a complex financial landscape; (ii) align financing with long-term priorities; (iii) increase the effectiveness of financing policies; and (iv) translate priorities into strategic action in line with their country capacities and priorities) to the goal of structural transformation through building productive capacities. Opportunities exist for LDCs to learn from their peers that are early movers in this respect; consideration could likewise be given to incorporating tailored goals to that effect.
- The identification of a minimum set of ISMs/elements tailored to the needs of graduating LDCs. These would especially address the productive capacities needed to address immediate supply-side bottlenecks that might hamper their smooth transition to non-LDC developing country status.
- The international community has a unique opportunity through the IMF's initiative to allocate Special Drawing Rights (SDRs) to align the potential liquidity boost to LDCs' capacity to investment in productive capacities (rather than, for example, debt repayment), but this facility benefits countries with large foreign exchange reserves. Therefore, it will be crucial that LDCs are awarded a share of SDRs that is not tied to the system of quotas currently in place and that the re-allocation of donor countries does not come as an alternative to their already unsatisfactory levels of ODA disbursement.
- Concrete measures to both increase climate finance and achieve greater balance between mitigations and adaptation, which would be in favour of the acute adaptation needs and risks of LDCs, and in line with the principle of common but differentiated responsibility.
- Contingency financing facility – whereby debt repayment is linked to contingent factors that influence a country's ability to service debt, such as natural disaster, GDP or commodity growth – needs to be further discussed and

developed as a financing for development modality that is counter-cyclical. Building on past and present experience of this modality, the international community can consider disaster risk insurance by means of a system that is financed by insurance premiums in a scheme that pools all countries, rather than just the most vulnerable.

- Concrete measures aimed at operationalizing mutually beneficial cooperation on Illicit financial flows (IFFs). This can include: (i) an ISM established at the multilateral level to facilitate the recovery of IFFs by LDCs with ease and speed, and on the basis of mutual collaboration among developed and developing countries (e.g. by means of simplified procedures for LDCs); and (ii) capacity-building support for LDCs to combat and recover such flows.
- Development partners should take adequate considerations of LDCs' interest and institutional challenges in the forthcoming discussions on global corporate taxes, and ensure that LDCs accrue a fair share of related revenue.
- A transparent mechanism to ensure that private creditors will also participate in debt suspensions and relief efforts on a comparable treatment basis, thereby ensuring that no creditor has a perverse incentive to "hold-out" from debt restructuring or, when appropriate, write-off a debt. Similarly, an independent mechanism for reviewing or writing down private sector debt is needed.

4. Technology transfer

International norms on the access to technology and innovation remain geared towards protection rather than diffusion (UNCTAD, 2010). Several international agreements contain clauses envisaging technology transfer to developing countries and/or LDCs. Foremost among them, article 66.2 of the TRIPS Agreement establishes an obligation for developed countries to provide incentives to their enterprises to transfer technology to LDCs. This was the result of a bargain between LDCs and developed countries during the Uruguay Round. 25 years after the entry into force of the Agreement, the purported objectives of this bargain have largely not been met, resulting in this disposition remaining mostly ineffective (Moon, 2011; Fox, 2019). The technological gap separating LDCs from developed countries, but also from ODCs, continues to be very wide (UNCTAD, 2020a). It is likely to have widened further since the outbreak of the COVID-19 pandemic, as technologically advanced countries have sharply accelerated their adoption of frontier technologies, and embarked on their transition to a digital economy, but technologically backward countries have not been able to make similar strides (UNCTAD, 2021d).

Transfer of technology needs to be pursued through a number of channels

In this context, LDCs require a renewed partnership for the development and strengthening of their technological capabilities. A strengthened international partnership for technology transfer to LDCs would play a vital and complementary role to fostering sustainable development in these countries, as it would contribute to the upgrading and expansion of their productive capacities. Such a partnership would comprise coordinated initiatives by both national governments and development partners. In the former case, domestic policies for science, technology and innovation (STI) should be integrated with the previously mentioned policies for entrepreneurship development. They should assist local enterprises in identifying market opportunities which can be responded to by the introduction of solutions, products, processes, etc., which are innovative at the local level. Many of these necessitate foreign technologies, which could be met by matching local needs and the international supply of technological solutions; however, this process is typically beset by information asymmetries, coordination failures and a dearth of finance (which is always required for enacting innovative business ideas in local markets). This is where the international side of the partnership can intervene. Donors can support technology transfer centres to assist with: (i) services of a search and connecting agent (which connects demand for and supply of technological knowledge); (ii) SME support financing; and (iii) overcoming major obstacles to technology transfer. Some of these already exist and operate successfully. Expanding and strengthening the funding and operations of such centres is a way in which developed countries can comply with their obligations under art. 66.2 of the TRIPS Agreement.

Additionally, transfer of technology to LDC agents needs to be pursued through a number of channels, including through:

- More specific and concrete discussions between LDCs and developed countries on the implementation of the latter's obligations under art. 66.2 of the TRIPS Agreement;
- Greater emphasis on technology transfer in the design and implementation of investment

LDCs should exploit opportunities for transfers of technology and capabilities offered by subregional markets

promotion regimes for LDCs, referred to in target 17.5 of the Sustainable Development Goals;

- An explicit link of the use of ODA-backed private sector instruments to identifiable and verifiable technology transfer, such as joint ventures, creation of R&D facilities in LDCs, and partnership with local research institutions;
- Encouraging the adoption of concrete voluntary measures of technology transfer in the context of sustainability standards, corporate social responsibility (CSR), and responsible business conduct;
- The diffusion of open-source software and digital products;
- Creating a unified framework for the voluntary sharing of green technologies specifications and related intellectual property information (building on the models applied in the health sector through the World Health Organisation's Technology Access Pool[7]).

Climate change will require the building of climate-resilient infrastructure in the LDCs. The changing technical specifications and characteristics of roads, energy plants, bridges, ports, buildings, etc., to make them climate-resilient will require different technological capabilities than those currently available. As LDC argue forcefully for an increase in climate finance (as seen in the previous subsection), it is important that they use this greening of their economies as an opportunity to build their technological capabilities. Regardless of the source of finance for these new infrastructure projects, it is crucial that they associate domestic agents (companies and professionals e.g. engineers, technicians, specialists) to the building and running of these works. This will allow LDCs to strengthen their knowledge base and skills in future-oriented technologies (e.g. renewable energies, thermic isolation, earthquake resistance, etc.).

LDCs should likewise exploit complementary trade structures offered by their subregional markets to exploit opportunities for transfers of technology and technological capabilities, and make best use of their more advanced neighbours, as recognized by the Buenos Aires outcome document of the second High-level United Nations Conference on South-South Cooperation[8] and the World Intellectual Property Organisation's agenda on South-South and triangular cooperation.[9] This will entail intensifying their investments in targeted interlinkages at various levels, e.g. at firm/industry, institutional and infrastructure levels.

[7] https://www.who.int/initiatives/covid-19-technology-access-pool

[8] https://undocs.org/pdf?symbol=en/A/RES/75/234

[9] https://www.wipo.int/edocs/pubdocs/en/wipo_southsouth_flyer.pdf