Building Back Greener: A Strategy for Project Selection and Development[1]

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The response and recovery to COVID-19 in Nepal offers opportunities of designing short- and medium-term strategies that support a greener and more sustainable recovery. The impact and sustainability of such a strategy will depend on the methods adopted for evidence-based project design and selection. We believe that the political sustainability of a *building back greener* (BBG) strategy in low-income contexts will depend on finding **green projects** that satisfy two conditions, and the number of projects that satisfy these conditions depend critically on a third. To be politically sustainable in a poor country, green projects have to be

- **Financially viable**, in particular, their net fiscal cost has to be low, and
- **Have high developmental impact** in terms of job creation, income growth and poverty reduction.

The number of projects that satisfy these conditions is likely to depend on a third critical condition:
- **The effectiveness of implementation**, which determines both the quality of what is delivered (and hence its developmental impact) as well as the cost (and hence financial viability).

The effectiveness of implementation depends not just on obvious factors like the skills of workers and the capabilities of the organizations engaged in their delivery. It also depends on the political economy affecting the incentives of supplying organizations and public officials and agencies on the demand side. *We argue that developing a set of sustainable green projects will require an evidence-based approach to improve the effectiveness of implementation of potentially viable projects.*

To remain viable over time, projects have to be politically sustainable, by which we mean there has to be sufficient political support to sustain funding requirements over time. Figure 1 shows how financial viability, developmental impact and the effectiveness of implementation jointly determine the set of sustainable green projects. In developing countries, sustainability requires a combination of high development impact and low financing cost. The number of green projects that pass

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this test will in turn depend on the quality of implementation. As a result, although the universe of potential green projects may appear to be large, the set of projects at the intersection of these conditions (shown by the green area in Figure 1) may be small or even non-existent. Low implementation effectiveness may not block projects that are able to generate market revenues despite their poor implementation. But it is very likely to block projects that require public co-financing, which is often the case with green projects. Poor implementation can make these projects financially and politically unsustainable far more quickly.

Fortunately, the effectiveness of implementation can be improved by understanding the economic and political factors limiting implementation quality. Addressing any issues that may be feasible to address in the short run may improve implementation quality sufficiently to tip some projects into the sustainable space. In many cases it may be possible to improve effectiveness by redesigning contracts and the funding models of projects. This can affect the types of organizations that may bid for projects and may make it more difficult for fund flows to be distorted by interested parties. If project and financing design can improve implementation, it will expand the set of sustainable projects, as Figure 1 shows, by improving developmental impact, or reducing financing gaps, or both.

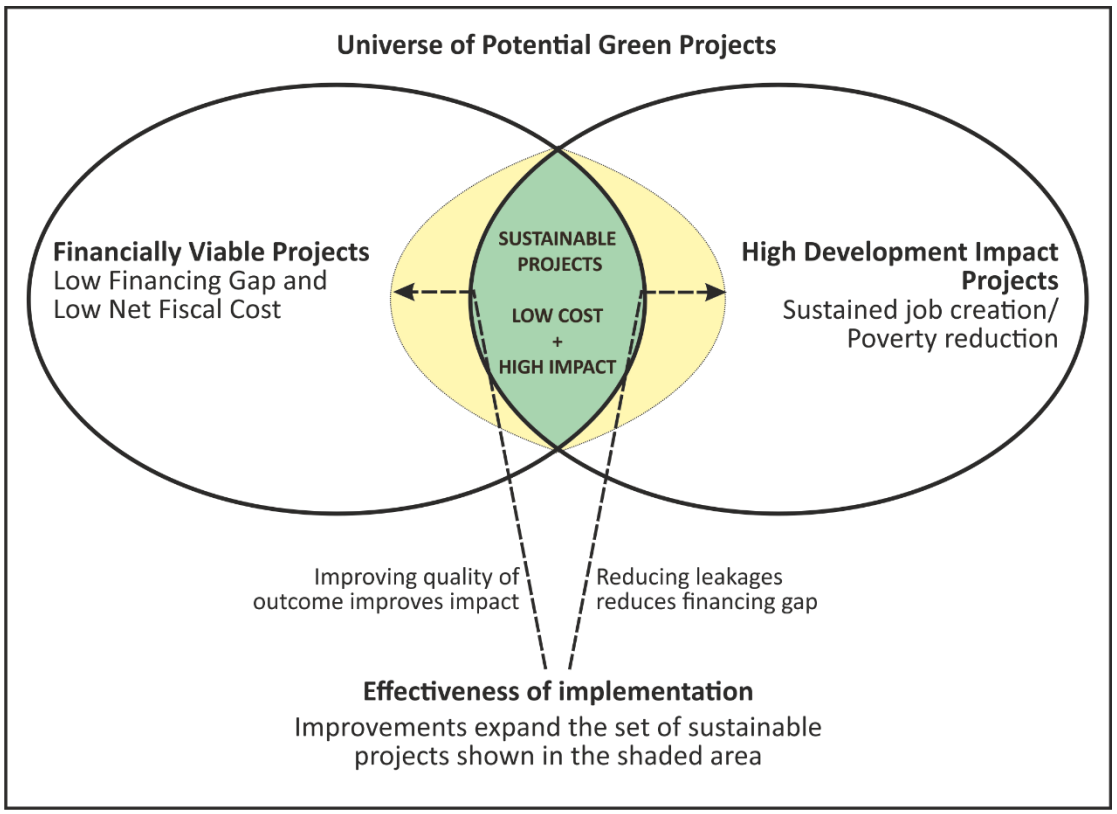

Figure 1 Project selection: the critical role of implementation effectiveness

In the following sections we discuss the four project selection criteria: green impact, financial viability, implementation effectiveness and developmental impact. We conclude with an outline of a proposed evidence-based method for the identification

and development of politically sustainable green projects. The method suggested is preliminary and will have to be fleshed out in more detail later. Discussions in DFID have already suggested distinctions between *building-back-greener* projects in terms of the degree of risk they entail, from lower-risk (no-regret) projects to higher-risk (higher ambition) projects (DFID 2020). Our framework contributes to this discussion by identifying different types of risks (with a particular focus on the Nepal context) and suggests how these risks may be systematically assessed using evidence and analysis to support project selection and development.

The distinctive feature of green investments is that typically they involve desirable externalities and are therefore subject to more extensive market failures than other comparable projects. Significant market failures mean that many projects are only likely to be viable if any 'financing gaps' that dissuade private investors can be met with public co-financing. But ironically, the involvement of public co-financing may adversely affect the quality of implementation in contexts of weak governance. Subsidies are frequently subject to rent-seeking distortions, and informal arrangements are likely to emerge that can obstruct the achievement of cost-effective high-impact results. Without corrective responses, the provision of fiscal support to projects may affect underlying costs and qualities and make projects unsustainable. In terms of Figure 1, many apparently feasible projects may not prove to be in the green lens when implemented unless the quality of implementation can be kept high despite any rent-seeking incentives. To ensure that green projects prove to be sustainable, implementation quality has to be given particular attention, both to deselect projects that are unlikely to be implemented in a sustainable way, and to use contextual evidence to design projects and financing arrangements to improve their implementation quality where possible.

Key takeaway: The set of sustainable green projects can be expanded by designing projects and financing terms to ensure higher implementation effectiveness

1. Green sectors and projects

Green investment opportunities are normally understood as investments that reduce the carbon footprint of production and consumption processes, or reduce damaging greenhouse and other emissions, or improve the sustainability of livelihoods by reducing the depletion of natural capital in production and consumption. Work already done in Nepal and other developing countries has developed relevant criteria for identifying green technologies and identified many promising sectors and technologies in countries like Nepal (GGGI 2017; Hepburn, et al. 2020). Prior research in Nepal and elsewhere can help to quickly identify a list of relevant green investments, and we take these as our starting point.

Not all investments supporting sustainable or resilient growth are necessarily green. For instance, investments that improve resilience to natural disasters like earthquakes may not satisfy the conventional definition unless there are specific aspects of these investments that are relevant. We have no particular preference that excludes such

investments, but if we wish to include resilient growth investments (which may be important in Nepal), the definition of 'greener' growth needs to be amended at the outset to prevent confusion. In contrast, investments in renewable energy, in developing eco-tourism by investing in the protection of fragile environments, in terracing agriculture to conserve water, or in sustainable water use are examples of potential investments in Nepal that meet existing definitions.

Measurement

The contribution of projects to green objectives can be measured by 'green' scores for projects in terms of their contribution to carbon savings or other green criteria. These may be difficult to assess precisely not only because the science is often complex and contested, but also because the eventual benefits may critically depend on the quality and scale of implementation. How important is an assessment of green scores likely to be for project selection in developing countries? Given the many other risks of project implementation, developing countries are unlikely to adopt very new or untried technologies on the basis of their green scores, if their financial viability, implementability or developmental impact are not yet clear. The technologies where evidence on the latter dimensions are better established are likely to be ones where the green contribution is less in dispute, even though the benefits may be uncertain due to the quality of implementation. However, implementation quality is of concern anyway to achieve sustainability with reference to economic viability and development impact.

It may not therefore be necessary to separately assess the precise green impact of projects whose potential contribution to green outcomes is likely to be positive. A ranking of projects by their green scores is only likely to matter if there are many green projects that are financially viable, implementable and capable of delivering a high social impact, and we have to choose between them. Investment allocation may then depend on relative green scores. In a typical low-income country, the problem is likely to be the reverse. The risks on other dimensions are likely to severely restrict the list of feasible projects in the list of potential green projects. In the optimistic case where a choice still has to be made, we may only need to rank a relatively small number of projects in terms of their contribution to green recovery.

It may therefore be sufficient to begin with a list of potential green investments relevant for Nepal as identified in the literature and work downwards in terms of the three other criteria to narrow down project selection and improve project design. A strategy for evidence-based comparison of green impact may not be the immediate priority but we may have to develop appropriate criteria later if there are many projects that are otherwise feasible.

Key takeaway: The subset of technically feasible green projects that will pass the tests of financial viability, developmental impact and implementability may be relatively small, so as long as projects contribute to a greener recovery, it may not be necessary to rank them very precisely in terms of green scores.

2. Financial Viability

Financial viability is likely to be an important constraint determining which if any green investments can be adopted and the scale of adoption. The return on investments in green technologies is likely to involve a component of non-monetizable social benefits, like reductions in greenhouse gas emissions. These investments can enhance social or global welfare but do not necessarily generate equivalent market profits for investors. In addition, there may be additional market failures associated with risks facing investors in developing countries in projects that have large up-front commitments and generate returns over longer periods. The contract-enforcement risks can in turn raise the cost of capital. Taken together, the market failures affecting green investments typically result in private returns being lower than social returns, and in turn leads to underinvestment.

Promoting investments in these areas usually requires some level of public co-financing or other forms of financial support to make the investments viable. Provision of green investments entirely through the public sector is unlikely to be effective in developing countries for most projects as it may be even more difficult to control costs, or to assess the relative efficiency of different investments. A better model is to identify the minimum level of co-financing or co-investment that may induce private investments in identified sectors or projects. The minimum public financial support required can be defined as the **financing gap** of the project.

The financing gap measures the stream of external financial support required to make investments in specific green projects viable over the lifetime of the project. The lower the gap, the more sustainable the project.

Our definition of the financing gap is similar to the 'viability gap' identified by NREP for renewable energy projects that it plans to fund through allocations from its challenge fund (NREP 2020). Green technologies are only likely to take off if governments and development partners see the value of such an approach more broadly, with co-financing of financing gaps being seen as a way of achieving significant developmental impacts as well as contributing to greener growth.

As the type and magnitude of the market failure can vary greatly across different technologies, sectors and countries as a result of differences in technological capabilities, market and governance conditions and income levels, there are likely to be significant differences in the financing gap across projects. Country- and sector-specific estimates of relevant financing gaps can help determine the relative viability of different projects.

The financing gap has to be estimated beyond the construction phase of the infrastructure (like solar panels or eco-trekking paths), to include deficits in operational costs through the lifetime of the project (for instance if the price the market is willing to pay for solar power or eco-tourism does not cover all the operational costs of delivering these services). Without arrangements for funding any

such financing gap, money invested in setting up projects may turn out to have been wasted if the assets are scrapped because their operating costs cannot be covered.

The financing gap will depend not only on the technologies used and the technical capabilities of the providers but also on background market and governance conditions. For instance, an important market failure in green power projects is often the high risk-perception of investors in contexts of poor governance and risks to contract enforcement over time. This can raise the cost of capital and lead to power pricing that is above the capacity of the market to bear. Public co-financing in the form of risk-mitigating subsidies may then be essential to attract investments in greener power technologies (Waissbein, et al. 2013; Jacobs 2020).

However, evidence from Bangladesh shows that the design of these subsidies is critical. Some subsidy designs support a 'collusive risk mitigation strategy' that attracts politically connected investors with much higher power prices and dirtier technologies. On the other hand, by tweaking subsidy design, the subsidy can have a 'competitive risk-mitigation' effect in the same country and governance context, and result in cheaper cleaner power (Khan, et al. 2020). The way in which a potential financing gap is met, the instruments used and their appropriateness for that governance context are therefore important because they determine both the actual financing gap and the type of outcome produced by the financing.

It is therefore important not to see the financing gap as a given, but to engage in project and financing design to minimize the financing gap and improve the quality of the outcome.

In the longer run, green projects need to be supported by governments, and not just development partners. To the extent that there is a call on domestic tax revenues to support the financing gap, it is necessary to consider the **net fiscal cost** of the project: the fiscal support that it requires on an annualized basis after accounting for increases in tax revenues attributable to the project. In the best-case scenario, there could be sufficient additional economic activities triggered by the project to generate additional tax revenue equal to or greater than its financing gap. In this scenario, the net fiscal cost could be zero or better, and the country could rapidly increase the number of green investments without adversely affecting the budget. In an intermediate scenario, the tax revenues may be limited to taxes paid by the project and its supply chain, but this too could reduce the net fiscal cost of the support over time. In the least attractive scenario, there may be no additional tax revenue and the annual net fiscal cost would be equal to the financing gap.

When there is a persistent *financing gap*, the government and its development partners have to be willing to pay for the non-monetizable positive externalities of green investments with tax revenues or external financing. In a fiscally constrained environment, this constraint is likely to be the most binding one. A developing country government choosing between two green projects is likely to look first at their net fiscal costs and developmental impacts, and only then at their green scores.

Key takeaway: The financing gap is a critical determinant of project sustainability. Projects whose net fiscal costs are lower than their financing gap are particularly attractive for governments because they enable greater scaling up given the fiscal space for supporting green investments.

Employment programmes versus investment projects

Developing countries often have employment support programmes like the Prime Minister Employment Programme (PMEP) in Nepal. During the COVID-19 response, programmes like PMEP are likely to be scaled up to protect livelihoods, providing an opportunity to use these programmes to support labour-intensive investments for a greener recovery. PMEP was already being used prior to the pandemic to target areas potentially supportive of a greener economy, including tree plantation, public toilet construction, road construction and improvements (which can be green to the extent that the construction is protective of the environment), drainage repair, soil irrigation, drinking water and irrigation projects, and developing trekking trails. However, in a relatively poor economy with fiscal constraints, concerns had already been expressed by experts and officials that if all that was achieved was poor quality assets or the wrong types of construction, this would be tantamount to giving welfare handouts, a strategy that may not be sustainable on a large scale in a poor economy (Mandal 2019). These concerns may become more serious if PMEP is to be scaled up significantly during the COVID-19 crisis and beyond and provides an opportunity for introducing a more robust methodology of project design and selection.

While there is a formal distinction between employment programmes and investment programmes, in a context of limited fiscal resources it may be useful to engage in project selection with overlapping evaluation criteria in terms of financial viability and development impact. The primary objective of employment programmes is, of course, an immediate welfare improvement by providing incomes to poor people, while public investment programmes may be justified in terms of broader developmental and financial criteria. However, in a resource constrained economy, if welfare spending can be converted from pure transfers to asset-construction aligned with a *building-back-greener* strategy, the welfare programmes may become fiscally and politically more sustainable. An employment programme should still focus on investments in labour-intensive asset construction employing the poorest and most vulnerable. But subject to this requirement, if they can mobilize labour to construct assets that enhance returns to related green investments, this will reduce their own fiscal cost while contributing to the returns on related investments.

The joint effect of employment and investment programmes can thereby be enhanced through coordination. For instance, an employment programme that developed trekking routes could enhance the returns to investments in eco-tourism facilities and reduce the financing gap required for the latter. At the same time, the tax revenues

paid by hotels and tour operators could reduce the net fiscal cost of the employment programme building trekking routes. Thus, a well-designed employment programme could reduce the net financing cost of investment projects and the latter could reduce the net fiscal cost of the employment programme. All of this assumes that the projects

> *Key takeaway: Employment programmes should try to coordinate with green investment programmes to construct assets that enhance returns to these investments, thereby reducing their own fiscal cost and contributing to developmental impacts.*

under both are effectively implemented, kept within budget, and deliver assets of the requisite quality.

Measurement

The estimation of the financing gap should be a two-stage process given the likely importance of implementation effectiveness in determining the size of the gap. The first stage is to estimate the notional financing gap using current market prices and estimates of market opportunities. Given the known characteristics of the technology from other contexts, a calculation based on plausible market demand for the product or service and the known market costs of capital and inputs can provide an estimate of the net profit or loss that may notionally be expected from the project. As there are likely to be market failures affecting the good or service, the notional return is likely to be lower than the minimum required by private investors and may even be negative. The notional financing gap is the additional public co-financing that would be required to induce private investors to invest in the project.

This estimation is only notional because it assumes that local companies or delivery organizations have the capacity to convert inputs into outputs with the same efficiency as observed in other places. In other words, it assumes that the organizational, technical and management capabilities of the delivery organizations are similar to what we observe elsewhere, and subject to the same incentives and compulsions to control costs and seek markets and that an appropriately skilled workforce is available. These assumptions usually do not hold because there are significant differences in delivery capabilities across organizations, sectors and countries as well as in external governance and market constraints. The actual financing gap will depend on the capabilities and incentives of delivery organizations, and the adequacy of external conditions and governance arrangements. These factors will determine the quality of implementation that we discuss later.

Apart from the capabilities of suppliers, the market and governance context can matter to a great extent. If investors face competitive pressures, for instance if they actually face losses on their investments when they fail to control costs or fail to develop new markets, their profit-seeking efforts may contain the actual financing gap to close to the notional one. The actual may even decline over time. If on the other

hand suppliers are assured of returns based on public co-financing, or if they can find informal ways of extending or renewing this financing or on skimping on the quality of results, their compulsion to control costs, maintain quality or to search for new markets may be lower. The actual financing gap may turn out to be (much) higher than the notional one and may even increase over time.

The estimation of the actual financing gap is therefore closely tied to an assessment of the effectiveness of implementation, which we turn to in the next section. The notional estimate therefore needs to be adjusted on the basis of an evaluation of the feasibility of (re)designing the project in ways that can reduce leakages, taking into account the existing organizational capabilities, market structures and governance background. The revised estimate of actual financing costs with the best possible project and financing design should be taken as indicative, justifying small trials on selected projects that can then be scaled up.

Finally, the net fiscal costs of public co-investments can be estimated from the financing gap by factoring in likely increases in tax revenues as a result of project implementation. Some projected tax revenues could be based on the project itself paying taxes, but there could also be taxes collected from indirect activities enabled by the project. For instance, if investments in an eco-tourism project are successful, we may expect an increase in business for tour guide companies, transportation companies and so on, and additional revenues may be roughly estimated. If such revenues are plausible, the net fiscal cost will be lower than the financing gap.

For employment programmes, the financing gap and the net fiscal cost is usually identical because the entire spend in welfare programmes has to be covered by the taxpayer in most cases. Employment programmes do not create assets whose services can later be sold in the market, and they are therefore unlikely to attract private co-investments. However, the net fiscal cost of welfare programmes can still be lower than their financing cost if the project increases tax revenues elsewhere. If so, the net fiscal cost may be lower, making the employment programme more sustainable. This is why employment and investment programmes need to be coordinated as much as possible to enhance the overall sustainability of the green strategy.

Key takeaway: The financing cost and net fiscal cost of green programmes have to be estimated in two stages: a notional estimate of current market data and an adjustment based on the likely effectiveness of implementation

3. Effectiveness of implementation

The quality of implementation is likely to be the most important determinant of the sustainability of a green strategy in developing countries. To keep the argument flowing from the last section we discuss implementation effectiveness first and then turn to developmental impact, though implementation affects both costs and impacts simultaneously. The success of a *building back greener* strategy is likely to depend on

how well projects are identified that can be implemented to stay within budget and deliver at the quality required. In many cases, this is likely to involve redesigning projects and financing arrangements to improve the chances of effective implementation.

Project design and conditions of financing

Project design includes designing and interpreting the market research preceding the project, selecting projects with technical specifications aligned with the capabilities of the broadest range of suppliers, the methods of identifying the best suppliers, usually through competitive processes, and perhaps most importantly, designing projects to ensure that suppliers are effectively invested in the project so that their bottom lines depend on efficient and high quality delivery. The design of the co-financing instruments includes the methodology for estimating the financing gap, whether the financial support on offer is likely to attract a wide enough range of bidders to result in a competitive bid, the conditions under which project financing is likely to be withdrawn for poor performance, the credibility of the withdrawal threat, the penalties for failing to deliver at quality and on time, and the credibility of the enforcement of penalties.

In contexts where formal contracts may not be easily enforceable, contracts have to be designed to increase the likelihood that suppliers will adhere to contracts in their own interest and deliver high quality products at low cost, with checks and balances that are credible in that context. Private incentives have to be attractive enough for investors to *want* to participate in projects, but they should also face compulsions to deliver in that governance context. Without addressing the implementation question to the best possible extent, the actual quality-adjusted delivery price is likely to be much higher than estimated, affecting both the financial viability of the project and its developmental impact.

The evaluation of different project and financing designs has to be evidence-based and draw on experiences within the country. It can also draw on examples of subsidy design and studies of green project implementation in comparable developing countries. We have referred to the example of how different subsidy designs attracted different types of investors and induced very different investor responses in the power sector in Bangladesh. If there are grounds to believe that the notional estimates of the financing gap are unlikely to be met given the project and financing design and the enforceability of contracts, it may be sufficient for an evaluation to raise these questions and give a score to the implementation risk and the likely adjustment to the financing gap (and developmental impact discussed in the next section). This should be sufficient to justify a more cautious and experimental approach to project design in the green sector being considered, with alternative project and incentive designs being trialled before scaling up is attempted.

Key takeaway: Implementation performance is likely to depend very critically on aligning private incentives with good delivery outcomes given the limited governance capabilities that are available.

Political economy considerations

The contract and financing designs that are likely to achieve better implementation effectiveness will also depend on political economy considerations. This includes in particular the relative power and interests of different parties to the contract on both the supply side of the contracting (the supplier companies) and the demand side (the public bodies granting and monitoring contracts and making payments).

On the supply side, the project design, contract design and funding arrangements can determine the types of suppliers that are attracted to bid. This immediately constrains the types of enforcement that are feasible because suppliers come with history, they may be part of established networks of businesses and public officials, they may have varying levels of bargaining power in informally negotiating contracts and so on. In Nepal many established business networks are powerfully connected and operate informal cartels. A key determinant of effective incentives and constraints will be to ensure as much as possible that new players are induced to bid for green contracts (subject to capabilities). This is not only because widening economic participation to include new players is aligned with DFIDN's commitment to its **three big changes**, but also because new players may have different incentives and connections and it may be easier to design contracts that improve implementation outcomes.

Selecting the appropriate green technologies may be critical, to align supported technologies with capabilities of new players, thereby improving both implementation effectiveness and broadening participation.

The political economy incentives and interests of public officials on the supply side also need to be factored into the design of projects, contracts and financing arrangements. The power and status of public officials in any country depend on the resources they can dispense, both in general and even more so (in developing countries) in informally targeted ways to preferred clients and networks. The immediate concerns of different public officials involved in the oversight and management of projects may therefore include a preference for employment generation (in general or for particular clients), or the rapid granting of contracts (in general or to particular networks). There may also be competitive interests across different departments of governments, and in Nepal across different spheres of governance, each protecting their own interests and turf.

In assessing and selecting projects, it is essential to keep in mind the preferences of public officials and how these may affect project selection and implementation. Sometimes these preferences may be aligned with the delivery of good-enough projects, sometimes not. In the latter cases, designing projects differently or selecting

different projects may be the only feasible way of improving implementation outcomes in the short term. Improving governance capabilities and accountability is a parallel but much slower and longer-term process and cannot be relied on to improve the implementation or accountability of projects currently being considered. They have to be designed to work as well as they can be made to work in the current context.

In Nepal it will be important to keep in mind differences in political contexts and governance in different parts of the country and in different spheres of the federal governance structure. Any sphere of government in Nepal's federal system is likely to have specific interests and incentives that may affect what politicians and bureaucrats want projects to deliver. These interests and incentives may be different at federal, provincial and local spheres, as well as varying across Nepal. For DFIDN it will also be important to work in alignment with the spirit of the new constitution and the distribution of powers that it envisages and DFIDN's own commitment to the **three big changes**.

If the preferences of public officials are to implement projects to create employment for clients or to give contracts to connected companies, financing gaps and social impact criteria will obviously be affected. Similarly, if green growth strategies emerge as strategies that privilege some spheres of governance over others for reasons other than implementation effectiveness, outcomes may be diluted in pursuit of these objectives. The evidence from Nepal already suggests that political economy factors need to be considered to understand fund flows in climate change and disaster response projects (OPM 2019).

These challenges are not simple, and there may be trade-offs. For instance, there may be trade-offs between selecting projects whose management responsibilities can be located in different spheres of government. One sphere may be relatively more prone to engage in excess employment but less prone to coordination failures across projects. Another may have better control of some costs but worse coordination across projects and so on. Add to this the importance of taking care not to distort the evolution of Nepal's internal political settlement and the trade-offs can become tricky. It may not be possible to calculate the best response, but if in doubt, development partners should choose to do no harm and stay away from contentious project designs.

When political economy constraints exist, the most feasible response may once again be to revisit project selection and design to select projects whose implementation is least likely to be distorted given the interests known to be at play. Nepal's policymakers and development partners will have to take informed calls on these trade-offs in designing and locating projects based on the best available political economy information.

Key takeaway: The political economies of supplier firms and public officials are important determinants of implementation effectiveness. There may also be trade-offs between projects in different jurisdictions in Nepal's spheres of governance and the possibility of unintended effects on the evolution of Nepal's federal project.

Evidence and Evaluation

Political economy evidence cannot directly put a monetary value on how implementation quality may affect the financing gap or the developmental impact in particular projects. Rather, the aim of an evidence-based political economy evaluation should be to identify how proposed projects and their design are likely to affect

a) the capabilities of the delivery organizations that are likely to be selected by the selection processes being proposed

b) the incentives and compulsions they are likely to face, as determined by the design of the project and financing structures, and the likely impact on cost-control, quality-control and revenue-seeking behaviour, and

c) the interests and incentives of public officials on the demand side and how this is likely to affect the pursuit of cost efficiency and developmental impact by delivery organizations.

It should be possible to develop feasible ways of assessing and scoring on these criteria based on contextual political economy knowledge.

If the result of this analysis is to downgrade the notional estimates of financing gaps or development impacts of particular projects, the evidence generated by the evaluation may also suggest how changes in project selection and design may help to align incentives on both the supply and demand sides to achieve better results. If the assessment suggests that these changes may be effective, and if the amended expected financing gaps and impacts are sustainable, the final step should be actual trials of specific projects and contracting models before scaling up.

The last point is particularly important. Given the high implementation risks in the typical developing country, *building back greener* projects should be tested on the ground on a small scale before being scaled up. The methodology suggested is a way of containing these risks and building up a viable portfolio of green projects to be trialled and scaled up.

Key takeaway: The aim of the political economy evaluation of the implementation effectiveness of particular projects is not to estimate the actual financing gap or the development impact, but as in a risk-assessment exercise, provide a risk-adjusted downgrade of notional estimates of financing gaps (and developmental impacts) where necessary.

4. Developmental impact

For any given financing cost, the domestic political support for a green strategy is likely to depend critically on its impact on developmental goals like employment and

poverty reduction. Public investments in green strategies are more likely to be politically sustainable if they deliver impacts that both politicians and societies value. Employment generation supported by inclusive growth is also aligned with the **three big changes** supported by DFIDN.

In poor countries, green projects that contribute more to jobs and poverty reduction for any given commitment of public resources are more likely to be supported, other things being equal. In contrast, projects that may otherwise have a big impact on global externalities like the reduction of greenhouse gases may enjoy little or no political support if they fail to generate developmental benefits for the domestic economy. Unless entirely funded by external resources, projects that contribute to the reduction of global externalities are only likely to be adopted on a sustained basis if some or all of the benefits can be monetized to achieve developmental impact, in particular to support inclusive growth through jobs and incomes in broad-based areas like eco-tourism. That is why we describe sustainable green projects in poor countries as those that deliver high developmental impact at a minimum fiscal cost, where developmental impact is appropriately understood.

Developmental impact may be measured by criteria such as employment, poverty reduction and inclusive income growth. If we want to incorporate multiple objectives, we can score projects in terms of their contribution to each separately and use a composite indicator to rank projects. In most cases, not much may be lost by using a single simple indicator: sustainable job creation. This may miss some detail, but not so much that more complex indicators are necessarily justified. Other objectives like poverty reduction or income growth are likely to be correlated because sustainable job creation is usually the most powerful instrument for poverty reduction in developing countries. However, we also want to ensure job creation that reflects a broad-based economic transformation of Nepal in line with the **three big changes**. **So** we will also want to ensure that green jobs are widely dispersed across the country.

As with estimates of financial gaps, the relevant impact of a project on jobs (or a composite impact indicator) has to be assessed over the lifetime of the project, not just during the construction phase. Some projects may have a large employment effect during a relatively short construction phase but a limited impact on employment thereafter. Others may have lower employment requirements during the construction phase but result in much greater employment generation later on by enabling new business opportunities. In developing countries, the second may be more relevant because it creates more sustainable 'real' jobs rather than subsidized jobs that construct an asset that is not afterwards very useful. The details of how best to estimate the sustained jobs impact will depend on the type of project.

The development impact will also depend on ensuring that green projects do not suffer from skills mismatches or create too many offsetting job losses elsewhere in Nepal. The latter need to be accounted for in estimating impact. While some core skills may be transferable, specific skills for newer technologies may require policy makers and development partners to anticipate changes in skills training programmes. Hence future skill development strategies need to be closely aligned with the needs of green

growth projects. The ILO suggests (Gregg, et al. 2015) that labour force surveys could be used to generate estimates for sustainable employment within each green sub-sector. This approach can be refined to look at the skills requirements of specific projects to develop supportive skills programmes. In Nepal's case the skills profile of any workers returning from abroad will be closely aligned with the migration economy (for instance in construction and security services). The returning work force is unlikely to find opportunities in many green sectors without retraining.

Key takeaway: For any given financing cost, the political support for a green strategy is likely to depend on its developmental impact on employment and poverty reduction. Public co-financing of green projects is more likely to be sustainable if they deliver impacts that both politicians and societies value.

Measurement

The likely employment generation potential of green projects is not necessarily easy to estimate, particularly if we are trying to estimate impacts on longer-term sustainable job creation. Looking across countries with similar investments may provide us a notional estimate, but the actual will depend on the quality of project implementation. Once again, the measurement and evaluation strategy should be a two-stage one, with a notional first estimate based on cross-country estimates (if available) followed by an implementation-adjusted estimate of the likely actual impact.

A particular problem in cross-country estimates of developmental impact is that advanced and developing countries benefit from green projects in different ways. Advanced countries are likely to enjoy long-term benefits from investment in high value-adding R&D or manufacturing activities that are triggered when governments support the development of green technologies. The employment generated in such activities has technological spinoffs that may allow employment in these activities to be sustained after the project. As a result, employment generation at the development phase is more likely to be sustained beyond the specific project, and further employment may be generated by marketing the goods and services produced by green assets. In contrast, the employment generation in developing countries during the installation phase is likely to involve installing technology developed and purchased from elsewhere, and constructing basic infrastructure (Hepburn, et al. 2020). Once the installation is over, there are likely to be fewer spinoffs for the organizations engaged in the installation, and the employment in these activities is likely to end. Any sustained employment benefit in developing countries is likely to be the indirect effect of green investments opening up new business opportunities. This is why care is required in interpreting summaries of likely employment effects of green projects that do not make careful distinctions between advanced and developing countries (such as McKinsey & Company 2020).

As with estimates of financing gaps, the estimation of developmental impacts should be a two-stage process to account for implementation quality. An initial estimate of

impact can be based on the size of the proposed programme (construction-phase employment) and potential employment in ongoing businesses (if the project is an investment) or indirect jobs created (in case of public assets built by employment programmes).

These estimates of potential jobs are again notional, because actual jobs are difficult to predict, and numbers will depend critically on the quality of the assets constructed and subsequent management. As with the financing gap, a feasible strategy is to complement estimates of notional (best-case) impact with an implementation risk-adjusted estimate that qualifies the initial estimate.

As with estimates of financing costs, the implementation-quality adjusted estimate of impact is initially likely to be too low to place most projects in the sustainable project space in Figure 1. But once again, it may be possible to improve implementation quality in the way suggested earlier, by aligning incentives and capabilities with market and governance conditions to achieve the best possible impact. This exercise could then lead to small trials to assess opportunities of scaling up projects that promise to be sustainable ones.

Key takeaway: An initial estimate of impact can be based on estimates of the size of the proposed programme (construction-phase employment) and the expected impact on potential employment generation (in running the businesses enabled by these investments). Both will need to be qualified by assessments of implementation effectiveness.

5. Project selection and design

Based on these observations, we suggest a sequential assessment of evidence to identify sustainable *building-back-greener* projects. To organize the search in an efficient way, the early stages of screening could be done less rigorously, using available evidence to identify the really promising projects where it is worth investing in more detailed analysis of implementation feasibility and suggesting detailed improvements. This should lead to the identification of a relatively small number of projects suitable for empirically testing feasibility in small-scale trials.

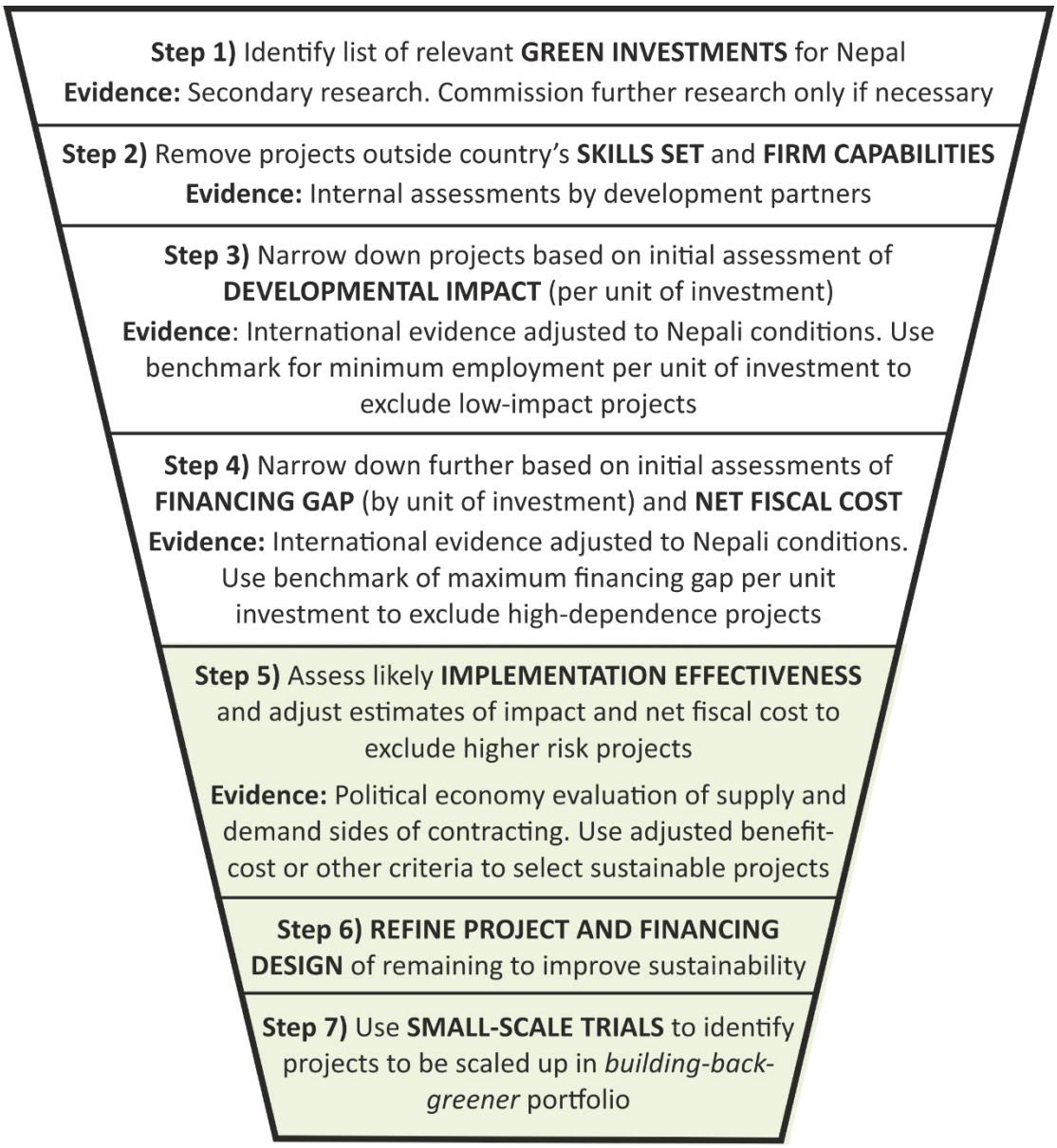

Figure 2 Proposed evaluation and selection 'funnel'

The sequential assessment strategy suggested in the selection and evaluation funnel in Figure 2 deliberately requires less demanding data and analysis for steps higher up the funnel where more projects are being considered. Intensive evaluation may not make a significant difference to project selection or design at this stage. We can then restrict the more intensive analysis to projects lower down the funnel where fewer projects remain. Steps 1 to 4 should take comparatively less effort, but they are necessary to filter out unsustainable projects, while the shaded steps, 5 to 7, need to be done more carefully. The aim should be to balance accuracy with the practical consideration of keeping the selection and project development process simple without losing sight of factors affecting the feasibility and sustainability of projects.

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