EVALUATION DEPARTMENT

REPORT 4/2015

Norad

Experiences with Results-Based Payments in Norwegian Development Aid

CONTENT

Commissioned by
the Evaluation Department

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MAY 2015

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May 2015
Cover photo: Ken Opprann
ISBN: 978-827548-804-4

1. Introduction

BACKGROUND

Over the past 10 to 15 years, at least since the Monterrey Consensus of 2002, there has been an increasing concern with efforts to make development aid more effective. The development assistance resources provided had far too often failed to achieve the goals set and produce the results that were intended. Aid effectiveness was extensively discussed in a series of events collectively known as the aid effectiveness agenda, culminating in the Paris Declaration on Aid Effectiveness (2005). This declaration included "managing for results" as one of the five main principles that both developing countries and the donors committed themselves to support.

The concern with aid effectiveness was carried further forward in the Accra Agenda for Action (2008), reemphasizing the need to deliver results and to focus aid on real and measurable impacts in the development process.

In the same period, results-based payments have gained considerable attention as a mode of managing financial flows within development cooperation. The main idea behind results-based payments is to shift the focus from the provision of inputs, which has been the traditional focus of much development assistance, to the achievement of results, by linking financial payments to outcomes and outputs. Results-based payments assume that disbursements are made only when results are achieved, an argument with considerable attraction to politicians who want to demonstrate that development assistance is money well spent.

Norway has been one of the frontrunners in the adoption of results-based payments in development cooperation. Results-based mechanisms have been implemented within health, climate and forestry and clean energy initiatives and are being discussed as part of the recently proposed Norwegian education initiative.

AIM AND CONTENT OF REPORT

The aim of this report is to summarize the experiences from results-based initiatives in Norwegian development cooperation and enhance the knowledge base for future decisions involving results-based payments.

The report provides a brief overview of frequently used concepts in discussions about results-based payment and financing, and presents key aspects of Norwegian results-based initiatives in health, climate and forestry and clean energy. It describes key design elements in each of the initiatives, outlines the underlying theories of change (to the extent they are available), and presents documented impacts and other relevant experiences. The concluding section summarizes key lessons and recommendations.

A companion report, *Basis for Decisions to use Results-Based Payments in Norwegian Development Aid*, describes how the decisions to use results-based payments were made and the considerations that formed the basis for these decisions.

Both reports are written on the basis of a desk review, supplemented with interviews with key people involved in Norwegian results-based initiatives. A description of the methods used, including a list of people interviewed and a comprehensive bibliography, is available as an annex to both of the reports.

2. Payment by results (PBR)

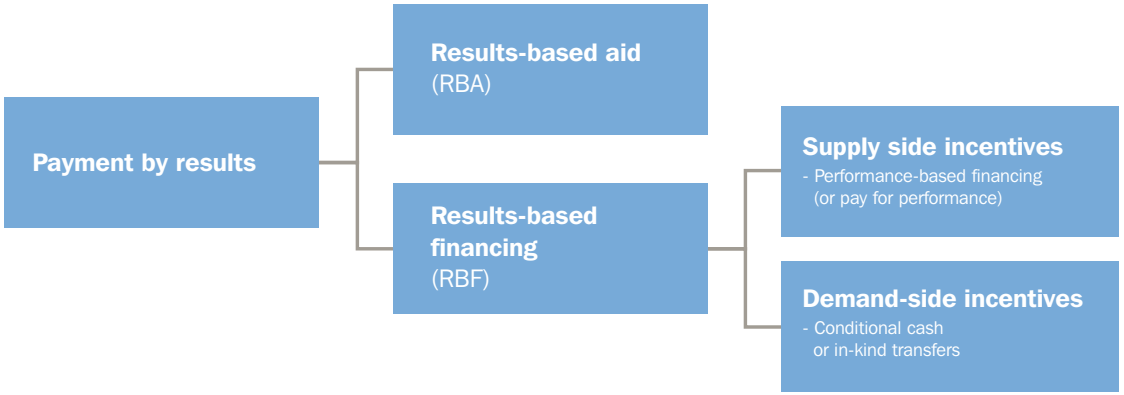
A wide array of terms and designations are used to characterize and distinguish various forms of results-based payment, and the nomenclature is not entirely clear. The common approach is to use *payment by results* (PBR) as the most inclusive term, encompassing all the different results-based payments. The core aspects of payment by results mechanisms are that *1) payment is based on achieved results*, and *2) the relationship between payment and results is pre-defined*. Some also include *independent verification of results* as a key defining aspect of PBR mechanisms (CGD 2010). We would argue that this is not a necessary part, although independent verification often is required in practice.

A more contested aspect of the definition of PBR is what counts as *"results"*. The novel aspect of PBR is the combination of *incentives* with a focus on *results high up in the results chain*, preferably at the *outcomes* level. Linking payments with *results that matter for policy* is what provides PBR mechanisms with their political appeal. However, the practical reality of PBR is set in a much muddier landscape.

Most of the so-called PBR mechanisms reward outputs rather than outcomes, and along with the rising popularity of results-based payments there is an increasing inclination to also count incentives for the provision of *inputs* (e.g., building schools and power-stations) as results. For the purpose of this study, we will focus on mechanisms that reward outputs and outcomes.

PBR mechanisms are often labelled differently depending on who *receives* the payments (Figure 1). PBR mechanisms targeting national governments are called *results-based aid (RBA)*, while mechanisms targeting lower-level service providers or households are called *results-based financing (RBF)* (irrespective of the source of funding). Results-based financing includes not only mechanisms that are intended to finance the cost of service provision, but all kinds of incentives targeting either the supply side (e.g., health facilities, health workers and managers, teachers, power producers,) or the demand side (e.g., patients, households).

FIGURE 1: RESULTS-BASED PAYMENTS



3. PBR initiatives in Norwegian development cooperation

Norwegian experiences with PBR schemes are neither very diverse nor very old. Results-based payment has been adopted within a few sectors – health, climate and forestry, clean energy – mostly in connection with large initiatives with high political visibility. Several of the so-called PBR initiatives are in fact hybrid models where results-based financing and traditional financing models are integrated.

HEALTH

The most widespread use of PBR mechanisms in Norwegian development cooperation is found in the health sector. GAVI's (the Vaccine Alliance) adoption of a results-based payments from 2000 onwards marked the beginning. In 2007, Norway entered an agreement with the World Bank to promote results-based payments through the *Health Results and Innovation Trust Fund* (HRITF). The Trust Fund had initiated 38 RBF pilots in 32 countries in 2014 (HRTIF 2014a). Norway committed NOK 2.1 billion to the HRITF in the period 2007-2022. Norway has also supported RBF schemes through bilateral programs in Tanzania, Malawi, Nigeria and India. As many of the health initiatives include both results-based and other funding modalities, the amount allocated specifically to results-based payment is hard to identify.

CLIMATE AND FORESTRY

The Norwegian International Climate and Forest Initiative (NICFI) has since its inception in 2007 been described as a scheme to reward reduced emissions from deforestation and forest degradation, a strategy known as REDD+. NICFI has agreements and projects in 12 countries, with several more in the pipeline. NICFI applies a 3-phase financing approach, involving a movement from unconditional aid (for REDD+ readiness activities), to conditional aid (linked to policy reforms to strengthen the REDD+ framework) and finally Payment for Environmental Services, or payment for measurable and verified reductions in climate gas emissions that can be related to forest preservation. Only the last phase is clearly organized as a PBR scheme. So far, only Brazil and Guyana have been provided with phase 3 funding. Up to 2014, the total payments amounted to NOK 5.45 billion to Brazil and NOK 0.97 billion to Guyana.

In addition to bilateral partnerships, NICFI provides funding through multilateral channels to the Congo Basin Forest Fund, the UN-REDD programme, the Forest Carbon Partnership Facility, and the BioCarbon Fund. None of these initiatives currently provide PBR funding, although several have plans to do so.

Redd+ 3-phase financing approach	Phase I	Phase II	Phase III
Type of financing	Unconditional aid	Conditional aid	Results-based aid
Pays for what	Build capacity, prepare for REDD + action	Policy reforms	Payment for emission reductions (PES – payment for environmental services)

CLEAN ENERGY

In 2011, the *International Energy and Climate Initiative – Energy+* was launched by Norway as an international partnership to facilitate access to efficient energy services to all, through increased development of renewable energy sources and renewed attention to energy efficiency, and to mitigate impacts on the climate of the production and use of energy.

Energy+ is inspired by the 3-phased approach of REDD+ and will in the first phase provide traditional aid to support the development of national low carbon and energy sector policies. The second phase will be conditional aid related to implementation of these policies and establishment of a system that supports performance-based financing, and the third phase will be PBR related to improved energy access and efficiency, as well as emission reductions. Pilot projects have been set up in four countries, but there is no direct experience yet with regard to phase 3 PBR mechanisms.

Norway takes part, together with the World Bank, UK Aid and German Cooperation, in the Uganda GET-FiT (Global Energy Transfer Feed-in Tariffs) program. The program claims to use results-based financing to attract private capital for the expansion of renewable energy sources in Uganda.

Norway also participates, together with five other donors, in the Energizing Development (EnDev) partnership, which since 2005 has worked to provide sustainable access to modern energy services. EnDev works in 25 countries and refers to its activities in 24 countries as a performance-based program, but none the less indicates that it operates a distinct 'RBF facility' in 8 countries.

4. PBR to promote maternal and child health

GAVI

Design

GAVI initially implemented a PBR approach through the *Immunization Services Support* (ISS) mechanism. The PBR element of ISS funding involved a reward payment of 20 USD per additional child, compared to the baseline, receiving the DPT3 (i.e., three doses of the diphtheria-pertussis-tetanus vaccine). The incentive was calibrated to cover the additional costs of vaccinations.

The default data source for GAVI reward funding are national administrative data. To qualify for reward funding, the country must obtain a certain score in a one-time data quality verification process. A weak data verification system has been a major concern in evaluations of GAVI support (see below).

PBR funding through ISS was allocated to national governments, and the use of the payments was flexible, as long as it was used within the health sector.

Over the years, GAVI has replaced the ISS scheme with a new mechanism called *Health System Strengthening* (HSS) support. The main changes in the PBR design are that 1) reward funding is given not only for DPT3, but also for measles vaccinations, 2) the payment for additional vaccinations has increased from 20 USD to 60 USD (30 USD for each of the two vaccines), 3) the baseline for counting additional vaccinations has become floating, in the sense that the baseline is the best year since the start of the program, 4) rewards for additional vaccinations are paid only if vaccination coverage also has increased (to avoid simply rewarding an increase in the size of birth cohorts), and 5) a separate reward for *maintaining* vaccination coverage above 90% has been introduced. In addition to *broadening* the incentive scheme with one more indicator, these changes imply a strengthening of the incentives to *continuously increase* and *maintain* high vaccination coverage (GAVI 2015).

In addition to the PBR mechanism, both ISS and HSS funding involves a substantial element of traditional program funding. Funding from ISS was provided as an "investment" fund for the three first years, and reward funding was granted only from the fourth year. The HSS also contains an investment component, seemingly quite similar to traditional program funding, although it is stated that payment decisions will be made based on "satisfactory progress against implementation and achievement of intermediary results" (GAVI 2015).

GAVI also supports vaccine development through Advance Market Commitments and country price support for introduction of new vaccines. Both mechanisms provide producers with a guaranteed price of new vaccines. Since the reward in these cases is related to the sales/purchase of vaccines and not to vaccination as such, these mechanisms provide incentives at an earlier stage of the results chain than the ISS and HSS mechanisms. For more information about the implementation and lessons learnt from the Advance Market Commitments, see GAVI (2011,2012).

Theory of change

None of the documents reviewed provides an explicit logic for how the GAVI's PBR mechanism is supposed to contribute to results. At one level the logic is quite straightforward: incentives to increase the number of vaccinated children will change government priorities and enhance their efforts to vaccinate their children, leading to increased vaccination and immunization coverage and improved health outcomes. However, it is less obvious how incentives were envisaged to induce a change in the behavior of governments and front-line service providers. Perakis and Savedoff (2015) present four main theories on how results-based aid may influence government behavior:

How results-based aid may influence government behaviour	
Pecuniary interest	Governments take action to receive the pecuniary rewards.
Attention	Governments take action because the PBR agreement draws attention to particular outcomes. Requires that the outcomes are close to agreed public policy.
Accountability	Government responds to enhanced civil society monitoring of their performance. Requires that outcomes are reported to the public.
Discretion	Increased government discretion on how to achieve results leads to better decisions though enhanced utilization of local knowledge. Governments are more committed to implementation strategies they have designed themselves. Requires that the outcomes are close to agreed public policy.

Perakis and Savedoff argue that the actual implementation of GAVI's ISS and HSS support suggests that *attention to results* probably has been perceived as the most important mechanism.

For future initiatives, the most important learning points emerging from reflecting on these various mechanisms are: 1) If *pecuniary incentives* are thought to be crucial, the incentives must be large enough to affect government behavior. It is not obvious that covering the costs of a service (which was what GAVI set out to do) is required – or sufficient. 2) If *attention* is thought to be a main mechanism, political visibility is crucial. The pecuniary incentives then play a more symbolic role, and the incentive can be small as long as this does not negatively affect the level of attention. 3) If discretion is thought to be important, a hands-off approach is required when it comes to the utilization of funds. 4) If accountability is thought to be important, credible data monitoring and verification is crucial. The two latter points do not seem to have been emphasized by GAVI.

Since GAVI rewards outputs, a credible theory for how increased outputs will improve outcomes is crucial. Establishing this link is perhaps less challenging in the case of vaccinations than in most other cases, since vaccinations are believed to have a clear positive impact on health. However, there are concerns in this case as well: 1) If the cold-chain is not managed well, vaccinations might not lead to immunization, 2) rewarding a few selected vaccinations might lead to less effort to provide other vaccines, or other health services.

Experiences

The experiences from GAVI's ISS support has been documented in several evaluations commissioned by GAVI (Abt Associates 2007, CEPA 2010) as well as by independent research (e.g., Lu et al. 2006, Lim et al 2008).

None of the available studies have tried to isolate the impact of the PBR element (i.e., the reward funding) of the ISS support. Instead, they focus on the impacts of the total ISS package, including both investment support and rewards. One should also note that the quality of evidence is weak, as all evaluations are based on cross-country regressions without a clear strategy for identifying causal impacts.

Available studies provide a mixed picture of whether the ISS financial package is associated with higher vaccination coverage. Lu et al (2006) conclude that ISS support is associated with higher DPT3 coverage, but only in countries with baseline coverage of less than 65%. Abt Associates (2007) argue, however, that ISS is associated with an overall increase in DPT3 coverage. They obtain different results because they include one more year of observations and use recipient countries' *expenditures* of ISS funds rather than GAVIs *disbursement* as the independent variable. One should note that there has been a significant delay between GAVI disbursements and expenditures at country level (Abt associates 2007; CEPA 2010). The fact that expenditures at country level seem more strongly related to vaccination coverage than disbursements to national governments, suggest that the *additional resources* provided through ISS matter for coverage and raises questions about what effect *pecuniary incentives* to national governments have in themselves.

The 2010 evaluation reanalyzed Lu et al.'s model with additional data points and found, in contrast to the earlier study, a positive association between GAVI disbursements and DPT3 coverage only for countries with baseline coverage between 65 and 80% (CEPA 2010). Thus, these results do not seem particularly robust.

One of the concerns with the initial phases of GAVI support was that rewarding only DPT3 vaccinations could lead to reduced coverage of other vaccines (as well as other health services). However, there is no indication in the data that ISS support has led to reduced coverage of non-incentivized vaccines (Abt associates 2007). We are not aware of studies of the effect on the provision of other health services.

Several studies have argued that the weak data verification routines for ISS reward payments have resulted in inflated figures for vaccination coverage. Lim et al (2008) found that the likely true number of additionally vaccinated children was about half of what had been reported by the countries. GAVI (2009) admitted that over-reporting had taken place but argued that the magnitude was much less. More recently, Sandefur and Glassmann (2014) have provided additional evidence that the there was a significant shift in the accuracy of country reporting at the time when the ISS reward system was introduced. These findings underscore the importance of investing in appropriate data verification when implementing PBR mechanisms. Or, to put it differently; PBR systems may entail significant costs of data verification.

HEALTH RESULTS AND INNOVATION TRUST FUND & BILATERAL PROGRAMS

Design

Each of the country programs funded by the World Bank trust fund, as well as the bilateral programs have their own particular design. This section provides an overview of key features. Further details are provided on www.rbfhealth.org.

Recipient of funds: Most programs provide incentives to the supply-side of the health system; to health facilities, health workers, and at the district/provincial levels. Some countries, such as Rwanda and Cameroon, have rewarded community health workers as well. Gradually, more countries have also included demand-side incentives to increase the utilization of health services (e.g. Rwanda, Zimbabwe, Nigeria, Malawi). Communities are also recipients of funds in some cases, such as in Gambia where payment is linked to community efforts to prevent illness. In some countries, incentives are provided at all levels of care from hospitals to primary care centers, while in other countries, incentives target particular levels of the health system. In fragile states and post-conflict areas, incentives are often provided to private organizations (NGOs) that provide services on behalf of the government. There are also examples of results-based aid; the government of Ethiopia is rewarded based on national results in service delivery.

Indicators / result level: Due to priorities set by the donors, the programs typically reward indicators related to reproductive, maternal, neonatal and/or child health (RMNCH). Incentives are not linked to health outcomes but rather to outputs (e.g., vaccinations, delivery at health facilities, pre- and postnatal visits, family planning consultations), content of care indicators (e.g., tetanus vaccination or malaria prophylaxis during prenatal visits), and in most cases also to quality of care indicators. Quality of care indicators can be structural measures (inputs), such as availability of equipment, drugs, medical supplies and personnel to deliver services, or process measures focusing on the content of care during consultations. Incentives are thus typically provided both at the output and input levels. Some schemes also provide incentives for administrative performance indicators (e.g., timely and complete reporting).

Payment scheme: The predominant payment scheme for supply side incentives is a fee-for-service based on outputs and content of care indicators. In countries where quality indicators are used as well, an aggregate quality score (a number between 0 and 1) is often used to "deflate" the final payment (i.e., payments equal the output rewards multiplied by the quality score). Some countries (e.g. Tanzania) have rewarded the achievement of pre-defined targets for service coverage. However, such schemes are difficult to implement when reliable data on the denominators are lacking (e.g., the number of women that potentially could deliver at a particular facility). Tanzania has decided to move away from a system rewarding service coverage to a fee-for-service system.

On the demand side, the typical payment scheme is a conditional cash transfer depending on the utilization of a particular service (e.g., delivering at a health facility). Other examples included in-kind incentives such as in Rwanda,

where women delivering in a health facilities receive an umbrella, or in Zimbabwe, where there is a voucher scheme for the urban poor.

Recipient discretion: The RBF mechanisms in the health sector typically involve a high degree of discretion on how to use the funds. This is obviously the case for conditional cash transfers and payments directly to health workers and managers. Funds earned by a health facility are usually split into one part that is retained by the health facility to improve the services and one part for health worker bonuses. Health facilities usually have considerable discretion in how to allocate bonuses among staff and how to spend the funds allocated to the facility, while the split between workers and the facility is decided by the government.

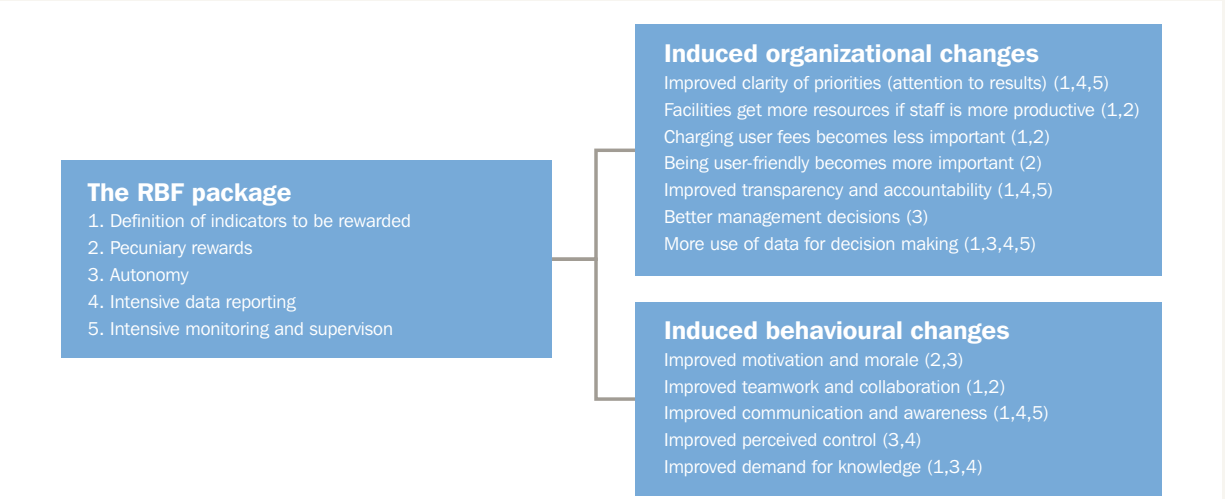
Verification: These PBR schemes are based on indicators that are difficult to observe for the payer and quite possible to manipulate by the recipients. Much attention has therefore been devoted to establishing reliable systems for data verification. The typical system is that data are verified by the administrative level above the reporting level. For instance, reports on outputs from health facilities are verified by the district/provincial level. This is supposed to be done quite frequently (e.g. monthly). Quality indicators are typically recorded through supervision visits by district health management teams (Olsen 2014). One challenge to this system is that district level officials often also receive incentives, typically related to some aggregate performance measure in their districts. Therefore, some system of counter-verification is needed. Usually, an external body, for instance an NGO, is contracted to perform counter-verification, either by using the same methods as in the original verification but sometimes also by verifying data at the household level (e.g., asking patients whether they actually visited the health facility). Due to high costs, these counter-verification mechanisms are implemented on a selective basis.

Theory of change

The program documents for the HRITF do not outline any comprehensive theory of change, but a theory of change has been articulated in the course of the implementation of the program, especially for the supply side RBF schemes (HRTIF 2013). Figure 2 (next page) presents a slightly condensed version in our interpretation, focusing on how RBF may affect the behavior of frontline service providers. In practice, RBF is implemented as a *package* where pecuniary incentives attached to defined indicators come together with increased autonomy and a more intensive focus on monitoring. The figure illustrates how each of these components may affect the behavior of individuals and organizations. These behavioral changes are in turn supposed to lead to increased availability and quality of services. Improved quality has a direct positive effect on health outcomes. Moreover, higher quality and increased availability of services have a positive effect on demand, leading to increased service utilization, which also will improve health outcomes as long as service quality is above a minimum level. Note that the framework does not mention that RBF also usually comes with increased financial resources, which may have its own separate impacts.

The theoretical framework also draws attention to a number of factors that are crucial for the

FIGURE 2: THE EFFECT OF SUPPLY-SIDE RBF ON THE PERFORMANCE OF SERVICE PROVIDERS



effectiveness of RBF. At the health facility level there has to be a clear understanding of the RBF scheme, incentives must be perceived as meaningful and fair, and expectations need to be managed to not create disappointment. At the health system level, reliable governance systems need to be in place to manage the RBF reporting and payment mechanisms. The effect will also depend on the ability of the health system to respond to actions taken at the facility level to increase the quality and quantity of services (e.g., providing medicines and other supplies). At the community level, attitudes and preferences as well as socio-economic opportunities are critical for how supply side initiatives will affect service demand.

In the principal-agent literature, which provides an important theoretical basis for supply-side RBF mechanisms, considerable attention has been devoted to potential undesirable effects of incentives: 1) agents may pay less attention to results that are not incentivized, or to indicators that are relatively poorly rewarded (multi-tasking), 2) agents may misreport results (gaming), 3) costs may increase as agents may demand compensation for carrying extra risks, 4) providers may focus excessively on easy results that are easy to obtain (cherry-picking), and 5) monetary incentives may undermine intrinsic work motivation. These concerns have also been raised in the Norwegian discussion about using RBF in the health sector (e.g., Olsen 2012, Mæstad 2007). A point that has received less attention is whether the incentives may distort efforts to improve quality by shifting interest away from the tasks that matter most for people's health (evidence-based medicine) to the one's that matter most for their decision to seek health care (client satisfaction).

Experiences

Documentation

RBF initiatives in the health sector have been accompanied by a huge effort to build evidence about the impacts of RBF, document implemen-

tation challenges, and understand reasons for success or lack of such. Most RBF pilots funded by the HRITF, as well as the bilateral programs, encompass impact and process evaluations. Norad has also evaluated the HRITF itself (Martinez et al 2012).

The fact that most RBF initiatives have been implemented as pilots in selected districts/-provinces or health clinics has facilitated the use of control groups and thus enabled more robust impact evaluations. In a few cases, random selection of pilot areas has enabled robust identification of the causal impact of RBF, although the evidence base at this stage would have been more robust with more consistent use of random implementation.

One of the key policy questions is whether the RBF package performs better than a more traditional financial package without performance incentives. In order to study this question, some studies have been able to provide traditional financing to the control districts (e.g., Rwanda, the DRC). However, many studies use control areas that receive no extra resources, implying that it is impossible to distinguish the impact of the resource component from the other elements of the RBF package. Consequently, it is impossible to determine whether the same results could be reached without the incentives.

Although many impact evaluations have been initiated, results are available from only five sites; Zimbabwe (HRITF 2014a), the DRC (HRTIF 2014c), Tanzania (Binyaruka et al 2014), Rwanda (Basinga et al 2011; Gertler and Vermeersch 2012), and Argentina (Gertler et al 2014). Process evaluation studies have been made available from four countries; Tanzania (Mamdani et al 2013), Cameroon (HRTIF 2014b), Zimbabwe (Mutasa et al 2013), and Nigeria (HRITF 2015). In addition, the HRITF has produced a useful summary report of lessons from RBF implementation in eight countries; Afghanistan, Benin, Burundi, Cameroon, Nigeria, Sierra Leone, and Zimbabwe (Ojo et al 2014).

In addition to the documented experiences, a large amount of non-documented practical experience on RBF implementation has built up through the many country programs. The international evidence based on RBF has also been expanded by evaluations of schemes where Norway has not been involved. Both these data sources fall outside the scope of this review.

Impact on incentivized indicators

This section builds on the results from the five impact evaluations. The results are not directly comparable as there are substantial differences between the interventions and the study designs. A fee-for service system was implemented in Rwanda, Zimbabwe and Argentina. DRC rewarded the relative performance between facilities, while Tanzania linked rewards to targets for service coverage at the health facility level. Quality "deflators" were used in Rwanda, Zimbabwe, and Argentina. Demand side incentives were implemented in Zimbabwe and Argentina. The amount of resources in the scheme varied from 8 USD per capita in Argentina to less than .5 USD in the DRC.

Two of the impact evaluations are randomized controlled trials (Rwanda and the DRC) and the others are controlled before-after studies. (Note however that there were challenges with the implementation of the randomized design in Rwanda, and it may therefore be more appropriate to classify also this study as a controlled before-after study.) In Rwanda and DRC, health facilities in control areas received extra resources of equivalent magnitude as in intervention areas but unconditional on performance.

Health outcomes were observed in the study from Argentina, where in-hospital neonatal mortality was greatly reduced, and in Rwanda, where height-for-age and weight-for-age for children below the age of five increased significantly. Most studies report positive impacts on the utilization of some, but not all, incentivized services, except in the DRC where there was no impact on any of the incentivized services. Three of four studies reporting on institutional deliveries found an increase in this indicator. Four studies reported an increase in coverage and/or content of care of either pre- or postnatal services. Little impact was observed on vaccination indicators. (Note that theory does not predict that the utilization of all incentivized services necessarily will increase; it may be rational for health workers to use their energy to increase utilization of services with high rewards relative to the efforts/costs required to increase the indicators.)

Impacts on intermediary factors contributing to impact

The rest of this section is based on the process evaluation studies mentioned above, unless we refer explicitly to the impact evaluations. RBF generally seems to have been well received by frontline health workers. In some countries, there has been initial skepticism, seemingly related to lack of trust in the scheme, as the skepticism quickly vanished when payments started to arrive (Cameroon). The incentives seem to have been able to affect health worker behavior. Even in the DRC, where no impact on service utilization was observed, the impact evaluation documented less absenteeism, reduction in user fees and more outreach activities by health workers. Reduction in user fees also took place in Zimbabwe, and there are indications of the same in the Tanzanian impact evaluation. A number of other entrepreneurial efforts to attract more patients have been documented, such as involving traditional birth assistants in sending pregnant mothers to health clinics (Tanzania), but the scale of such activities is unknown. Health facilities have used funds to improve the physical infrastructures as well as to buy equipment (Zimbabwe, Cameroon, Tanzania). However, in the DRC, where user fees were reduced without an increase in utilization, the impact evaluation showed that resources in intervention facilities dropped significantly, and so did the quantity and quality of equipment, as well as job satisfaction.

Several countries report improvements in staff attitude and morale and in attention to results (Zimbabwe, Cameroon). Indications of improved friendliness towards patients are found in the Tanzanian impact evaluation, and several countries report improvements in the relationship between health facility staff and communities. Improvements in supervi-

sion, increased contact between various levels of the health system, and improved teamwork at health facilities are reported in most cases. However, in hospitals, where rewards may have not been provided to all groups, examples of tensions have been reported (Tanzania).

Impact on non-incentivized services. Unintended effects

Although there is a concern that providing incentives for certain services may lead to reduced efforts to provide non-incentivized services, so far there are only two impact evaluations that have looked at this aspect (Tanzania and the DRC). These studies do not find any impact on the utilization of non-incentivized services. Likewise, the impact evaluation in Tanzania found no impact on the clinical quality of neither services, whether incentivized nor not. Examples of coercive practices to increase service utilization have been reported. In Zimbabwe, traditional leaders in their quest to support health facilities, introduced a fine of a goat or money (up to 50 USD) if mothers delivered at home. Concerns have also been raised about inducing demand and inappropriate prescription of antibiotics to attract more patients. [1]

Fee-for-service based systems can produce inequalities between centrally located facilities with a large catchment population and more remote facilities. An equity bonus for remote facilities may then be needed. In Tanzania, on the other hand, where payment per staff typically was higher in less staffed facilities due to a maximum bonus per facility, the RBF system created increased willingness to work in remote areas.

In the DRC, staff attendance increased in the intervention period but then dropped significantly after the intervention ended. This was interpreted as a sign of a potential detrimental effect of RBF on intrinsic motivation. The only study that explicitly attempted to measure the impact on intrinsic motivation (the Tanzanian impact evaluation) found no effect, however.

1 In Tanzania, in an RBF scheme not supported by Norway, health workers threatened mothers with a fine if they did not delivery at the facility (Chimhutu et al 2014).

Implementation challenges

Delays in payments have been an issue in 70% of the RBF pilots (Nair et al, 2014). This may have reduced the credibility of the program, in particular in its initial phases, and has been reported to be demotivating for health workers (Ojo et al. 2014).

The reliability of national administrative reporting systems differs hugely between countries, partly due to different reporting cultures. Data monitoring and verification appears to be a big challenge in many countries, although the magnitude of these challenges has yet to be documented. In some countries, data cannot be trusted at all without independent verification (Sierra Leone). Concerns about data reporting and verification have also been raised in Tanzania, Burundi and the DRC. In the DRC, verification was supposed to be conducted through community visits to 30 households every month. Less than 25% of the scheduled verification rounds were actually conducted. In Tanzania, the scheduled random community checks were rarely taking place. Sanctions against over-reporting were not implemented in the DRC. (Note that the

impact studies discussed above are largely based on independent surveys, not on the administrative reporting systems used in the RBF pilots.)

In Burundi, quality assessments by local supervisors were found to significantly overstate quality as judged by independent ex-post verification. Moreover, as the different "independent" actors in the RBF system interacted more with each other over time, there seemed to be an increasing tendency to "game" the system.

Systems with no upper bounds on payments, such as a fee-for-service system, may run into budget deficits. This can lead to delays in payments and undermine the credibility and motivational effect of the scheme. In the DRC, this issue was perceived as so problematic that the system was redesigned to reward relative performance among facilities (with a fixed total budget). The problem was also avoided in Tanzania, where there was a fixed maximum amount to be earned per facility.

Acceptability and sustainability

Despite initial resistance in some countries, RBF in general seems to have been quite well received. In Zimbabwe, where there was initial skepticism also at the political level, attitudes have changed significantly. However, in Zambia, where the program was not mainstreamed with national structures, there has been poor buy-in at the political level. Where governments also contribute financially to the program, ownership and potential for scale-up are enhanced (Burundi). In the case of lack of trust at the health facility level, it has been recommended to provide some upfront payments before the RBF scheme starts operating.

So far, RBF programs have mostly been implemented as pilots. Concerns have been raised in several countries about the possibilities for scale-up (Cameroon, Tanzania). Many of the pilots seems to be involve costs of about 2-3 USD per capita per year, which is a significant amount in poor countries' health budgets. Although there may be some economies of scale, it is likely that scale-up will require conversion of existing financing flows to results-based financing. This will present other challenges than those that have been encountered so far.

5. PBR to reduce CO_2 emission from deforestation

Design

So far, PBR mechanisms have been implemented only in the partnerships with Brazil and Guyana. This discussion focuses mainly on the Norway-Brazil agreement, which is the most long-lasting. Norway signed an agreement with Brazil in 2008 through which Norway would pay up to USD 1 billion in the period up to 2015 for reduced deforestation and associated reductions in CO_{22}emissions. Reduction in deforestation is calculated as deforestation below the "business as usual" deforestation rate measured by the 10-year average between 1996-2005 (later adjusted as the 2001-2010 average). Payments are made at a flat rate of USD 1,833 per hectare, estimated to correspond to USD 5 per ton CO_2, until the total available resource is exhausted. Thus, this is a PBR mechanism with a direct link to an outcome.

Deforestation rates are in this case quite easy to verify since they are calculated on the basis of satellite imagery. Deforestation reports are reviewed by a committee appointed by Brazil, comprising both national and international experts, and the data are made publicly available.

Payments for achieved results are made to the Amazon Fund. The Fund provides direct financing to forest related projects, not limited to projects intended to reduce deforestation but also to projects targeting biodiversity, ecological services, forest dweller sustainable development, etc. (www.amazonfund.gov.br). Payments from Norway are not disbursed until the Amazon Fund has prepared projects and is ready to spend money. There is considerable discretion in the use of funds, as long as they are spent in line with the objectives and regulations of the Fund, which include specific safeguards to address fiduciary, social and environmental concerns.

The Norway-Brazil agreement can be described as a PBR mechanism for reduced deforestation, where payments come in the form of traditional aid to forest conservation and forestry management projects with multiple objectives.

The agreement with Guyana was signed (in 2009) after the Norway-Brazil agreement and broadly follows the same outline, even if the context and the setting for the two countries are very different. In both cases the purpose of the agreement is to contribute to reduced deforestation, which in Guyana actually was quite modest. On the basis of an agreed reference level for "business as usual" logging activities, Norway agrees to pay for reduced deforestation as measured on a yearly basis, using the same structure and parameters as for the Brazil agreement. Guyana had a far less developed system for reporting on deforestation issues, but has been able to reach a level of credible reporting which i.a. has been certified by independent observers (Det Norske Veritas - DNV). The agreement also includes a number of commitments from Guyana to introduce additional reforms in forestry management. The agreement is also intended to protect the rights of forest dwellers and includes a number of safe-guard clauses to prevent mismanagement. The Norwegian funds will be paid into a facility set up for the purpose known as the Guyana Redd+ Investment Fund (GRIF), which could be compared to the Amazon Fund in Brazil, even if it was clear from the outset that GRIF would require considerable back-stopping and management support.

Theory of Change

NICFI has been criticized in a recent evaluation for not having prepared a proper theory of change (LTS International, 2014). The central proposition is of course that payments linked to verified reductions in deforestation will induce the actions necessary to actually achieve the desired outcome. The open question is through which pathways this change is supposed to happen.

Alternative causal pathways for results-based aid are discussed by Perakis and Savedoff (2015); pecuniary incentives, attention to results, discretion, and/or transparency (see above). They argue that all mechanisms except the pecuniary incentives may have played a significant role in the Norway-Brazil agreement.

Insofar as a prime objective of the climate and forestry initiative is to influence policies in recipient countries, the theory on aid conditionality would seem a natural reference point. A major conclusion from this literature is that aid cannot be used to buy policy reform (Collier 1997). Angelsen (2013) argues that the lessons from this debate need to be brought more strongly into the REDD+ debate. At the same time, he acknowledges that the NICFI has managed to address some of the common challenges associated with conditionality, for instance by reducing the pressure to disburse by establishing multi-year funds, and by defining clear and measureable results indicators in some of its projects.

An open question is what role the Amazon Fund (and similar entities in other countries) is supposed to play in relation to the PBR design, i.e., what role the Amazon Fund plays in the causal link between incentives and reduced deforestation. In itself the Fund operates as a traditional aid project for forest conservation and sustainable development, and it is funded by indicators that to a large extent are beyond its control, making it unlikely that the PBR mechanism has any influence on its behaviour. What clearly matters for the Amazon Fund are the resources provided by Norway, but no PBR mechanisms is needed for this purpose.

Experiences

Experiences from NICFI have been documented through a real-time evaluation (LTS International et al, 2014). The Centre for Global Development has published a number of pieces about the initiative (see www.cgdev.org), and a large academic literature has emerged on the topic.

None of these studies has been able to draw clear conclusions about the results of the Norway-Brazil agreement, and much less about the effects of PBR mechanism. Brazil reduced its deforestation by 60% between 2005 and 2009 (Fortstater et al, 2013:8). But did the PBR mechanism that then was implemented have an additional impact? Methodologically, this is a difficult question to answer. However, there are strong indications that pecuniary incentives themselves have not been important. The reduction in deforestation between 2009 and 2013 was about ten times larger than what could be paid for by the NICFI budget (Angelsen 2013). Hence, Brazil has long ago passed the margin where the incentives matter for decisions.

This experience illustrates the importance of defining appropriate baseline levels when the payment is proportional to results and the budget envelope is fixed. If the baseline deforestation level had been reduced to a more realistic level, the budget ceiling would not have been reached so fast, and the incentives could have been effective at the margin. To illustrate, Angelsen (2013) shows how a deforestation 'business as usual' reference level based on historical deforestation over the last 5 years rather than the last 10 years substantially reduces the measured reduction in deforestation. The baseline issue is particularly pertinent when performance fluctuates strongly over time due to other factors than the PBR mechanism, as this might have huge budget implications.

Several observers have noted that the Norway-Brazil agreement might have had an impact through political-economy mechanisms; by drawing attention to the outcomes of Brazilian deforestation interventions in ways that strengthen the prominence of deforestation policies within government as well as holding the government accountable to civil society (Perakis and Savedoff 2015). As one review points out, "ambitious national action for low-carbon development requires political will and policy changes that must be negotiated domestically. International funding can support this transition, but cannot force it" (Fortstater et al, 2013:31).

At the more practical level, there were severe delays in actually disbursing funds to Brazil on the basis of the agreement because the funds were specifically destined for the Amazon Fund. The Amazon Fund was set up in 2008 and needed time to prepare projects that could be funded; the Norwegian financial management regulations prevented disbursements until the Amazon Fund could show that it actually needed the funds. As project preparation activities have picked up at the Amazon Fund, this problem has gradually been solved (see Hermansen & Kasa,2014:16; Perakis & Savedoff, 2015:25).

6. PBR to promote clean energy

There are yet few concrete examples of PBR mechanisms funded by Norway in the energy sector. However, Norway has contributed to the analytical preparatory work for such projects through funding to the World-Bank-managed Energy Sector Management Assistance Program (ESMAP). This section draws partly on the few available experiences and partly on the preparatory work published by ESMAP (2013, 2015).

Design

PBR mechanisms in the energy sector are being envisaged both as results-based aid to national governments and results-based financing, for instance to energy producers to leverage private investments in clean energy. Energy+ aims to do both, by requiring that recipient partner countries use payments for national results to implement various RBF schemes. Possible RBF interventions include auctions, feed-in tariffs, power purchase agreements, combined with public guarantees, credits and grants.

Reward indicators in results-based financing schemes will typically be linked to production/sales of energy, and rewards will typically involve either a subsidy or a guaranteed price and/or quantity. Results-based aid can in addition be linked to indicators such as energy access and emission reductions. ESMAP (2013) recommends using indicators of energy access that includes a measure of the quality of energy supply as well, not only whether or not there is a connection. Note that the measurement of energy access typically will require data collection through household surveys.

The GET-FiT programme in Uganda involves the payment of a premium (10-15%) on top of the basic feed-in tariff for main grid electricity. Investors are invited to approach the programme with plans for investments in renewable energy plants, and if the plans are accepted, an agreement for the subsidy is drawn up. The subsidy, which is calculated on the basis of the expected normal production of electricity over a 20-year period, is paid out to the investor over the first five years after the Commercial Operation Date of the plant. In practical terms this means that 50% of the subsidy is paid out at the Commercial Operation Date.

The GET-FiT programme refers to this scheme as a results-based financing scheme and claims that the result paid for is not the plant itself but for the clean electricity that will be generated by the plant. However, since the envisaged results (20 years' production of clean electricity) are paid for more or less in advance, as there is no link of the payment to the actual results in the last 15 year period, the real PBR element of the scheme is quite limited.

Theory of Change

Energy+ is still a young programme and has not yet produced any coherent theory of change specifically guiding the design and implementation of program components. But that is not to say that the programme operates in a theoretical vacuum. ESMAP (2013, 2015) provide a broad overview of relevant theoretical considerations both for results-based aid (RBA) and results-based financing (RBF) in the energy sector.

The RBA theoretical framework focuses on increased *visibility* of outcomes and a funding scheme with high level of *autonomy* as the core causal mechanisms. Interestingly, it does not mention the potential for incentives to change political priorities; rather it underscores that local interest in improving results is a *pre-condition* for RBA to work. This is much in line with the aid conditionality literature (e.g., Collier 1997).

More than in other sectors, the theoretical discussion on PBR in the energy sector is framed as a discussion of results-based payment *versus* traditional financing. Important features of the energy sector are the need for large upfront investments and long investment horizons (although Norwegian support also focuses on small-scale, off-grid solutions, in particular in remote areas). PBR in its pure form is less applicable when recipients of funds face financing constraints and when donors do not have a very long term horizon of their engagement. This may reduce the applicability of pure PBR approaches in the energy sector. It is also underscores that donors need to be able to handle uncertainty about payment amounts (in ways that do not remove the incentives, cf. the challenge with reaching the budget ceiling in the Amazon Fund).

The framework also emphasizes that results-based payments require a reasonable proximity between measurable indicators and the outcome of interest, and that incentivized indicators must be substantially under control of the recipients.

When it comes to results-based financing, typically involving a subsidy of some kind to private companies, the underlying theory is a straightforward principal-agent framework, where the important considerations relate to 1) the possibilities to incentivize the right outcomes without any perverse effects, and 2) whether the benefits of transferring of risks from the principal to the agent outweighs the costs, including the compensation for higher risk and the costs of monitoring performance.

In summary, the theoretical discussion around PBR in the energy sector is quite balanced, acknowledging both the benefits, the costs, the opportunities, and the constraints of PBR compared to alternative approaches. A study commissioned by Energy+ on alternative delivery mechanisms, including PBR, concludes that *'most likely, the PBR approach is in practice highly effective for some purposes, but not all.* (Sauar et al., 2014:70).

Experiences

Few relevant experiences have been gained so far in the energy sector. Experiences from the GET-FiT programme show that the scheme has been sufficiently attractive to make commercial investments in power generation in Uganda feasible to investors. However, it would probably be even more attractive to invest if the payments were not linked to results at all but were provided as traditional upfront financing. The programme also demonstrated some of the limitations of PBR in the energy sector as donors were unable to commit to provide incentives over the 20 year time horizon of the project, but rather had to pay out all the subsidies over a five year period.

The importance of getting the results indicators right (and being careful in the specification of the theory of change) was demonstrated in Liberia where Norway indirectly contributed to the establishment of a World Bank PBR project that would reward the new connection points for access to electricity for the poor. However, with a price of electricity of around 50 cent per kWh, the poor could hardly afford to use the electricity, and there was fairly limited impact.

7. Lessons and recommendations

Although the Norwegian experiences with results-based payments are limited, the combined experiences from the three sectors studied here illustrate quite well both the opportunities and the challenges involved. Some key lessons and recommendations based on the experiences to date are:

DESIGN

- Pure Payment by Results (PBR) mechanisms are rare. PBR is usually combined with traditional, upfront funding, in particular when results cannot be achieved (and/or measured) without significant investments and the recipient has few other financing opportunities.

- Other important considerations affecting the decision to use PBR are: availability of results indicators with sufficient proximity to the outcome of interest and that are sufficiently within the control of the recipient; the costs of transferring risk to the recipient; the costs of monitoring and verification of results; the likelihood that incentives will not have perverse effects; the budget risk for the donor; and the time horizon of the project.

- With the exception of the climate and forestry initiative, few PBR schemes reward outcomes; most schemes provide incentives for intermediary results. This may affect the likelihood that the outcomes of interest are obtained. It may also affect the possibilities for unintended consequences. The development of a clear theory of change is an important step in addressing these concerns.

- PBR can be implemented through different types of schemes, with different indicators, different types of recipients, different payment schemes, different levels of discretion in the use of funds, etc. The experiences from the health sector is illustrative of some of this diversity. Each particular design has its particular advantages and disadvantages. A careful choice of indicators and other design elements must be made case by case, reflecting both project objectives and contextual factors.

- PBR mechanisms usually involve a package of reforms beyond pecuniary incentives (e.g., increased data monitoring, increase autonomy).

- All examples of PBR to date involve not only incentives but also additional resources. It is however also possible to implement PBR by converting existing funding flows from a traditional approach to results-based payment. One challenge is that this would bring up the issue of transfer of risk in a very different way than when PBR comes with additional resources.

THEORIES OF CHANGE

- PBR mechanisms may work through several causal pathways. This is particularly so since PBR mechanisms usually involve not only pecuniary incentives, but also a package of other interventions.

- There seems to be a tendency, in particular when it comes to results-based aid, that gradually more emphasis has been placed on the ability of PBR mechanisms to bring attention to results, rather than to the pecuniary incentives themselves. Other potential causal mechanisms include the role of PBR in increasing autonomy and enhancing decentralized decision-making as well as in increasing the levels of accountability of service providers.

- It is important to be explicit on which mechanism is thought to be more important in each case, as this may have substantial implications for the optimal design of the scheme.

- Incentive mechanisms usually have a number of potential perverse effects, as illustrated by the discussions that have taken place in the health sector. It is important to identify the potential perverse effects to be able to choose an optimal design and establish necessary safeguards.

- The current Norwegian PBR initiatives have not been particularly explicit on their theories of change from the outset. New initiatives would likely benefit from a clearer articulation of the theories of change at an earlier stage.

- The aid conditionality literature warns against the potential for incentives to buy radical policy reform. This insight seems to be acknowledged in some of the PBR initiatives, while others might benefit from considering this challenge in greater depth.

IMPLEMENTATION

- Establishment of credible data monitoring and verification procedures is crucial. The challenge of doing so depends greatly on the choice of indicators. In some sectors, available indicators are notoriously difficult to monitor (e.g., health), implying that the costs of implementing PBR is higher in some sectors. The costs of establishing credible monitoring and verification may also vary greatly between countries due to different cultures for accurate reporting.

- Delays in payments has been an important concern in many of the PBR schemes in the health sector. It is unknown to what extent this may have undermined the credibility and impact of the schemes.

- The general attitudes towards results based financing among frontline service providers seem to be quite positive. They may however be skeptical to the scheme at the outset, in particular if they lack confidence in national governance systems. Measures may have to be taken to build the necessary level of confidence in the results based financing scheme.

- Implementation of PBR mechanisms is more challenging when results depend on investment with a long time horizon (e.g., large-scale energy production investments). The donors then need to make long term commitments, which they typically will not do.

- Lack of donor capacity to handle uncertainty in the size of payments may undermine credible implementation of PBR schemes.

DOCUMENTED RESULTS

- The fact that PBR mechanisms link payment to verified results does not imply that there is a *causal* impact of PBR on results. Whether PBR provides value added is an empirical question.

- The evidence on the impact of results-based approaches is quite limited. Norway has however made significant investments to enhance the evidence base on the impact of results-based financing in the health sector. A handful of studies is now out, and many more are in progress. Since the range of possible PBR approaches is huge, substantial investments to build the evidence base are needed in the years to come, both in health and in other sectors.

- Most impact evaluations of supply side incentives in the health sector show a positive impact on the utilization of some incentivized services, while there are no effect on others. Results based financing seems to have affected the behavior of frontline service providers in the short run, but the extent and depth of the changes are unknown. Long run impacts are also unknown.

- Two studies (Argentina and Rwanda) have evaluated the impact of results based financing on health outcomes. Both studies found positive results.

- Two studies have evaluated whether RBF in the health sector had an impact beyond the effect of additional resources. One study found positive results on some indicators of service utilization, but no effect on others (Rwanda). The other study found no impact (the DRC).

- Two studies (Tanzania and the DRC) have evaluated the impact of results based financing on the utilization of non-incentivized services. No impact was found.

- There are a few examples that incentives have had perverse effects (coercive practices), but the magnitude of such challenges has not been documented.

8. Appendix

METHODS

The two reports *Experiences with Results Based Payments in Norwegian Development Aid* and *Basis for Decisions to use Results Based Payments in Norwegian Development Aid* are the results of a desk review based on written documentation, supplemented with interviews with selected key people involved in the initiation and implementation of results-based payments in Norwegian development cooperation.

Projects and programmes using a results based funding modality were identified by Norad on the basis of the Norad statistics portal and consultations with relevant departments in the Ministry of Foreign Affairs and Norad.

The research team conducted semi-structured interviews with key programme officers and key people behind the identified projects and programmes to better understand the basis for decisions to use results based payments and to obtain a proper account of the experiences to date. The interviewees were asked to make available relevant documents (project documents, discussion notes, reports, evidence reviews, evaluations etc.).

The team also searched the web pages of key multilateral agencies involved in the implementation of Norwegian results based initiatives and contacted their secretariats to obtain documentation on the programme logic as well as the experiences obtained.

One should note that the projects that are the subject matter of this study are mainly high-profile projects set up by high-level political decisions, rather than the outcome of regular bureaucratic processes. This has limited the extent of documentation available, particularly on the discussions and deliberations that presumably took place before the initiatives were launched.

Note that since this study is confined mainly to written documentation, we have been unable to capture much of the detailed practical experience from implementing results-based payments. Neither does the study include experiences made by other funding agencies.

PERSONS INTERVIEWED

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Elisabeth B Clemens	Policy Director, Department for Climate, Energy and Environment, Section for Renewable Energy, Norad
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Abbreviations and acronyms

DPT3	Three doses of the Diphtheria-Pertussis-Tetanus vaccine
DNV	Det Norske Veritas
DRC	Democratic Republic of Congo
EnDev	Energizing Development
ESMAP	Energy Sector Management Assistance Program
GAVI	The vaccine alliance (originally Global Alliance for Vaccines and Immunisation)
GET-FiT	Global Energy Transfer - Feed-in Tariffs
GRIF	Guyana REDD+ Investment Fund
HSS	Health System Strengthening
HRITF	Health Results and Innovation Trust Fund
ISS	Immunization Services Support
NGO	Non-Government Organisation
NICFI	Norwegian International Climate and Forestry Initiative
PBR	Payment by Results
PES	Payment for Environmental Services
RBA	Results-Based Aid
RBF	Results-Based Financing
REDD+	Reduced Emissions from Deforestation and forest Degradation
RMNCH	Reproductive, maternal, neonatal and/-or child health