Ministry of Foreign Affairs

IOB Evaluation

Policy review of Dutch aid policy for improved water management, 2006-2016

Mali country study

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Preface

This Mali country case study was conducted in the framework of a policy review of Dutch aid policy for improved water management over the period 2006 to 2016. The study was led by Dr Stephen Turner, who also wrote the case study report. As part of the study, Dr Turner visited Mali from 2 to 8 April 2017. Mr Ely Dembélé, senior Malian water expert, accompanied him during this mission and provided able assistance in the preparation of this report.

The evaluation team is very grateful for the patient support of the many informants who helped to provide documents, information and opinions, in Mali and the Netherlands. People met, either in person or through Skype or phone calls, are listed at Annex 5.

The team especially thanks the Netherlands Embassy in Bamako for all the hospitality and assistance they received – in particular, from the First Secretary Water Management, Felix Hoogveld.

Finally, a big thanks to all colleagues in Mali and the Netherlands who kindly commented on drafts of this report – helping to improve this final version.

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List of abbreviations

ABN	Autorité du Bassin du Niger
ARPON	Amélioration de la Riziculture Paysanne à l'Office du Niger
ASAP	Agricultural Smallholder Adaptation Programme
AWM	across water management themes
BEMO	Activity Appraisal Document (Beoordelingsmemorandum)
CCPT	cross-cutting policy themes
CGIAR	Consultative Group on International Agricultural Research
CIWA	Co-operation in International Waters in Africa
CLE	Comité Local de l'Eau
DGIS	Directorate-General for International Co-operation (Directoraat-generaal Internationale Samenwerking)
DNH	Direction Nationale de l'Hydraulique
DRYDEV	Drylands Development Programme
DUPC	DGIS-UNESCO-IHE Programmatic Co-operation
ECOWAS	Economic Community of West African States
EKN	Embassy of the Kingdom of the Netherlands
EQ	evaluation question
FAO	Food and Agriculture Organisation of the United Nations
FDW	Sustainable Water Fund (Fonds Duurzam Water)
GDP	gross domestic product
GHENIS	Gestion Hydro-Ecologique du Niger Supérieur
GIRE	gestion intégrée des ressources en eau
GIRENS	Gestion Intégrée des Ressources en Eau du Niger Supérieur
GOG	Government of Guinea
GOM	Government of Mali
GON	Government of the Netherlands
GWP	Global Water Partnership
GWP/WA	Global Water Partnership West Africa
ha	hectare
HELEN	Projet de Renforcement de l'Harmonisation et de l'Efficacité de la Gestion à l'Office du Niger
HGIS	Integrated International Co-operation Group (Homogene Groep Internationale Samenwerking)
IFAD	International Fund for Agricultural Development
IGG	Directorate for Inclusive Green Growth (Directie Inclusieve Groene Groei)
IOB	Policy and Operations Evaluation Department (directie Internationaal Onderzoek en Beleidsevaluatie)
IUCN	International Union for Conservation of Nature
IWMI	International Water Management Institute
IWRM	integrated water resource management
KfW	Kreditanstalt für Wiederaufbau
KIT	Royal Tropical Institute (Koninklijk Instituut voor de Tropen)

km	kilometre
LDCF	Least Developed Countries Fund
M&E	monitoring and evaluation
MASP	Multi-Annual Strategic Plan
MANFQ	Ministry of Agriculture, Nature and Food Quality (Ministerie van Landbouw, Natuur en Voedselkwaliteit)
MDG	Millennium Development Goal
MER	Netherlands Commission for Environmental Assessment (Commissie voor de Milieueffectrapportage)
MFA	Ministry of Foreign Affairs
MHSPE	Ministry of Housing, Spatial Planning and the Environment (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu)
mm	millimetre
MTPWWM	Ministry of Transport, Public Works and Water Management (Ministerie van Verkeer en Waterstaat)
MTR	mid-term review
NAPA	National Adaptation Programme of Action
nd	not dated
np	no page number
NEF	Near East Foundation
NL	Netherlands
NWP	Netherlands Water Partnership
O&M	operation and maintenance
ODA	official development assistance
OdN	Office du Niger
OMVS	Organisation pour la Mise en Valeur du fleuve Sénégal
PACOP	Programme d'Appui à l'Office du Niger pour l'Execution du Contrat Plan 2008-2012
PADIN	Programme d'Aménagement du Delta Intérieur du Niger
PAGIRE	Programme National d'Action de Gestion Intégrée des Ressources en Eau
PAHA	Plan d'Aménagement Hydro-Agricole
PAPAM	Projet d'Accroissement de la Productivité Agricole au Mali
PASARC	Projet d'Appui à la Résilience des Populations aux Crises Climatiques et Sociales dans la Région de Mopti
PCA-GIRE	Programme Conjoint d'Appui à la GIRE
PNIR	Programme National d'Infrastructures Rurales
PPP	public-private partnership
PRCA-SA	Programme de Renforcement des Chaînes de Valeur Agricoles pour la Sécurité Alimentaire
PvW	Partners for Water (Partners voor Water)
RVO	Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland)
SAPI	Sécurité Alimentaire à travers la Promotion de l'Irrigation
SDAGE	Schéma Directeur d'Aménagement et de Gestion des Ressources en Eau
SEA	strategic environmental assessment
SIWI	Stockholm International Water Institute

(S)NWM	(sub) national water management
SRHR	sexual and reproductive health and rights
SWFF	Securing Water for Food
t	tonne
TA	technical assistance
ToC	theory of change
ToR	terms of reference
TWM	transboundary water management
UNDP	United Nations Development Programme
UNESCO-IHE	United Nations Educational, Scientific and Cultural Organisation Institute for Water Education
WANI	Water and Nature Initiative
WB	World Bank
WIN	Water Integrity Network
WM	water management
WMAg	water management in agriculture
WPP	Water Partnership Programme
WRM	water resource management
WUA	Water User Association
YEP	Young Experts Programme

Summary

Background

The Policy and Operations Evaluation Department (IOB) of the Netherlands Ministry of Foreign Affairs (MFA) is undertaking a review of Dutch aid policy for improved water management, 2006-2016. As part of this review, country case studies have been commissioned, focusing on those countries that received the largest amounts of bilateral funding for water management activities. These studies are intended to evaluate the results of the water management policy cycle in each country, focusing on effectiveness and efficiency criteria. Each of these studies will be a stand-alone review that can be read and used separately, but will also form inputs to the overall policy review. Bangladesh, Indonesia and Mozambique were initially selected for this purpose. Later, a briefer study of Mali was added.

As a theory-based review, the policy review identified the theory of change (ToC) implicit in Dutch water management policy and programme design, and – most usefully – the assumptions that seem to underlie that theory. The report's conclusions revisit some of those assumptions and comment on their accuracy.

Main findings

Dutch development aid contribution

1) *The MFA allocated a total of EUR 75 million through the delegated budget of the Netherlands Embassy (EKN) for water resource management activities in Mali during the review period.*

Throughout the period (although all work was severely disrupted by the security crisis of 2012-2013 and its aftermath), the Netherlands continued support to water and land users in the irrigation area of the Office du Niger (OdN). Direct engagement with them at field level before 2006 was replaced by mainly institutional support to and through the OdN itself. For some of the period, this constituted a kind of sector budget support. Direct assistance to water and land users was maintained through the whole period by a succession of projects in the inland delta of the Niger that focused as much on enhanced crop production, processing and marketing as they did on water management itself – demonstrating that food security and water security are inseparable in Mali.[1] All these efforts aimed, inter alia, at promoting understanding and application of the principles of integrated water resource

[1] Some of these projects were initially funded by the EKN's food security budget.

management (IWRM)[2], as did a third major component of the portfolio: support to central government, in particular the Direction Nationale de l'Hydraulique (National Directorate of Water, DNH) in the Ministry of Water and Energy, to enhance water resource management capacity, approaches and operations at the national level. Focusing particularly on the Niger river, these efforts had a transboundary water management (TWM) component, too, with projects spanning the border with Guinea to promote better management of the upper Niger basin.

2) *Two thirds of support through the delegated budget of the EKN was focused on water management in agriculture.*

The global policy review has identified four broad categories of activity: (sub) national water management; water management in agriculture; TWM; and cross-cutting policy themes. In the portfolio of delegated funding to Mali described above, 39% of the total budget (2006-2016) is categorised in the sub category 'water management in agriculture: agricultural development', with an additional 27% classed as 'water management in agriculture: water productivity', i.e. activities focusing more specifically on increasing the efficiency of agricultural water use. 'TWM' received 30% of the delegated budget over the period, but projects so classified actually included much domestic support to the DNH.

3) *In addition to the activities supported with delegated MFA funding through the EKN, MFA central funding supported activities that had links to Mali.*

As reporting on these centrally funded activities is not broken down by country of expenditure, it is not possible to say what MFA expenditures through this channel were in Mali. These activities included capacity development, research, the promotion of gender equity and good governance in water management, innovation and technical development. Beyond the direct purview of the MFA, the Partners for Water programme funded only one water resource management activity in Mali during the review period. The Fund for Sustainable Water was not used.

4) *As clearly-evident climate change exacerbated water insecurity in Mali, Dutch support to improved water management was highly relevant.*

There are two reasons for this. First, Malian food security and livelihoods are heavily dependent on effective water management. Water security and food security are indivisible in this country. Secondly, rooted in its domestic water management skills and wide-ranging international experience, the Netherlands could deploy valuable expertise in tropical water resource management through its development co-operation programme with Mali. Partly

[2] IWRM 'is defined as a process which promotes the coordinated development and management of water, land and related resources in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems... The basis of IWRM is that the many different uses of water resources are interdependent... Integrated water resources management is based on the equitable and efficient management and sustainable use of water and recognises that water is an integral part of the ecosystem, a natural resource, and a social and economic good, whose quantity and quality determine the nature of its utilisation... An IRWM approach focuses on three pillars: an enabling environment of suitable policies, strategies and legislation for sustainable water resources development and management; putting in place the institutional framework through which to put into practice the policies, strategies and legislation; and setting up the management instruments required by these institutions to do their job' (Global Water Partnership, 2017).

as a result of Dutch support, there is more local expertise now – although the government of Mali (GOM) lacks resources to use it all. Available Dutch expertise is dwindling as a generation of Sahel specialists retires.

5) *Compared to the other three countries for which this policy review has undertaken special studies, there was less evolution or diversification in Dutch policy mechanisms, instruments or approaches over the review period in Mali.*

This remained an aid relationship – a relationship that was increasingly challenged by the deteriorating security conditions. The overall question for the Netherlands in Mali was less how it could engage the Dutch water sector with water management challenges in the country, and more how it could maintain some support to water management in a broader context of defence and diplomacy. The concept of resilience was central: how Dutch support to improved water management could help make the gravely threatened livelihoods of Malians more durable. Adaptability and flexibility in management of the delegated portfolio were vital in Mali during this period. The Netherlands Embassy (EKN) managed to work that way. But many of the policy and procedural embellishments that the Netherlands adopted during the review period were of limited value in Mali, where it was still necessary to tackle long-standing institutional and technical problems of water management in an increasingly difficult context of climate change and insecurity.

Policy effectiveness

6) *Netherlands support achieved short- to medium-term effectiveness in the field. At higher institutional levels, there was less progress – which ultimately constrained the long-term effectiveness of all Dutch support to water resource management in Mali.*

There are two ways to achieve effective results in support to improved water management. The first, and quicker, way is to work directly with water and land users, at field level: building their skills, helping them develop their institutions, and enhancing their water management and production. The second, much slower way is to build the national institutional framework, capacity, systems and procedures that will manage the country's water resources as a whole. This is the only truly sustainable approach. During the review period, Netherlands support in Mali proved partially successful with the first approach, through the projects in the inland delta. There had been considerable success before 2006 in the OdN zone, but that phase was ending as the review period began. There was much less, and slower, progress with the second approach, working with large-scale and national institutions. The available information – admittedly incomplete – suggests that institutional progress with the OdN was unsatisfactory, despite substantial expenditures. Much valuable work was done, in a generally constructive spirit of partnership, with the DNH. For a number of reasons, however (including the effects of structural adjustment), the DNH and its parent ministry continued to lack capacity and budgetary resources.

One ToC assumption was that it is feasible for the Netherlands to achieve significant improvements in the quality (including the transparency) of national water management institutions. In Mali, that assumption was not fully valid. The assumption that water

management plans lead to meaningful, effective action must be similarly nuanced. Although valuable results were achieved in the inland delta, the planning efforts supported by the Netherlands at larger scales – including the OdN – achieved less meaningful, effective action. The institutional and bureaucratic obstacles – some of them far beyond the control of any donor – were too great. Even without security and political constraints, the national institutional environment in Mali precludes fully effective support for improved water management in the short to medium term.

7) Dutch support was partially effective in promoting the principles of IWRM in Mali during the review period.

IWRM principles are now widely known and accepted, but are only partially implemented. One important issue is the relative emphasis given to large-scale water management planning and to the micro scale of in-field soil water management, and the question of whether the importance of soil fertility management is adequately recognised. Optimum water productivity – more crop per drop – is vital, requiring detailed local extension work with land and water users, supported by appropriate technical research and expertise. During the review period, Dutch support to water management in agriculture gave insufficient attention to these basic technical challenges, and did not result in adequate national level understanding of the need to manage and allocate water (and consequently land) resources more frugally. Support for the development of local water committees (CLEs) as as basis for IWRM did not result in implementation at scale. National systems and capacity for co-ordinated implementation of IWRM at scale by government and donors remained lacking.

8) Regional TWM co-operation was feasible, but only partially effective.

One of the ToC assumptions was that regional co-operation was politically and institutionally feasible. In one sense, this proved correct. Through the GIRENS[3] and PCA-GIRE[4] projects, the Netherlands was able to support a degree of collaborative TWM action by Mali and Guinea, and less directly by all nine riparian states through the Autorité du Bassin du Niger (ABN). The deeper question, however, is how practically effective such political and institutional collaboration was. In that sense, Dutch support was less effective. There were at least as many institutional, bureaucratic and budgetary obstacles to action in Guinea as in Mali, and the ABN had less operational effect than the formality of its institutional arrangements might suggest. Nevertheless, experience continued to show that effective management of Mali's major river systems depended in part on effective TWM.

9) Climate change is recognised as a real, immediate challenge.

In the case of climate change, Netherlands support for water management was pushing at an increasingly open door, as Malians began to feel that 'average years' no longer existed. Climate change has gained traction as a policy and programming priority in Mali. This should mean a growing awareness of the importance of IWRM – for which the Netherlands is seen as by far the most important development partner. The challenge now is to convert awareness and commitments into practical action to tackle the effects of climate change.

[3] Gestion Intégrée des Ressources en Eau du Niger Supérieur.
[4] Programme Conjoint d'Appui à la Gestion Intégrée des Ressources en Eau.

10) The relationship between water security and (inter)national security is vitally important in Mali.
Mali, with its very young population, still high population growth rate and insufficient economic opportunities for its youth, presents real challenges. Can better water management be linked to expanded livelihood opportunities for young people in towns and rural areas, helping to reduce radicalisation and conflict within and beyond the country's borders? During the review period, Dutch support to improved water management achieved a partially positive answer to this, through activities in the inland delta (including the short-term efforts at Gao).

Policy efficiency

11) There was little broader involvement of the Dutch water sector in Mali water resource management during the review period.
One of the review's evaluation questions asks whether the involvement of the Dutch water sector led to information, knowledge and techniques that are relevant and practical for intended beneficiaries to use; and whether it has leveraged efforts of concerned donors, policy and/or implementing agencies. For Mali, the answer is mostly (but not entirely) negative. Largely because of the unattractive commercial environment and the difficult security situation, the scope for involving the broad Dutch water sector was limited. The programmatic efficiency of Dutch support to improved water management in Mali continued to depend mainly on bilateral co-operation between the two governments, with international NGOs and Dutch consulting capacity providing some technical and implementation services.

12) Older approaches and modalities for support to improved water management remain appropriate in some country contexts.
Mali was thus a reminder that the older modalities of development co-operation are still the most appropriate in some countries; and that, within such countries, field-level implementation with direct beneficiaries is a more efficient way of achieving at least short- to medium-term results than institutional engagement with national or large-scale agencies. The implicit ToC assumption was that strengthening of water management institutions at government and user levels (by enhancing their structure, human resource capacity and budgetary resources) enables them to engage in meaningful dialogue and arrive at broadly accepted water management policies and practices. Experience in Mali suggests that this is only partly true. This does not mean that such efforts should be abandoned. It means that they should be guided by realism about the pace and scope of possible progress.

13) Support for water resource management in Mali cannot be part of a conventional development agenda.
Instead, Dutch water resource management programming in Mali must be built into integrated strategy to support the country's national survival, resilience and ultimate progress in the face of national and regional insecurity; major demographic and economic challenges; and climate change whose severe impacts are already being felt. Water resource issues span these challenges. Addressing them is a logical part of the integrated 'defence, diplomacy and development' rationale for Netherlands support to Mali.

Recommendations

'Recommendations' is a misnomer for what follows, given the brevity of this country case study. It is better to call them suggestions. They are offered in humble recognition that the factual and analytical foundation for making them is narrow.

1) *All programming for water management support should be guided by realism.*

There are two aspects to this realism. The first is the political and security context, which makes a conventional 'development' agenda inappropriate, and calls for integration of water management support in an overall 'defence, diplomacy and development' strategy, as just argued above.

The second aspect concerns the fact that effective institutional change is driven from within. No amount of external support, over any number of years, can achieve that change if domestic commitment and conditions do not provide the main force for change. Decades of Dutch support have shown that progress will be slow and incomplete in reforming and developing national water management institutions (including the OdN). There will be at least as much frustration as there is progress. Realism, in these circumstances, does not mean giving up all such efforts. Instead, support strategy should identify those interventions that can, nevertheless, achieve some meaningful progress in the livelihoods of land and water users and in the national frameworks that guide water management. Realistically, the institutional efforts are unlikely to be fully successful. But if some institutional support and contact are not maintained, particularly at central level, it will not be feasible to continue more practical support at more local levels.

2) *The Netherlands should not plan further support to the OdN or to irrigated producers in the OdN zone.*

Institutional development efforts at the OdN during the review period were largely unsuccessful. Unless the OdN becomes a competent organisation, it is – regrettably – not a productive use of resources (nor operationally feasible) to attempt support to land and water users in the OdN zone. As argued above, the fundamental drivers for the required change in the OdN must come from within Mali. They cannot be delivered from outside. External engagement may cloud this reality. A further reason not to invest further in this area is that any such investment should be based on a rational and credible allocation of Niger water resources to the OdN and the various other current and planned economic and ecological uses in Mali and downstream. Recent planning efforts have failed to achieve such an allocation.

3) *Guided by the realism recommended above, tighten the focus of support to the DNH and to national water resource management.*

During the remaining implementation period of PCA-GIRE, and subject to the recommendations of this year's evaluation of Dutch support, the programme should be focused more, so that activities match resources and are limited to the highest priorities. With realism about the likely pace and scope of progress, those priorities include policy and legislative development and, most importantly, support to the larger-scale establishment of

CLEs – along with ongoing advisory and diplomatic support (which may be frustrated) for land and water allocation decisions in the Niger system that are based on sound hydrological, economic and ecological considerations. Although the promotion of IWRM through the establishment of basin/catchment management agencies is a logical goal, it would be risky to invest too much effort in this because progress will, at best, be slow, and the resources, capacity and political will needed to make such agencies a reality will, at best, be limited. Support to the DNH is the aspect of Dutch assistance to Mali water management where realism is most needed. It is essential to continue this support. It would be wrong to expect fully satisfactory results.

4) In the future portfolio, highest priority should be given to support for enhanced water and land management, linked to increased production and food security, in the inland delta of the Niger.

It is essential to ensure that the hydrology and ecology of this zone are maintained; that everything possible is done to build sustainable increases in the crop, livestock and fish production and processing that depend on effective water management there; and that sustainable livelihoods are promoted for current land and water users and the much larger young generation – all in a stable community and institutional environment. Achievements at this level may not last into the long term if national policy and institutional frameworks are not satisfactory. But there is much that can be achieved by such field level interventions in the short to medium term. The gravity and urgency of the current situation in Mali make a focus on the short to medium term appropriate.

5) Continue support to TWM, especially in the upper Niger basin.

The Netherlands should continue to promote ecologically and hydrologically rational TWM by Mali, with particular – though possibly frustrating – emphasis on management of the upper Niger basin with Guinea. Here again, realism is vital. Progress will at best be partial. But, as in other aspects of national water resource management, a Dutch presence and contribution are vital.

6) Maintain and build Dutch 'soft power' in water resource management.

This is a qualitative but meaningful concept linked to the Netherlands' profile, performance and reputation in Mali as a long-term, trusted, expert adviser in this field. It includes maximising the training and networking opportunities in water management that (centrally funded) Dutch agencies, services and facilities can offer. Without necessarily being the biggest donor, the Netherlands has ample opportunity – some would call it an obligation – to be a good global citizen in its water management support to Mali. Most of the resources and effort should be devoted to field-level work with water and land users – including, to the maximum possible extent, the youth – who can achieve tangible livelihood and security benefits in the short to medium term. But some resources, and great care, should continue to be allocated to national-level work that strengthens the Netherlands' well-deserved, strong reputation in Mali water management. In the long term, that may even serve as a foundation for a broader and more commercially profitable engagement of the Dutch water sector in the country.

1

Introduction

1.1 Policy review of Dutch aid policy for improved water management, 2006-2016

The Policy and Operations Evaluation Department (IOB) of the Netherlands Ministry of Foreign Affairs (MFA) is undertaking a review of Dutch aid policy for improved water management, 2006-2016.[5] This will complement an earlier policy review of the Dutch contribution to drinking water and sanitation programmes in developing countries (IOB, 2012). The review team has already undertaken extensive research on the global portfolio of Netherlands support for water management over the ten-year review period, and the overall review report is due for completion later in 2017. The review's overall terms of reference (ToR) identify three broad policy objectives, which

'are the core of the Dutch water management for development policy between 2006 and 2015. They are therefore the main focus of attention in this study:
water productivity: improved water management for increased productivity in agriculture;
developing and implementing water management plans at national or sub-national level;
improving transboundary water management [TWM] in watershed areas.' (IOB, 2016, p. 7).

The ToR for the policy review were structured in terms of these three objectives.

1. Improved provision of water for agriculture was a long-standing component of Dutch development co-operation. The concept of **water productivity**, focused on more efficient use of water in agriculture, gained more prominence in Dutch water management policy in the latter part of the review period, notably after the 2012 policy letter to Parliament, which made 'efficient water management, particularly in agriculture' one of its three themes (MFA, 2012, p. 7). In the course of the review, this component of the global Dutch contribution to improved water management has been categorised as **water management in agriculture** (WMAg) and divided into two sub-categories: **agricultural development** (i.e. WMAg with a broader focus than only water productivity) and **water productivity** (i.e. WMAg with a specific focus on water productivity in agriculture).

2. While policy statements referred repeatedly to **water management plans**, this represented a broad commitment to effective water management – expressed in the 2012 policy letter, for example, as 'improved watershed management and safe deltas' (MFA, 2012, p. 8). It meant enhancing water security[6] and its component objective of water safety. It meant working with partner countries to implement the principles of integrated water resource management (IWRM), with their multiple social, gender, governance, economic and environmental dimensions. Enhanced water management and better water security were intended as a foundation for more resilient and

[5] The study was originally designed to cover ten years, 2006-2015. Later, it was decided to include 2016.
[6] Defined as 'the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability' (UN Water, 2013: 1).

sustainable livelihoods, often but not always based on enhanced agricultural production. In the course of the review, this area of work has been categorised as (**sub**) **national water management** ((*S*)NWM), subdivided into (*S*)NWM planning and (*S*) NWM implementation, with the latter further divided into four sub-categories: (river) basin management; coastal development; and disaster management.

- The water productivity and water management planning themes overlap in various ways. Optimum water productivity cannot be achieved unless effective water management is planned and practised across the hydrological systems within which agriculture takes place. Water management efforts in Mali have had enhanced crop production and agrarian livelihoods as one of their objectives. The review distinguishes the two themes in order to reflect the separate, additional emphasis that Dutch policy began to place on water productivity during the review period.

3. Throughout the review period, Netherlands policy also recognised the transboundary nature of many water management challenges. International boundaries often divide catchments. This was therefore a third policy objective, and is now a third thematic area for this review.

Many of the activities reviewed in this global study do not fit neatly into one of the categories outlined above, and some were explicitly focused on one or more of the cross-cutting policy themes to which Dutch development co-operation policy was committed during the review period, such as gender or climate change adaptation. The policy review categorised these as **cross-cutting policy themes** (CCPT). None of the activities in Mali were classified as CCPT – although some activities may have included CCPT objectives. Other activities were undertaken **across water management theme**s (AWM), in fields such as capacity development, awareness raising, research and policy dialogue. For centrally funded activities, the review subdivided the AWM category into Global Water Partnership (GWP) activities; activities of knowledge institutions; contributions to multi-donor trust funds; and activities to promote the engagement of the Dutch water sector.

Dutch water management support to developing countries was mainly channelled through the delegated budgets allocated by the MFA to embassies for their management. However, significant amounts were increasingly devoted to programmes that were administered centrally, by the departments responsible for environmental and water issues (ministerial structure and departmental titles and responsibilities varied over the review period). The overall ToR summarise the principal policy trends over the 11-year review period, and how these were reflected in the nature of the work supported. Two related features of policy development have been an increasing emphasis on private sector engagement (as the concept of 'aid and trade' gained prominence in Netherlands approaches to development co-operation (section 3.1.1 below)), alongside ongoing inputs by non-governmental organisations (NGOs) and knowledge institutions; and an increase in the number of delivery channels, instruments, mechanisms and agencies. It is therefore necessary for the review to assess not only work done by the MFA and its embassies, but also that implemented through programmes such as the Sustainable Water Fund (FDW, funded from the Official

Development Assistance (ODA) budget[7] but not used in Mali) and Partners for Water (PvW, funded from a non-ODA budget); and to understand the roles and performance of the Netherlands Enterprise Agency (RVO) and the Ministry for Infrastructure and Environment, relative to those of the MFA. In some countries, it must also consider the relationship between Dutch and other inputs in various activities that were co-financed with international finance institutions like the World Bank (WB) and implemented by multilateral agencies like the United Nations Food and Agriculture Organisation (FAO) and the International Fund for Agricultural Development (IFAD).

The overall ToR for the review explain that Bangladesh, Indonesia and Mozambique were among the largest recipients of delegated funding through the MFA for water management activities over the review period. The ToR propose special studies to evaluate the results of the water management policy cycle in these three countries, focusing on effectiveness and efficiency criteria. Mali was subsequently added as a fourth country case study. Each of these studies will be a stand-alone review that can be read and used separately, but will also form an input to the overall policy review.

1.2 Mali case study

The overall ToR state that the purpose of the review 'is to contribute to the accounting for the Water for Development policy as well as to learning, by description and analysis of policy implementation and results and assessment of its effectiveness and efficiency and by deriving possible issues, lessons and recommendations for future policy' (IOB, 2016, p. 4).

As part of the overall review, this Mali country case study shares the purpose set out above, with its accountability and learning functions. The latter function is particularly important. As a review of activities up to the end of 2016, the study will, strictly speaking, take a historical perspective. At the same time, its main value will be in establishing findings and proposing conclusions that can be debated and used in the ongoing implementation of the Netherlands-Mali water management portfolio. Although an independent and neutral exercise (section 1.3), the study is intended to make a constructive contribution to enhancing Netherlands support to water management in Mali.

The scope of this Mali country case study reflects the scope of the overall review, covering 2006-2016. As the overall ToR indicate, the focus is on Netherlands official development assistance (ODA) funding to water management activities in the country through country programmes and centrally funded activities of multilateral organisations, knowledge institutions, NGOs and public private partnerships (PPPs) – as well as other activities with a significant water management focus or component funded outside the MFA Foreign Aid and Trade policy, Article 2 (IOB, 2016, p. 16; see also MFA, 2013). Again reflecting the approach of the overall review, the case study concentrates on larger-scale activities, mainly those funded through the delegated budget of the Netherlands Embassy (EKN).

7 See footnote 10.

However, attention is also given to centrally-administered activities and to those delegated projects with smaller budgets, as well as work done in Mali through PvW; FDW did not support any activities in the country.

1.3 Approach and methods

1.3.1 Terms of reference

The ToR for this country study included an initial description of the water management activities supported by the Netherlands in Mali during the review period, together with data on project budgets, duration etc. Effectively, the ToR served as an inception report for the study, presenting material that this country study report discusses in more detail. It is therefore not useful to include the full country study ToR in an annex, as is the normal practice for such reports. Instead, Annex 1 presents relevant extracts from the ToR.

Less time was available for the Mali country study than for the other three. This country study could therefore not be as detailed. This is explained further in the sections below.

1.3.2 Evaluation questions and matrix

The overall review to which this country case study contributes seeks to answer 24 evaluation questions (EQs) posed by its ToR. Those EQs combine factual enquiry with the standard evaluation criteria of effectiveness and efficiency. Impact is not addressed. The last two EQs ask about policy options. This Mali study offers answers to these EQs from the country perspective, as a contribution to the overall review's responses. A summary of the overall review's EQs follows.

- Five EQs about **the policy cycle** ask about the rationale, context, institutional setting, policy mechanisms, expenditures, monitoring and evaluation of activities in support of water resource management over the review period.
- A series of EQs about **effectiveness** follows.
  - Three EQs on **water productivity** ask whether MFA-supported initiatives enhanced the efficiency of agricultural water use, as well as the enabling environment and farmer capacity; and whether farmers thus supported pay for the services of water user associations (WUAs).
  - Four EQs ask about MFA support for approved **water management plans**; whether such support promoted IWRM principles and enhanced the technical and institutional environment; and whether these plans were resourced and implemented.
  - Three EQs ask whether MFA support enhanced **transboundary water management** through the necessary formal arrangements, strengthening the technical and institutional environment; and whether riparian states budgeted, implemented and sustained TWM agreements and systems.

  - Three EQs about **cross-cutting issues** ask whether water resource management support incorporated the priority cross-cutting themes in Dutch development co-operation policy; whether water resource management was enhanced while improving water management benefits for lower income groups and women beneficiaries; and whether programmes jointly achieved water management benefits and market benefits for the Dutch private sector.
- Four EQs about **efficiency** span issues of organisational efficiency; operational and technical quality; leveraging of commitment and resources from other donors and agencies; and empirical analysis of costs and benefits.
- Finally, in compliance with a Dutch government-wide order on periodic policy evaluations, two EQs were posed about **future policy**: ways to increase efficiency and effectiveness and reduce overall budgets in this field.

An evaluation matrix (presented in the ToR and shown below at Annex 2), sets out the EQs in full and explains how the review team proposed to answer them. This matrix constitutes the backbone for the country case study report. Against the background of the country context summarised in chapter 2 below, the findings in chapter 3 seek to contribute to answering these global questions, which are quoted at the start of the sections that address them. The matrix shows what indicators the review team expected to use in answering each EQ; the mode of analysis that would be applied in the planned mixed-methods approach (see below); the main sources of information, and how the data would be collected. Given the broad thematic and temporal scope of the study, much of the analysis was expected to be qualitative, based on project reporting and evaluations as well as the professional judgement of informants.

1.3.3 Theory of change

As the relevant section of the ToR (reproduced at Annex 1) explains, the main purpose of referring to a ToC is to identify and interrogate the implicit assumptions underlying the aggregate logic chain of Netherlands aid policy for improved water management, as this was applied in Mali over the review period. The findings presented in chapter 3 are used as the basis for a commentary on the accuracy of these assumptions within the presentation of main findings in chapter 4. This is an aggregate commentary on the quality of design, which is directly relevant to assessment of the policy that (another assumption!) drove the design.

The ToR for the other country studies in this review proposed country-specific theories of change (ToCs), linked to the three more detailed ToCs set out in the overall ToR for water productivity, water management planning and TWM respectively (IOB, 2016, pp. 10-15). For this briefer study of the Mali programme, no separate ToC is proposed. Instead, the study will test programme experience against these overall ToCs for water productivity, water management planning and TWM.

ToC analysis is thus used mainly as a tool to help clarify the study's conclusions about Dutch policy and interventions. The three ToCs are presented at Annex 3. Spanning many interventions over 11 years, these are aggregate, generic, schematic representations of design logic. Individual project design did not present ToCs. Composite programme design (the EKN's multi-annual strategic plans MASPs) did not do so either. At the generic level, the diagrams at Annex 3 offer an inferred overview of the process of change that Netherlands policy on support to water management aimed to support. Having been reconstructed in this way, the ToC's main analytical advantage does not lie in detailed exposition of the various inputs, outputs, outcomes etc. It lies in a discussion – again, schematic and generalised – of the main assumptions that underlay the design logic over the period.

The overall ToR for this policy review specified detailed lists of assumptions for each of the three ToCs. For the purpose of the Mali country study, it is best to distil from these a shorter set of key ToC assumptions. These are used in some or all of the other country studies, too, with some variations in wording.

- A prominent assumption underlying Netherlands water management programming in Mali is that Dutch expertise can add value and fill gaps in locally available knowledge and expertise.
- The techniques used in Netherlands-supported water management interventions are feasible, practical and affordable in Malian conditions.
- It is socially and institutionally feasible to achieve significant improvements in the quality (including the transparency) of water management institutions in Mali.
- Strengthening of water management institutions at government and user levels enables them to engage in meaningful dialogue and arrive at broadly accepted water management policies and practices.
- The policy emphasis on participatory water management leads to the implicit ToC assumption that water users do indeed contribute significantly to the management and maintenance of water infrastructure.
- Water management plans lead to meaningful, effective action.
- The previous assumption implies that there is political will at the various necessary levels for Netherlands-supported policy and institutional initiatives to be converted into meaningful action.
- For TWM, an obvious assumption was that regional co-operation was politically and institutionally feasible.

1.3.4 Approach and methods

A key principle in this policy review overall, and specifically in this country study, is not to attempt an evaluation of each project in the portfolio under review. While the study bases its findings on the experience of the many projects and interventions funded by the Netherlands over the 11-year period, and makes frequent reference to the mid-term reviews (MTRs) and evaluations of those activities (where available), it cannot and should not attempt an analysis of each individual project.

The country study has been guided by five other general principles, discussed in more detail in the extract from the ToR at Annex 1:

- independence: a neutral and unbiased approach;
- adherence to high standards of evaluation ethics;
- viewing all aspects of the subject matter through a gender lens;
- maximum effort, within the time constraints of a short country mission, to seek the views of project participants and beneficiaries;
- triangulation, in order to cross-check findings. Not surprisingly, informants gave divergent opinions on some issues. Setting these (and in some cases relevant empirical information) side by side through the triangulation process helped the review team to determine whether all the various arguments were credible; whether some were better substantiated than others, and what the implications of the divergence were for answering the evaluation questions.

As explained in the ToR (Annex 1), a combination of methods was used for the country study:

- intensive use of quantitative data, from MFA and other databases, on the portfolio of activities under review;
- detailed review of the documentation on these activities, during desk work by the review team before the visit to Mali;
- interviews in Mali and the Netherlands with as many informants (listed at Annex 5) as time allowed. Informants were selected in consultation with stakeholders in Mali and elsewhere who are knowledgeable about the country and the sector. All interviewees were assured of confidentiality. Although much of this report is based on the (duly triangulated) information and views they provided, none of this material is attributed to specific informants.

The overall ToR for this policy review state that a number of in-depth studies form part of the exercise. One of these, concerned with TWM, is the Organisation pour la Mise en Valeur du fleuve Sénégal (OMVS). Although, according to informants, more of the Senegal river basin lies in Mali than in Senegal, Netherlands support (through a World Bank trust fund) for the OMVS has been handled through the EKN in Dakar, with some support also directly from The Hague (Table 3.2 below). This country case study does not discuss the OMVS; it is presented in the overall review report.

1.4 Country study activities

The main activities of the review team[8] for this country study were:

- collection of data and documentation about the project portfolio across all channels and instruments;
- preparation of the country study ToR;
- review mission to Mali (2-8 April 2017)[9] comprising a series of meetings with stakeholders in Bamako and briefing and debriefing meetings with EKN staff;
- preparation of this country report.

[8] Stephen Turner (consultant, lead evaluator for the Mali country study); Pim de Beer (evaluator, IOB: responsible for desk research in The Hague); Ely Dembele (consultant); Rita Tesselaar (senior evaluator, IOB: responsible for the overall policy review).

[9] Stephen Turner and Ely Dembele.


KOUROUMARI
NDEBOUGOU
MOLODO
NIONO
SERIBALA
MACINA
NIARO
CANAL DU SAHEL

2

Context

2.1 Mali: economy, society and environment

The Republic of Mali is the fifth largest country in Africa, with an area of 1.24 million km^2. It has a predominantly rural economy, heavily dependent on scarce water resources for livestock and crop production that are largely concentrated in the less arid southern parts of the country. Seventy-three percent of the population of 17.6 million (World Bank, 2017) lives in rural areas, but 40% of GDP is earned in the capital Bamako, where 15% of the population live (World Bank, 2015, pp. vii, viii). Nearly half the population are aged under 15; the annual population growth rate was 3.0% in 2015. Finding work and sustainable livelihoods for young Malians is one of the gravest challenges for the nation, and has clear political implications.

Mali continues to suffer deeply entrenched poverty: it ranked 179th out of 188 on the 2015 United Nations Human Development Index (Mozambique ranked 180th). Almost 12 million Malians (78% of the population) lived in multidimensional poverty, with 56% living in severe multidimensional poverty and 51% below the income poverty line of USD 1.25 per day, purchasing power parity (UNDP, 2017). Overall, decades of development effort by successive governments and their development partners have fallen short of their targets.

The natural environment of Mali spans the Sahara in the north and the Sahel in the south, with the Niger river, which flows 1,700 km from Guinea in the west across southern Mali to enter Niger in the east, constituting the most important water resource. The Niger's catchment covers 47% of Mali and is home to 60% of its population, while the Senegal river basin covers another 11% of the land area. Annual rainfall ranges from 1,400 mm in the south to under 200 mm in the north (Aidenvironment, 2015, pp. 7-8). The inland delta of the Niger in southern Mali is a major environmental and economic resource: Mali has over 4 million ha of wetlands of international importance, and the inland delta is a highly productive zone for crop, livestock and fish production (Aidenvironment, 2015, p. 8). Its continued ecological, hydrological and economic viability are essential to the future of Mali (Madgwick & Pearce (eds.), 2017, pp. 46-51).

For generations across the Sahel, tension and conflict between pastoralists and more sedentary crop producers over land and water use have been common. In Mali, these problems are now exacerbated by political unrest and climate change. Among the four countries subject to focused study by this policy review, Mali is the one where climate change is most widely recognised as an immediate challenge.

'Mali is a country with an extreme climate. Flooding and droughts lead to famine and loss of livestock caused by insufficient food available. Climate change effects in Mali include higher temperatures, severe droughts and inadequate and erratically distributed rainfall. Deforestation, overgrazing, droughts and flooding as a result of climate change affect farming production systems, cause soil erosion, reduce soil fertility and have effects on other biophysical situations. Increased temperatures change the suitability of the land for different types of animal husbandry. In the North, where the main type of livelihood is cattle-based pastoralism, the husbandry of sheep and goats will become more suitable. Agricultural diversification both for crops and livestock increases the climate change resilience of small farmers. Climate change can also threaten the food

security in the Sahel region through its negative effects on infrastructure… Population growth and increased water scarcity lead to fierce competition between water users upstream and downstream, between agriculturalists and pastoralists, and between rural and urban inhabitants. This water scarcity also sets back the Malian government in reaching the MDGs on eradication of extreme poverty and ensuring environmental sustainability.' (Aidenvironment, 2015, pp. 8-9).

A recent World Bank study provides a useful summary of livelihoods in Mali.

'Livelihoods in Mali vary from nomadic trade and pastoralism, to sedentary farming and fishing to living as city dweller and come with a clear spatial demarcation. Rainfall is a decisive factor in identifying different rural livelihood areas as rainfall drives the degree of dependence on livestock herding in certain areas, the use of arable land in others and the degree of dependence on labor and other sources of income. Following the rainfall pattern, four broad livelihood areas are identified: (i) the dry area of the north, (ii) a transitional area stretching from Kayes in the west to the border with Niger in the east, (iii) the agricultural area of the south and (iv) various smaller areas defined by the potential to irrigate using water from the Niger river. Each of these areas can be further subdivided into a total of 12 rural livelihood zones and one urban livelihood zone (Bamako).

In the dry area nomadism, transhumant pastoralism and long distance trade are dominant. Kidal, Gao and Tombouctou lie in this area.

In the transitional area households rely on a mix of income derived from transhumant livestock rearing, remittances from migration and agriculture as rainfall is too low to make a living based on crop income alone. The further south one goes in this area, the less the dependence on livestock and the greater the importance of cultivation.

The agricultural area in the south where farming is most productive. Income from livestock is no longer important in this area as rainfall is adequate for households to fully depend on income from cultivation. The main crops grown are cereals (sorghum, millet and maize), cotton as well as fruits. It is the area with the highest population density but also the area with the largest number of poor people.

The potential to irrigate defines the last livelihood area. This area includes the fluvial basin of the Niger stretching from Tombouctou to the international border between Mali and Niger, it includes the delta stretching from Tombouctou to south of Mopti as well as the Office du Niger, a manmade irrigation scheme reclaimed from the Sahel by irrigation canals and dams.' (World Bank, 2015, pp. ix-x).

Mali typifies contemporary challenges of development co-operation amidst political and social instability. A relatively conventional development trajectory in a comparatively stable political environment (after the democratic elections of 1992) underwent major disruption from 2012, with conflict and instability, especially in the north of the country, and a coup, followed by French military intervention in early 2013. In reviewing all forms of development co-operation with Mali it is important to recognise the depth of disruption experienced during this period. Some projects could do little or no work; EKN management priorities inevitably shifted; continuity and momentum were lost.

After a new government took office later that year, a degree of stability returned to Mali, and a peace agreement was signed in 2015. But multiple tensions remain. As an internal EKN presentation noted in 2015, the political instability was only one aspect of the multiple socio-economic fault lines threatening the social and economic viability of Mali as a society and a nation. The context – for support to water management as for all other modes of development co-operation – remained unstable, and called for a reappraisal of Dutch objectives, strategies, partnerships and modalities (EKN, 2015).

2.2 Water management challenges in Mali

Water management challenges in Mali range from the regional necessity to manage the Niger river system sustainably, to the in-field necessity to manage water resources in the soil for optimal crop production. More than in the other countries on which this review focuses, water management in Mali covers this full spectrum – from basin management through flood and irrigation management at various scales to water management by individual cultivators – not to mention the need of pastoralists to ensure adequate access to water for their livestock. All this, as noted above, must be undertaken in an increasingly urgent context of climate change, fluctuating levels and timing of rainfall and floods, and political and livelihood instability.

The environmental factors outlined above, and a series of technical and institutional challenges, affect the opportunities for water management to help Mali overcome the poverty and food insecurity that affect so many of its citizens (EKN, 2013, p. 8). Although the Office du Niger (OdN) and its predecessors have exploited some of the system's irrigation potential for over a century (and the Netherlands has also supported irrigation in the inland delta), much more can be done to extend and enhance irrigated production in ways that improve the food security of the poor while also accelerating economic growth. In other words, effective IWRM is essential for Mali's future.

'Without a real development strategy for the Niger river basin, which will promote a harmonious and balanced development of the shared water resources, and if clear choices are not made by the authorities, Mali runs the risk of seeing its social and economic progress wiped out in the future.' (EKN, 2011b, p. 9).

Even more than in other developing countries, water and food security are thus an integrated challenge in Mali.

'The agricultural systems linked to water resources are currently of such a nature that uncontrolled use of water may deplete the resource, thus affecting the sustainability of the agricultural system, crops, fish and cattle alike. In order to strengthen resilience it is imperative to secure sustainability of the system. Water management frameworks are needed as well as water efficiency policies in the process of food production. Access to food production and monetary returns of their crops are elements of resilience for the rural population. This can only be secured through an integrated approach to water management and food security. In isolation neither support to water management, nor assistance to food security could be effective.' (EKN, 2013, pp. 8-9; see also EKN, 2011a, p. 1).

It should be noted that some analysts do not consider water scarcity to be the greatest constraint on crop production in the Sahelian conditions of southern Mali. Instead, they argue, low soil fertility is the biggest problem, and soil fertility management should be given the highest priority as a strategy to increase outputs, even if water availability has to be held constant. If better water supply to crops can be combined with improvements to soil fertility, they argue – fertiliser application being the most obvious approach – the results will be much more impressive.

Setting aside the arguments on soil fertility management, there is no doubt that achieving more efficient water use in irrigated food production is one of Mali's major water management challenges. Irrigation is well established in the country – most notably in the 85-year-old OdN scheme – but yields per hectare could be significantly higher with more efficient water use in such production systems.

Despite the apparent abundance of the Niger river, there is growing concern that its water resources are becoming inadequate for existing uses, let alone those planned and proposed. This concern is driven partly by the growing variability in the flow regime from year to year, and partly by the levels of ambition – some would say negligence – implicit in recent planning for expanded irrigation areas. Under the general auspices of the Autorité du Bassin du Niger (ABN, comprising all riparian states) and with support from the Netherlands (see below), Mali and Guinea have worked to enhance catchment and river management in their sectors of the river. Mali has established the Commission Gestion des Eaux de la Retenue de Sélingué et du Seuil de Markala, which is meant to harmonise and optimise water use between the upstream Sélingué dam, vital for electricity production, and the downstream Markala barrage, vital for food production in the Office du Niger scheme that it feeds. Irregular rainfall and river flows have complicated the Commission's work: the agreed flow at Markala is 40 m^3/second, but in mid-April 2017, according to informants, it was virtually nil.

Recent efforts (with a strategic environmental assessment (SEA) supported by the Netherlands) to assess sustainable increases in OdN offtake through a new Plan d'Aménagement Hydro-Agricole (PAHA) did not reach a satisfactory conclusion. This was partly because of the authorities' apparent enthusiasm for the maximum (probably unsustainable) water use scenario envisaged in the PAHA and partly because of a separate large allocation of irrigable land to Chinese interests, which would take Niger water use still further beyond feasible limits. All such abstractions for the OdN have significant impacts on livelihoods and ecology in the inland delta further downstream – potentially including social instability as livestock keepers struggle to maintain access to water for their herds.

2.3 Netherlands aid policy for improved water management

EQ 1: Why is water management in developing countries considered to be in need of international assistance and why did the MFA decide to take up the responsibility of improving it?

Dutch policy evolved over the review period. It maintained a focus on water management planning and implementation for enhanced water security based on IWRM principles, at sub-national, national and transboundary levels; and, from 2011, an initial focus on efficient water use, particularly in agriculture. The 2012 policy letter of the Ministry of Foreign Affairs to Parliament provides the most elaborate statement of that policy (MFA, 2012). In that letter, the Ministry set out a two-pronged approach to institutional development and to infrastructural development – both emphasising support for the poorer members of society, with the themes of food security and adaptation to climate change integrated and a commitment to the cross-cutting themes of good governance and gender. It focused on three themes: (1) efficient water use, particularly in agriculture; (2) improved watershed management and safe deltas (reflecting the prominence of the delta concept in comparing Dutch experience and expertise with the water management challenges of some developing countries where deltas were also significant features in the landscape and the economy); and (3) access to safe drinking water and sanitation (outside the scope of this review). It also noted the fact that water management challenges may be international in nature, because catchments and river systems may span two or more countries – often causing tensions that Dutch interventions might seek to mediate (MFA, 2012, pp. 11-12).

Two principles running throughout the review period in Dutch aid policy for improved water management are the importance of context specificity (see, for example, MFA, 2007, p. 11) and the necessity that interventions be demand driven (MFA, 2012, pp. 5, 13). Both may be considered so obvious as to need little further emphasis here – but for a policy review it is nevertheless important to assess the extent to which embassies were able to align policy emanating from The Hague with local realities and priorities. How well did Dutch global policy fit local circumstances and needs – in this case, in Mali?

Reflecting a broader trend in Dutch public policy, the MFA policy letter emphasised the role of the Dutch water sector (businesses, knowledge institutions and NGOs) in delivering on these aid policy commitments. The main review report explains that this was complementary to the broader GON approach to international engagements in the water sector, climate change and investment, as set out in chapter 6 of the National Water Plan (MTPWWM, MHSPE and MANFQ, 2009, pp. 242-249). That plan recognised water as a Dutch 'top sector' and aimed to facilitate adaptation to climate change, contribute to the achievement of the Millennium Development Goals (MDGs) and create and exploit economic opportunities for the Netherlands. To help implement it, the Water Mondiaal

programme was established. Water Mondiaal was described in the MFA's 2012 policy letter as 'an interdepartmental programme, implemented by the Ministry of Infrastructure and Environment with the participation of the Ministry of Economic Affairs, Agriculture and Innovation and the MFA, financed from the Integrated International Co-operation Group[10] and contributing to improved water management in five delta countries (Bangladesh, Egypt, Indonesia, Mozambique and Vietnam),[11] thereby building the profile of the Dutch water sector in those countries' (MFA, 2012, p. 14). While the National Water Plan and related initiatives were not the direct responsibility of the MFA and are therefore not the focus of this review, this suite of policies and instruments across the Dutch government for engaging in water management in developing and transitional countries was certainly relevant to the country's aid policy for the sector. The review, and this country study, therefore make due reference to these other programmes and activities, to the extent to which they were applied in Mali. Some, like Water Mondiaal, were not intended to support this country. As will be shown below, some others were available but were little used.

[10] 'Since 1997 the Integrated International Co-operation Group (HGIS) has been a construction within the national budget, which bundles together the expenditures of different Ministries in the field of international policy... within HGIS a distinction is made between development co-operation expenditures that meet the criteria for ODA and other expenditures for international policy (non-ODA)' (GON, 2016). Technically, therefore, this review and its country case studies must look beyond Netherlands aid (ODA) policy and funding.

[11] Colombia and Myanmar were added later.

3

Findings

3.1 The policy cycle

This section aims to contribute towards the answers that the global policy review will make to EQs 1-5 in the evaluation matrix (Annex 2), which are reproduced in the box below.

EQ 1: Why is water management in developing countries considered to be in need of international assistance and why did the MFA decide to take up the responsibility of improving it?

EQ 2: In what way was the policy implemented (government institutional setting, nature and interconnection of instruments, changes in orientation and instruments and why)?

EQ 3: Did the policy to engage the Dutch water sector manifest itself in new policy mechanisms?

EQ 4: What have been the MFA expenditures by year and in total by policy objective, partner country, targeted geographic area, channel, within and outside the policy article. What proportion was spent on Dutch water sector contracts by year and in total?

EQ 5: What has been the approach to monitoring and evaluation of development results? What evaluations are available and which experience based policy lessons and issues have been reported?

3.1.1 Rationale for Netherlands assistance to water management in Mali

The overall rationale for Netherlands assistance to water management in Mali was supplied by Dutch global development co-operation policy, as well as evolving aid policy for improved water management (section 2.3 above), which reflected general policy developments such as the increasing attention to climate change and the growing emphasis on linking aid and trade objectives to benefit Netherlands interests as well as those of the poor in partner countries. In a 2013 policy statement, the MFA called for

'a new aid, trade and investment agenda. At international level, we are pursuing three important aims. First, to eradicate extreme poverty ('getting to zero') in a single generation; second, sustainable, inclusive growth all over the world; and third, success for Dutch companies abroad. In the field of aid and trade, we can identify three types of bilateral relationship, within which we will continue to focus mainly on our current partner countries (aid) and focus countries (trade).

Aid relationships. *Here, the focus is on countries that are unable to solve their poverty problems singlehandedly. This category includes conflict-affected and post-conflict countries, fragile states and countries with insufficient capacity to reduce poverty effectively without assistance.*

Transitional relationships. *Here, the focus is mainly on low- and middle-income countries with burgeoning economies. In a transitional relationship, a combination of aid and trade can benefit both the developing country and the Netherlands.*

Trade relationships. *Here, our main aim is to promote trade and investment, with activities that contribute to economic growth and employment in the Netherlands.'* (MFA, 2013, pp. 6-7).

At country level, the multi-annual strategic plans (MASPs) produced by the EKN provided a more detailed rationale for Dutch engagement in Mali. There were three during the period under review.

The **MASP for 2008-2011** drew attention to the worrying security situation in Mali, but also to encouraging signs of responsible policy by the government, including commitment to the sustainable management of the Niger river. It was written at a time when Dutch policy in many countries favoured, or had adopted, sector wide approaches and sector budget support. For this country, the MASP noted that this was one way of helping the recipient government, with its very limited capacity, to absorb development assistance – provided that fiscal standards and due process were maintained. The Netherlands had been the first country to adopt the sector approach in Mali – for education and health – and was the second largest bilateral donor in the country (EKN, 2008, pp. 7, 8). The EKN aimed to focus its support in three sectors: rural economic development, health and education, intending to work towards a sector-wide approach in the first of these as the Paris agenda began to make itself felt in Mali (EKN, 2008, p. 5). It expressed concern about diminishing water supplies from the Niger, due inter alia to catchment deforestation, population growth and climate change. Its strategy for rural economic development aimed at sustainable increases in food production (based partly on increased water productivity) in the OdN and inland delta areas and the integration of sustainable water management in policy planning and regional development planning. One goal was the approval of a national water policy by 2011.

'Met de speerpunten water en voedselzekerheid kan Nederland in Mali prima uit de voeten. Zowel via het ambassadeprogramma als daarbuiten. De ambassade is sinds begin jaren '70 betrokken bij water- en landbeheer ten behoeve van akkerbouw in het Office du Niger, maar heeft ook zijn sporen verdiend op het gebied van geïntegreerd waterbeheer, kleinschalige irrigatie, de ketenbenadering en veeteelt (Ménaka). Met het gedelegeerde budget kan de ambassade ten opzichte van andere donoren sneller optreden en de flexibiliteit in de programmering behouden die noodzakelijk is in de Malinese context.

Naast de toegevoegde waarde van het ambassadeprogramma hebben ook andere Nederlandse entiteiten Mali veel te bieden. Zo is de kennis van de Nederlandse universiteiten op het gebied van landbouw en waterbeheer alom bekend en geroemd in Mali.' (EKN, 2011a, p. 11).

The **MASP for 2012-2015** acknowledged Mali's potential and its vulnerabilities (including climate change), and took as its overall theme increasing the resilience of the nation's women and men. It focused on three priority themes: sexual and reproductive health and rights (SRHR), and an integrated approach to food security and water – emphasising that the latter two were not seen as separate themes, as water in Mali is intimately associated with agricultural development (EKN, 2011a, p. 1; see also EKN, 2011b). The potential for general budget support was still under review. The MASP noted that its predecessor had not had water as a priority theme; that IWRM at catchment level had disappeared from the Netherlands portfolio; and that to promote agricultural development without corresponding attention to water management was risky, given the close integration between the two. It also argued that Mali had the potential to be the bread basket of the region, with its two big rivers and its flooding regime. But along with expansion of the irrigated area, more efficient use of agricultural water was needed, with a more realistic perspective on the finite nature of Mali's water resources. All in all, said the MASP, food production was strongly dependent on effective water resource management, across boundaries and within the country. The environmental and socio-economic instability of the inland delta was a particular concern. Expressing confidence in Dutch capacities in this field (see box above), the EKN's choice was to work on strengthening water management at all levels, with a regional focus on the Niger catchment, improving irrigation management in the OdN and the inland delta and making efforts to strengthen the value chains of selected agricultural products in the same region. By thus reducing the vulnerability of the food production sector, the Netherlands could help enhance the people's livelihood resilience, with the goal that by 2015 IWRM would be more sustainable, equitable, effective and efficient (EKN, 2011a, p. 14). Despite resistance to sector approaches in some quarters of the Government of Mali (GOM), it was still expected that some donors would shift to sector budget support in 2012.

The **MASP for 2014-2017** was written in the aftermath of the coup and political and social upheavals of 2012-2013. The shock was deep. 'Now Mali is quieting down, it becomes clear that a 'back to usual' is neither perceived nor desirable'. The seeds for what is now described as the '3D' approach (defence, diplomacy, development) were already being sown in EKN thinking. Nevertheless, the MASP claimed that 'the embassy has been able to frame the start to its water programme and to integrate food security in water management even further' (EKN, 2013, p. 1). It also noted the advantages of the flexible delegated model of Netherlands funding through embassies in challenging circumstances that called for quick responses. A key concern – highly relevant for this policy review – was the dwindling legitimacy of the state in some quarters: 'Mali's governance has gradually lost relevance to many Malians…' (EKN, 2013, p. 5). Like its predecessor, this MASP drew attention to the increasing scarcity of water resources and the risks of uncontrolled agricultural use of water – while noting the important contribution of irrigation to food security and the institutional structure provided by the OdN, despite the failure of Dutch support there to improve water productivity. An integrated approach to water management and food security was vital, it argued (EKN, 2013, pp. 8-9). Echoing its predecessor, one of this MASP's two objectives in water and food security was that by 2017, IWRM would be effective, inclusive and efficient at international, national and local levels. This would be achieved through efficient irrigation

and other innovative water management infrastructure, alongside increased sustainable food production, more efficient markets and an improved business climate. A river basin approach with a geographical focus would be adopted, together with a value chain approach and risk mitigation, especially for women and youth. After 35 years of Dutch support to the OdN, the MASP now planned to focus on better corporate governance and management. The EKN envisaged using many of the expanded suite of instruments and facilities now available from various ministries in The Hague (EKN, 2013, p. 16).

In aggregate, these summaries of the MASPs for the review period suggest that, from a technical perspective, the Netherlands maintained a broadly consistent approach, focusing on IWRM and better water productivity and continuing to aim at institutional development in the agencies that the Netherlands had long supported. During the period, however, the ebbing political tide to which the first MASP referred turned in new and difficult directions, so that by 2016 development had to be tackled in close co-ordination with defence and diplomacy strategies. For a range of reasons, faith in the now fragile state and its institutions was receding. Ideas of budget support receded too, although assistance to the OdN constituted a sort of sector budget support. Within the 'aid, trade and investment' framework introduced in 2013, co-operation with Mali clearly had to stay in the 'aid' category, although whether extreme poverty could be eradicated in a single generation remained uncertain.

3.1.2 Modalities, instruments and mechanisms

Over the review period, the Netherlands used an increasing number of modalities, instruments and mechanisms in its support to water management in developing and transitional countries (section 1.1 above; for a recent summary of the instruments, see Van de Putte & Sijssens, 2017, pp. 6-8). While some of these were not directly driven by the aid policy under review here and were not the responsibility of MFA, it is important to mention them because aid policy implementation and performance were influenced by the existence and use of these other channels.

In Mali, however, the diversification of instruments and funding channels was less marked than in the other three countries subject to focused study for this policy review. As in earlier years, the main modality for water management policy implementation continued to be projects funded by the MFA through the EKN using budgets delegated from The Hague. These projects, detailed in section 3.1.3 below, were mainly bilateral – managed by the embassy in consultation with, and partly resourced by, the GOM. 'Multi-bi' projects, in which Dutch funding delegated to the EKN was contributed to an activity co-ordinated by a multilateral development agency, were not undertaken in Mali during the review period. One project during that period, Phase IV of the long running Amélioration de la Riziculture Paysanne à l'Office du Niger (ARPON) is recorded in the MFA database as associated with the World Bank supported Programme National d'Infrastructures Rurales (PNIR); through a second project early in the review period, Dutch funding was also provided through the EKN to provide technical assistance (TA) to PNIR. More recently, the Netherlands and Sweden

have collaborated closely in joint funding for a combined programme of support to the national IWRM programme (PCA-GIRE, supporting PAGIRE; see Table 3.1).

In addition to the delegated funding through the EKN, the MFA used central budgets in The Hague to support a number of global or multi-country activities that had links with water management in Mali (see Table 3.2). Much of this funding comprised Dutch contributions to programmes of international organisations or partnerships like the International Union for Conservation of Nature (IUCN), the International Fund for Agricultural Development (IFAD) and the GWP. As Table 3.2 shows, the extent to which centrally funded activities were integrated with activities supported with delegated funds varied, as did the extent to which the EKN was involved in, or even aware of, these centrally funded programmes. None of these centrally funded activities were reflected in the EKN's MASPs.

The Sustainable Water Fund (FDW), a public-private partnership initiative funded by the MFA and administered on its behalf by RVO, did not support any activities in Mali during the review period.

Outside the direct responsibility of the MFA, the Partners for Water (PvW) Programme, administered by the Netherlands Enterprise Agency (RVO), offered funding through subsidies for initiatives by Dutch firms, research agencies, water authorities and NGOs – typically of several hundred thousand Euros. In Mali, PvW only funded one activity in the water management sector during the review period (Table 3.3 below). It funded one other activity supporting drinking water supply.

3.1.3 Water management interventions in Mali

Table 3.1 below shows the core of the portfolio under review: the series of Mali water management activities that the Netherlands supported with delegated funding through the EKN. The total amount budgeted by the Netherlands for this delegated portfolio was EUR 75.1 million. Total Dutch expenditure on these activities over the period was EUR 51.1 million. The difference is partly because some of the most recent projects still have several years to run, and some of the older projects were disbursing before 2006. In other cases, design and implementation issues discussed later in this report contributed to the underspend. Total annual expenditure on the activities shown in Table 3.1 ranged from EUR 2.2 million in 2010 to EUR 8.5 million in 2015.[12]

Analysing the portfolio in terms of overall MFA policy objectives for support to water management is a complex challenge. As explained in section 1.1 above, this overall review originally identified three broad policy objectives, which it has since refined. Table 3.1 below presents the delegated activities undertaken in Mali during the review period, set out according to the revised and more detailed categories.

[12] Total expenditures in 2006 and 2007 are not considered here, as the review's database of activities excludes those showing expenditures only in those years. This is because they are assumed to have been guided by policy developed before the review period started.

It should be noted that Table 3.1 shows the individual activities as recorded in the MFA's Piramide database. It includes activities with budgets under EUR 1 million, which are not the main focus of this review but which are included because they are sometimes pertinent to the overall analysis of policy. The table shows those activities classified in Piramide under a 'water management' heading.

Spanning the diverse portfolio of activities shown above, and overlaid across the main policy objectives shown in the table, are the concepts of water safety and water security. The former is a prerequisite for the latter. The broader concept of water security includes water safety but addresses the many challenges of ensuring appropriate levels of water availability and quality for agriculture and all other human endeavours – as well as the social dimensions of equity in water access and use.

The largest part of the total budget shown in Table 3.1, 39%, was allocated to the broad category of agricultural development, with a further 27% for more focused water productivity activities. (Some of these activities were originally funded through the EKN's food security budget.) Transboundary water management projects received 30% of the total budget, and the actoss water management activities 2%.

Table 3.1	Water management projects: delegated funding, 2006-2016				
No.	**Project Name**	**Start**	**End**	**Project budget EUR**	**Expenditures 2006-2016[13] EUR**
Water management in agriculture					
	Agricultural development				
952	ARPON IV bis / PNIR	Aug 02	Dec 08	2,002,392	248,137
12687	Contrat Plan ON 2005/07	Sep 05	Dec 10	5,798,953	4,503,136
19877	Formulation Interim Programme OdN	May 09	Nov 09	21,660	21,660
13666	Niger Floodplains (Sécurité Alimentaire à travers la Promotion de l'Irrigation (SAPI))	Jan 06	Dec 12	3,263,640	3,263,640
18442	HELEN	Sep 08	Dec 16	2,872,923	2,872,924
19010	Formulation PADIN	Nov 08	Dec 11	412,163	412,163
20379	PACOP	Oct 09	Dec 17	4,815,865	4,771,840
22042	PADIN plan triennal	Dec 10	Dec 14	5,997,433	5,997,433
22719	TA DEA	Feb 11	Dec 14	30,894	30,894
24812	PASARC /NEF	Nov 12	Dec 18	4,359,850	3,750,811
Sub total				**29,575,773**	**25,872,638**
% of total				**39%**	**51%**
	Water productivity				
25501	PADIN II	Jun 13	Dec 19	12,000,000	10,170,081
25726	PRCA-SA	Jun 14	Dec 20	8,000,000	2,969,700
Sub total				**20,000,000**	**13,139,781**
% of total				**27%**	**26%**
(Sub) national water management					
	(Sub) national water management planning				
Sub total				**-**	**-**
% of total				**-**	**-**
	(Sub) national water management implementation				
	(River) basin management				
12301	TA pour renforcer les institutions du PNIR	May 04	Dec 09	1,032,750	727,852
Sub total				**1,032,750**	**727,852**
% of total				**1%**	**1%**
	Coastal development				
Sub total				-	**-**
% of total				**-**	**-**

Table 3.1 Water management projects: delegated funding, 2006-2016					
No.	**Project Name**	**Start**	**End**	**Project budget EUR**	**Expenditures 2006-2016[13] EUR**
	Disaster management				
24879	OPIDIN	Dec 12	Dec 15	285,006	285,006
26783	OPIDIN BIS	Apr 14	Dec 15	99,880	99,880
Sub total				**384,886**	**384,886**
% of total				**1%**	**1%**
Transboundary water management					
9743	GIRENS	Sep 04	Nov 08	1,838,774	657,663
15376	GIRENS II	Oct 06	Dec 11	3,338,267	3,338,267
26989	Programme GIRE	Dec 14	Dec 20	17,298,321	5,677,720
Sub total				**22,475,362**	**9,673,650**
% of total				**30%**	**19%**
Cross-cutting policy themes					
	Climate				
Sub total				**-**	**-**
% of total				**-**	**-**
	Good governance				
Sub total				**-**	**-**
% of total				**-**	**-**
	Gender				
Sub total				**-**	**-**
% of total				**-**	**-**
	Environment				
Sub total				**-**	**-**
% of total				**-**	**-**
Across water management themes					
23841	POF 2012 IWRM		Dec 15	88,721	88,721
25190	POF 2013 IWRM		Dec 15	41,794	41,794
26318	POF 2014 IWRM		Dec 15	73,242	73,242
26584	GAO Plus		Dec 16	900,000	900,000
27307	POF 2015 IWRM		Jun 16	121,486	121,486
28817	POF 2016 IWRM		Jun 17	396,730	85,432
Sub total				**1,621,973**	**1,310,675**
% of total				**2%**	**2%**
Total			**EUR**	**75,090,744**	**51,109,482**

In addition to the activities supported with delegated MFA funding through the EKN, it is also necessary to consider the MFA's centrally funded activities that had links to Mali. Table 3.2 below summarises these activities: additional detail is given in Table IV.2 at Annex 4. The tables show the full set of activity categories and sub categories adopted by this global review (section 1.1 above); for some (sub) categories there are no centrally funded activities relevant to Mali.

With the limited time and resources available for this country study, it has not been possible to conduct exhaustive research on all the centrally funded activities. Recent personnel changes at the EKN mean that the amount of information staff currently have about them is limited. The comments in Table 3.2 have been supplemented with some documentary research. Overall, linkages between these centrally funded activities and the much larger delegated programme were incomplete; although many of them were relevant and complementary, at least in principle. As reporting on these centrally funded activities is not broken down by country of expenditure, it is not possible to say what MFA expenditures through this channel were in Mali. Nor do available data permit analysis of these activities by water management policy objective or by area within Mali where activities may have been supported.

Beyond the direct purview of MFA (as noted in section 3.1.2), the Partners for Water programme supported only one activity in Mali during the review period (see Table 3.3 below). That activity laid the foundations for the OPIDIN model, which predicts Niger flooding behaviour from season to season and was developed further through two small projects supported by delegated funding through the EKN (24879 and 26783 in Table 3.1 (EKN, 2012a, p. 2)).

In some of the partner countries selected for case studies in this policy review, the range of instruments, facilities and funds that have come into use to support water management is considered by many stakeholders to have become complex, sometimes confusing and often difficult to use, except for an expert few. This is not the case in Mali, where, for various reasons, fewer of these options have been available or have been deemed suitable. A principal reason, as noted by a recent positioning study (Aidenvironment, 2015), is the weak development of the commercial economy to date and the correspondingly weak opportunities for Dutch private sector engagement, outside the realm of service provision to development activities. In Mali, the policy to engage the Dutch water sector did not manifest itself much in new policy mechanisms.

Table 3.2 MFA centrally funded activities with links to Mali: summary

Activity name	Period	Intervention(s) in Mali, as reported in available documentation	Comments	Relevance to delegated programme[14]
Water management in agriculture				
Agricultural development				
no activities				
Water productivity				
ASAP	Nov 12-Dec 17	The Agricultural Smallholder Adaptation Programme (ASAP) was developed by IFAD to make smallholder farmers more climate resilient. ASAP has activities in Mali (IFAD, 2017).	EKN is not aware of this activity.	Not relevant.
ICRAF Food and Water Security (DRYDEF)	Aug 13-Dec 19	In Mali DRYDEF focuses on increasing food and water security. In Mali, the National Lead Organization is Sahel Eco, which works with other parties like OXFAM, providing relevant and contextually appropriate support to smallholder farmers in (semi-arid) dryland areas (ICRAF, 2015).	EKN reports exchange of experience between DRYDEF and activities supported with delegated funds. EKN participates in monitoring visits.	Relevant to the delegated bilateral portfolio.
Water Grand Challenge: SWFF	Jan 14-Dec 19	Securing Water for Food sources and accelerates innovations that enable the production of more food with less water and/or make more water available for food (SWFF, 2017).	EKN not aware of this activity.	Relevant in principle.
(Sub) national water management				
(Sub) national water management planning				
no activities				
(Sub) national water management implementation				
(River) basin management				
IUCN Water and Nature Initiative (WANI)	Jul 01-Dec 12	Mali was one of the riparian countries of the Senegal river basin in which WANI (working with OMVS) developed a demonstration project on the provision of a participatory strategic environmental framework for the environmentally sustainable development of the basin and on launching a basin-wide cooperative program for transboundary land-water management (IUCN, 2009).	EKN not (yet) aware of this activity.	Relevant in principle.

Table 3.2 MFA centrally funded activities with links to Mali: summary				
Activity name	**Period**	**Intervention(s) in Mali, as reported in available documentation**	**Comments**	**Relevance to delegated programme[14]**
Coastal development				
no activities				
Disaster management				
no activities				
Transboundary Water Management				
CIWA	Jul 13-Dec 21	The World Bank administers a multi-donor trust fund for the Cooperation in International Waters in Africa (CIWA) programme, which was launched in 2011 (Pegasys, 2015).	EKN reports that it supports Mali's participation in this programme, while IGG supports ABN.	Relevant in principle, but the two levels of Netherlands support could be better harmonised.
OMVS support	Oct 13-Dec 19	The World Bank OMVS programme is being implemented by the Organisation pour la Mise en Valeur du Fleuve Senegal. Its main activity supported by NL is to fight the invasive typha plant in the Delta, but anti-erosion activities take place in Mali.	EKN and the delegated programme are not directly involved in the OMVS.	Relevant in view of overall Netherlands interest in enhanced TWM by Mali and the states with which it shares river systems.
Cross-cutting policy themes				
Climate ((change) adaptation and mitigation				
LDCF for climate change	Sep 12-Dec 17	The Least Developed Countries Fund (LDCF) has been established to support a work programme to assist LDCs in prepare and implement National Adaptation Programmes of Action (NAPAs). This project aims to integrate climate adaptation interventions in the NAPA. The NAPA for Mali was completed in 2007. An update on NAPA implementation seven years later cited four adaptation and resilience strengthening projects in Mali (UNFCC, 2014).	EKN not aware of this activity: obvious question is what impact the preparation of the NAPA and the development of resilience approaches have had in practice.	Highly relevant given the urgency of climate change issues in Mali.

Table 3.2 MFA centrally funded activities with links to Mali: summary

Activity name	Period	Intervention(s) in Mali, as reported in available documentation	Comments	Relevance to delegated programme[14]
Good governance				
Water Integrity Network (WIN)	Jul 14-Dec 17	WIN is a network to promote water integrity, to reduce corruption and to improve the performance of the water sector worldwide. Mali is one of the countries where WIN has done an assessment on Water Integrity Risks related to Large Land Deals in Africa (WIN, 2017).	EKN not aware of this activity. Much of WIN's work appears to have been in the drinking water and sanitation sector.	Relevant in principle.
Gender				
no activities				
Environment				
no activities				
Across water management themes				
Global Water Partnership activities				
Global Water Partnership	Jan 02-Dec 17	Promotes IWRM, notably through Global Water Partnership West Africa (GWP/WA), established in 2002 in Bamako, and the Mali Country Water Partnership. GWP/WA is a multi-stakeholder platform which advocates, facilitates and supports sustainable WRM in West African countries (GWP, 2012b).	No direct links with the delegated programme, as far as the EKN is aware.	Relevant in principle.
Knowledge institutions' activities				
IWMI Comprehensive Assessment	Apr 02-Dec 09	IWMI aimed to identify knowledge on WM and to evaluate benefits, costs and impacts of water development and challenges (IWMI, 2017). Mali was one of the countries involved.	EKN not aware of this activity.	Relevant in principle, but no information on its links to the delegated programme at the time.
Programmatic support for UNESCO-IHE (Partnership for Water Education)	Jan 02-Dec 20	Through DUPC (DGIS-UNESCO-IHE Programmatic Co-operation), support is provided for UNESCO-IHE activities in many countries to try to find a solution to the lack of water management capacity in Africa and the Middle East. Amongst others, activities in Mali are the programme VIA Water for urban water innovations (UNESCO-IHE, 2015).	EKN has no direct evidence of impacts (which are likely, in any case, to be more in drinking water supply than in water resource management).	Issues of water management capacity are highly relevant.

Table 3.2 MFA centrally funded activities with links to Mali: summary

Activity name	Period	Intervention(s) in Mali, as reported in available documentation	Comments	Relevance to delegated programme[14]
Multi-donor trust funds				
Water Partnership Program	Jul 12-Oct 16	'The Water Partnership Program (WPP) is a partnership between the WB and the governments of the Netherlands, the United Kingdom, Denmark, and Austria, working together to end poverty and boost shared prosperity through support to investments and analytical work in the water sector' (WPP, 2016, p. 13; WPP 2015).	No recent direct links with the work of the EKN. WB has no resident water specialists in Mali and is not an active participant in donor groupings or discussions on water management.	Some of the content of WPP work in Mali, e.g. on irrigation, is clearly relevant to the delegated programme.
Promotion of engagement of Dutch water sector				
Young Experts Programme	Nov 12-Sep 17	This programme is for young Dutch and developing country professionals to work on projects in the water and food security sectors. In Mali, five young experts, two Dutch and three Malian, were active or have graduated from the programme in the water sector in Mali (YEP, 2017).	EKN aware of YEP activities: mix of Malian and Dutch personnel. Malian capacity could arguably be developed in more cost-effective ways. One Malian organisation that participated in YEP expressed strong satisfaction with the extra capacity that it provided.	Given the shortage of younger water management expertise in Mali, the activity is highly relevant.
Aqua For All PPP Innovation Programme	Oct 14-Dec 19	This programme aims to promote small-scale innovations in the water sector through public-private partnership arrangements. There are three initiatives in Mali, of which two are ongoing and one (should be) finished, which all have spanned drinking water and sanitation (Aqua for All, 2017).	The programme has focused on drinking water and sanitation, so had no direct links with the water management portfolio until 2014. But its latest phase, which started then, has a broader remit in water resource management.	Potentially relevant.

[13] This assessment of relevance is based on the review team's interpretation of responses from EKN informants and other Bangladesh stakeholders.

Table 3.3 Water management activities supported through Partners for Water

Type	Year	Project number	Start date	End date	Applicant	Full title; objective	Original commitment (EUR)	Disbursements (EUR)
Subsidy	2007	PVW07012	31-03-2008	31-05-2009	Haskoning Nederland B.V.	Operational decision support on IWRM in the Upper Niger Basin	361.409,00	309.063,00
Total							**361.409,00**	**309.063,00**

3.1.4 Monitoring and evaluation

Monitoring and evaluation (M&E) arrangements for the main part of the Mali water management portfolio – the projects supported with delegated funding through the EKN with budgets over EUR 1 million – are shown in Table 3.4 below, based on the available information. It can be seen that the evaluative material on which this review can draw is incomplete, with final evaluations available for only three of the nine completed projects. The only mid-term reviews (MTRs) found are recent ones, for two ongoing projects. Apart from its incompleteness, the most significant feature of Table 3.4 is the reference to a separate evaluation of PACOP being considered unnecessary because the project would contribute to the OdN's overall multi-annual development plan (the 'contrat plan'), which was to be evaluated overall in 2012. This reflects the quasi-sector budget support character of Dutch funding for the OdN during the review period. It has not been possible to trace any such 2012 evaluation, although an MTR of the contrat plan was done in 2010 (ECOFOR-SARL, 2010). Currently, the EKN reports that it has asked the OdN to carry out a self-evaluation.

Table 3.4 MTRs and evaluations of projects with delegated funding (budgets > EUR 1 million)

Project	MTR	Evaluation	Comment
ARPON IV bis / PNIR	-	-	WB reports that three 'impact evaluations' were undertaken during project life (World Bank, 2008, p. 7). Reports have not been traced.
TA pour renforcer les institutions du PNIR	-	-	
Contrat Plan ON 2005/07	-	✓	
GIRENS	-	✓	
GIRENS 2	-	✓	
Niger Floodplains (SAPI)	-	-	
PADIN plan triennal	-	-	
HELEN	-	-	
PACOP	-	-	According to the bemo (EKN, 2009), a separate evaluation of PACOP was not considered necessary, as the project contributed to the OdN's Contrat Plan 2008-2012.
PASARC /NEF	✓	Project ongoing	
PADIN II	✓	Project ongoing	
PRCA-SA	-	Project ongoing	
Programme GIRE	-	Project ongoing	

3.2 Policy effectiveness and efficiency

3.2.1 Water management in agriculture

This section of the Mali country study aims to contribute to the global policy review's answers to the EQs shown in the box below, spanning effectiveness and efficiency concerns.[14]

Before going further, it is worth repeating what was quoted in section 2.2 above: the view that soil fertility is a bigger constraint on Malian agriculture than water availability, and that much donor support – including that of the Netherlands – has been misdirected by its emphasis on providing more water, rather than enhancing soil fertility. It is not this review's role to resolve such debates, but the argument is significant and is therefore recorded.

EQ 6: Did MFA support contribute to sufficient quality and quantity of water at the right time available to farmers and to an improved relation between the quantity of water used and agricultural production?

EQ 7: Did the MFA support contribute to an enabling environment for and capacity of Water User Associations (WUAs) for operation and maintenance (O&M) of water infrastructure in a participatory way, also to augment abilities of individual farmers to use representation, knowledge and skills to improve their access to water and on-farm (water) management?

EQ 8: Did farmers pay for WUA services provided and do WUAs transparently account for funds received and expenditures?

EQ 21: For the water productivity objective: what have been the costs of supported activities compared to the number of beneficiaries and their water productivity and agricultural production benefits?

As can be seen in Table 3.1, the majority of the delegated activities covered by this country study were classified as either 'water management in agriculture – agricultural development' or as 'water management – water productivity' Allocation into one or other of the sub categories is often difficult, as some projects' work is partly about the technical detail of increasing the efficiency of crop water use and partly about social and institutional aspects of water management in agriculture.

[14] The generic term 'WUAs' used in the EQs includes farmer led water management organizations at different levels (tertiary, secondary, primary canal, polder) in different contexts, for example mainly for irrigation purposes or flood protection.

In the global portfolio of Dutch support to water management in agriculture, there are cases where water management projects concerned with irrigation and/or drainage have taken on other commitments to agrarian and livelihood development too – so that they almost start to resemble the integrated rural development projects of some decades ago. Projects in Mali have not gone this far. Nevertheless, there has been a significant spectrum of effort in this country from enhancing large-scale irrigation schemes to improving individual farmers' in-field practice; and activities in the inland delta have embraced a range of efforts beyond water management itself.

Perceptions of water management for agriculture and food security in Mali have long been dominated by the large-scale **Office du Niger** irrigation scheme, launched by the French colonial authorities in 1930 and supported by the Netherlands since 1979 (IOB, 1992). Notably through the early phases of the ARPON project, which began in 1983, Dutch support was central to the transformation of the OdN, giving significantly more rights and responsibility to its peasant producers. In addition to the production increases that began to be realised towards the end of this lengthy restructuring process, the peasantry was reinforced and empowered (IOB, 1992, p. 13).

More than two decades later, however, some observers continue to see the OdN as a 'state within a state'. No evaluation has been traced for the last phase of ARPON, which closed early in this study's review period (Table 3.1). During the study's short mission to Mali, it proved impossible to meet OdN management, as had been requested. The consensus among informants and in the available documentation is that, despite earlier transformations and continued efforts at institutional development, the OdN continues to be inefficient and bureaucratically cumbersome; while the efficiency of water use in OdN irrigation areas remains unnecessarily poor. One reason advanced for the deteriorating effectiveness of Dutch support to the OdN and its farmers is that, whereas early phases of ARPON focused on direct contact with the peasant producers, later phases and subsequent projects put more of their emphasis on the OdN as an institution, and spent more of their time at its headquarters in Segou, where institutional weaknesses proved hard to overcome (Munstege, 2013, pp. 5, 13). As noted in section 3.1.1, two recent projects of assistance to the OdN constituted a sort of sector budget support, being aligned with the 'contrats plans' 2005-2007 and 2008-2012. The second project, PACOP, was extended to the end of 2016. 'Its principal challenge was to compensate for the delays in implementing the Contrat Plan' (OdN, 2016, p. 4).

Like many Dutch-funded activities, PACOP had to be extended because of the security crisis of 2012-2013. Relations were also complicated by a fraud case in 2014, concerning OdN (mis) management of water user fees. Alongside PACOP, the HELEN project (Projet de Renforcement de l'Harmonisation et de l'Efficacité de la Gestion à l'Office du Niger) was to improve the management capacity of the OdN with regard to human resources, finance and audit, monitoring and evaluation, planning, equipment and rehabilitation of the irrigation infrastructure. Administrative closure of HELEN, which was mainly implemented between 2008 and 2011, was delayed by the security crisis and by accounting and reporting queries. Like PACOP, HELEN has not been evaluated. One of the French consultants' detailed

completion reports (which lacked any self-evaluative overview) lamented the slow decision-making and lethargic pace of change in the organisation, and argued that the onus was on OdN itself to transform its working culture.

It has not been possible to trace data to support a full empirical answer to the EQs about whether MFA support enhanced irrigation efficiency in the OdN. But recent, as yet unpublished and preliminary work by Dutch specialists, using the FAO's new Water Productivity Open Access Portal (FAO, 2017), suggests that gross biomass water productivity decreased by at least 50% in 2014-2016, compared with the period 2012-2014. These preliminary findings, which still require detailed verification, indicate that water consumption increased significantly in recent years, without a concomitant increase in biomass production.

In terms of enhanced institutional arrangements, particularly for peasant water users (EQs 7 and 21 above), most of the positive contributions through Dutch support occurred before the period reviewed here. As for water user payments (EQ 3), most but not all farmers do pay water fees to the OdN, although it is not clear whether those who do not are smaller or larger producers or whether fees received cover the costs of water provision. While not all users fulfil their maintenance obligations at the tertiary level of the irrigation system, and maintenance of the primary network is a state responsibility in the interests of the nation, those fees should – but possibly do not – cover maintenance of the secondary network (Breman, 2015, pp. 3-4).

It has been equally difficult to find information for a quantitative answer to EQ 21 about the costs and benefits of Netherlands support in terms of water productivity and agricultural output. But the technical consensus is that irrigated production in the OdN, both current and potential, is beset by ongoing questions of viability. The recent work on the PAHA by the Netherlands Commission for Environmental Assessment (MER) concluded, on the basis of available data, that dominant modes of production in the OdN zone, by small-scale producers, were not financially viable – at least, if viability meant achieving incomes above the poverty line (Breman, 2015, p. 4). At a larger scale, the fundamental challenge is that full financial viability for OdN crop production requires the production of two crops per year. With current production methods and even the more ambitious expansion scenarios, that requires more water than can be supplied.

Another issue on which the MER and other analysts have insisted is the environmental impacts of expanded irrigation abstractions from the Niger on the inland delta downstream (Madgwick & Pearce (eds.), 2017, pp. 46-51). The **inland delta** has been the second major zone of Dutch contributions to enhance water management in agriculture. Unlike support in the OdN zone during the review period, activities in the inland delta have maintained close working contact with small-scale land and water users. They have supported a range of intended enhancements to crop and fish production, and thus the food security and livelihood resilience of the local population, on the basis of improved water use. They have been implemented on behalf of the GOM and the GON by international NGOs and consulting firms. The two phases of the Programme d'Aménagement du Delta Intérieur du

Niger (PADIN) built on earlier work by the Sécurité Alimentaire à travers la Promotion de l'Irrigation (SAPI) project (see Table 3.1): all three of these were implemented by CARE International. The Projet d'Appui à la Résilience des Populations aux Crises Climatiques et Sociales dans la Région de Mopti (PASARC), implemented by the Near East Foundation (NEF), has similarly broad objectives and also works largely in the inland delta. According to MTR informants, the two projects are complementary and have avoided overlap (Baltissen et al., 2016, p. 19). Moving furthest beyond simple water management is the Programme de Renforcement des Chaînes de Valeur Agricoles pour la Sécurité Alimentaire (PRCA-SA), which aims to enhance value chains and producer incomes for two commodities – onions and fish – produced mainly in the inland delta and marketed in Bamako and other towns. Some of these projects have included more specialised 'water productivity' support (PADIN Phase II is classed in that sub-category in Table 3.1), while also engaging in various institutional and marketing activities as well as the core business of enhanced crop and fish production linked to improved management of water resources.

Aside from the question of whether upstream water abstractions threaten these modes of production in the inland delta, the immediate concern is whether this series of Dutch-funded interventions has actually improved production, organisations and livelihoods, as this review's EQs ask. Again, authoritative data are lacking. Indeed, it has hardly been possible to trace any documentation on the SAPI project. Recent MTRs are available for PADIN II and PASARC (Table 3.4); only a completion report has been traced for PADIN I, whose implementation period spanned the worst of the security crisis.

The PADIN II MTR (Nelen et al., 2017) found reasonable progress towards the project's objectives, pointing out areas residents' appreciation of the livelihood benefits that have accrued to them. It included some simple enterprise budgets for rice production at some sample sites, and found it to be profitable, while recommending that the project adopt less costly techniques in some cases. It reports variable progress with the organisational development and likely sustainability of local producer/water user groups, and advises that significantly more training is needed to assure competent management in the longer term (Nelen et al., 2017, p. 39). There is little explicit reference to water use charges in irrigated areas. Significantly, one key informant described PADIN as a food security project, stating that 'the activities use water, but water resource management is not fully integrated', and that the project 'needs tighter management of water quantities; water is not used efficiently enough yet'.

Enhanced food security is also the first stated objective of PASARC; the objectives as quoted by the MTR make no reference to water resource management, although the bemo does speak of achieving better food security through more efficient water resource management and improving resilience by developing climate change adaptation measures (Baltissen et al., 2016, p. 6; EKN, 2012b, p. 3). The long title of the project, according to the bemo, is 'Inner Delta Food Security, Resilience and Agricultural Water Management Programme'. PASARC comes closest to being a community-based rural development programme, with its annual call for project proposals from local community structures. The largely qualitative MTR noted the lack of data for empirical measurement of results in terms of food security

and livelihood resilience but commended PASARC for 'being on the right track' and noted the perception of some project area residents that their livelihoods had been improved by the project. It found that some commodities sponsored by PASARC were showing real signs of profitability, but also noted that some of the project's work consisted of rehabilitating the achievements of other projects (Baltissen et al., 2016, p. 50). In some cases, PASARC can build on what others did earlier. In other cases, it must rebuild – which resonates with the 'build, neglect, repair' cycle that this policy review has identified elsewhere.

This review normally gives less attention to activities with budgets of less than EUR 1 million, but the **Gao Plus** project (Projet d'appui à la gestion de I'eau pour la sécurité alimentaire et la résilience des populations dans les trois cercles de la vallée du fleuve Niger), carried out from July 2014 to December 2015, does merit mention. It was funded as an EKN response to a request for support from youth groups in the Gao region for economic and social support at a time of political crisis. A number of water management structures, irrigated gardens and pumps were among the infrastructure that this small project helped the beneficiaries to install (EKN, 2016). There are no empirical data on the quality or effects of this work, but it was representative of two features of Netherlands support in the sector in Mali. First, this was field-level work with land and water users, aimed at achieving direct, short-term livelihood benefits. Secondly, it displayed a Dutch willingness to stay in the country and in the field with Malians at a time of crisis – developing further the image of trusted and reliable partner that has been developed over decades of support.

Overall, it can be seen that the available data do not facilitate clear, empirical answers to the EQs posed for this part of the policy review. In any case, those questions do not easily fit the reality of Dutch support to water management in agriculture in Mali over the review period. They are aimed at direct interventions in field-level water management, for example in irrigation and drainage schemes. In this Mali portfolio, most of the work in the OdN zone concerned institutional reform and development at higher levels; while most of the work in the inland delta and related areas, while taking place at field level, was of a broader rural/livelihood development nature, with less focus on the practical and institutional mechanics of water management. Again at a qualitative level, this review finds that more tangible progress was made over the review period through these field-level interventions than through the institutional efforts with the OdN.

3.2.2 (Sub) national water management

Table 3.1 shows only three activities assigned to the (S)NWM category. In the (river) basin management sub category is the 2004-2009 activity providing technical assistance to reinforce the institutions of the National Rural Infrastructure Programme. It has not been possible to trace any information on this activity. The other two activities were on a smaller scale, supporting development of the OPIDIN flood prediction model (section 3.1.3 above) and assigned to the 'disaster management' sub category.

To contribute any sort of answers to the EQs on water management planning shown in the box below, it is necessary to look at activities categorised in Table 3.1 as 'water management in agriculture' or 'transboundary water management'. As in much of the global portfolio of Dutch support to water resource management that is reviewed by this study, these Mali activities were at two scales: national and local.

EQ 9: Did MFA support contribute to approved water management plans?

EQ 10: Do the supported water management plans include principles of integrated development and management of water, stakeholder participation and transparency of processes, equitable development without compromising vital ecosystems?

EQ 11: Did MFA support contribute to strengthening of the enabling (political, institutional, information, water infrastructure and O&M) environment for actual implementation of the plans?

EQ 12: Have budgets for implementation of water management plans been allocated and are plans implemented?

EQ 22: For water management: what have been costs and duration of achieving key results compared to what was planned, with reference to information (systems), water management plans, arrangements and agreements, taking into account quality of results?

The two phases of the Gestion Intégrée des Ressources en Eau du Niger Supérieur (GIRENS) project, operational from 2005 to 2010, followed on from the Gestion Hydro-Ecologique du Niger Supérieur (GHENIS) project, which was also supported by the Netherlands. One of the objectives of GIRENS I and II was 'the preparation and initial implementation of a Plan d'Action de Gestion Intégrée des Ressources en Eau du Niger Supérieur [Action Plan for the Integrated Management of Water resources in the Upper Niger Basin, PAGIRE/NS]' (GOM & GOG, 2010, p. 8). GIRENS made slow but steady progress with this, reportedly completing the plan in Phase I and starting partial implementation in Phase II. Its overall objective was the conservation and rehabilitation of the water resources of the Upper Niger basin, as a contribution to sustainable socio-economic development, the fight against poverty and the maintenance of balance with the natural environment. The detailed description of the planning methodology used for this two-country PAGIRE/NS is technical in nature, making no reference to participatory approaches or public consultations. It does highlight the plan's emphasis on information, education and communications (GOM & GOG, 2010, pp. 77-83).

PAGIRE/NS was a macro level plan for action in the two countries, with a first phase of implementation of five years. In Mali, it was integrated into the National IWRM [GIRE] Plan (PAGIRE: GOM & GOG, 2010, p. 9). Following presentation of PAGIRE to a donor round table

in 2009, some component projects began to be implemented, such as a Niger river bank protection project funded by KfW. Objective 1 of GIRENS II was 'the implementation of the action plan for the conservation and rehabilitation of water resources, including the promotion and implementation of alternative socio-economic activities less harmful to the environment that generate income for the riverine population' The evaluation of GIRENS II stated that it was not possible to quantify the degree to which this objective had been attained, as no performance indicators had been specified for it. Its qualitative assessment was that the objective had been partially achieved, with only preparatory work done to develop alternative socio-economic strategies that would be less environmentally harmful (Hansen et al., 2010, p. 41).

Implementation of Mali's PAGIRE ran through two phases, 2007-2011 and 2012-2015, with support from Denmark and Sweden but heavily disrupted by the security crisis of 2012-2013 and the associated suspension of some donor support (GOM, 2015, p. 6). These two phases were succeeded by the current PCA-GIRE programme of support to the management of the Upper Niger basin by Mali and Guinea, funded by the Netherlands and Sweden. PCA-GIRE comprises a wide-ranging set of activities. The Dutch support has two components. One, known as BAM-GIRE, is executed by Wetlands International and focuses on the provision of technical and social services in support of IWRM in the Upper Niger basin, building partly on the organisation's previous development of OPIDIN and including the launch of an 'observatory of the Niger basin' (although other documents suggest that the ABN established such an 'observatory' in 2004, with funding from France from 2006 to 2011 (Dessouassi, 2015)). The other component, comprising direct support mainly to the GOM's Unité de GIRE (IWRM Unit) in the Direction Nationale de l'Hydraulique (DNH) spans a range of activities to promote IWRM through development of policy, legislation and procedures as well as support for local-level water management planning.

In a broad sense the current effort constitutes continued implementation of the IWRM approaches set out in Mali's PAGIRE, but PCA-GIRE has a stronger focus on institutional, legislative and procedural development and less on water management planning. Its most tangible planning results have been on a small scale in Guinea, where a small number of Comités Locaux de l'Eau (Local Water Committees, CLEs, whose development was supported on a small scale in Mali during the period of Danish and Swedish funding) have been helped to implement pilot projects (GOM & GOG, 2017, p. 20).

As noted in sections 2.2 and 3.2.1 above, another major water management planning exercise was attempted recently: the GOM's Agricultural Water Management Plan (PAHA) for the zone of the Office du Niger. The Netherlands was not directly involved in the planning itself, but funded the SEA by its Commission for Environmental Assessment. The confused and – in informants' view – unsatisfactory outcome of the PAHA process suggests that, at national level, the principles of preparing and then adhering to water management planning are not yet strongly established in the GOM.

At the local level, Netherlands support through the PADIN and PASARC projects has underpinned community-based planning. Procedures differ (with PASARC taking a more

purely demand-based approach), but the basic principle of communities identifying needs and opportunities, determining actions, and being supported through a planning process to implementation and monitoring of performance, is common to PADIN (implemented by CARE) and PASARC (implemented by NEF). As noted in section 3.2.1 above, these are broad-based planning processes in which water management is likely to be one key element, alongside the management of pasture and other natural resource management and the introduction or enhancement of productive activities – notably crop, livestock, forest and fish production. Pointing out that PADIN II was continuing the efforts of PADIN I, the MTR of the former concluded that the project was making good progress in this community-based planning effort, despite the difficult circumstances (Nelen et al., 2017, p. 51). The MTR of PASARC pointed out certain weaknesses in the demand-driven planning approach, suggesting for example that it is easier for better resourced, better organised, more literate and better led communities to exploit PASARC support than for more marginalised, less competent communities. Lacking household baseline data, the PASARC MTR was unable to assess effectiveness empirically, but concluded that the level and quality of execution of community projects – in which improved water management plays a part – had been satisfactory so far (Baltissen et al., 2016, pp. 13-15, 49).

During the review period, Netherlands support thus contributed to approved water management plans at both national and local levels. IWRM principles are central to these plans and are now at least partially understood and accepted in Mali, as the succession of GIRE programmes and the work of the DNH GIRE Unit demonstrate. At national and larger scales, Dutch support made little progress in strengthening the enabling environment for the implementation of water management plans. At all scales, it can be argued that only the establishment of water management bodies whose boundaries follow those of catchments – perhaps analogous to the emerging catchment management agencies in South Africa – would allow complete fulfilment of IWRM principles. Although the basin concept is recognised and to some extent applied in Mali's transboundary co-operation in the Niger, Senegal and Volta basins, much more remains to be done in this direction; and few CLEs are operational yet. The initial process of launching CLEs in Mali, with their accompanying master plans for the management of water resources (SDAGE) did not lead to larger-scale implementation.

Institutional progress in DNH (and the OdN) over the period was slow. Much work remains for the current PCA-GIRE programme in strengthening legislation, institutions, procedures and capacity. At the local scale, progress was somewhat more convincing, although – as ever, in all local water management settings – the sustainability of local water management plans' achievements will depend on continued institutional maintenance.[15] PADIN and PASARC have provided budgets for the implementation of these community plans, whereas budgets for the national PAGIRE have been far from inadequate. Implementation of all

[15] Institutional maintenance means the long-term provision of advisory, facilitation and (re)training services to local resource management structures – particularly important because experienced office holders and staff may leave and be replaced by people without the necessary skills and insights. Like pumps and canals, water management institutions cannot simply be installed by a project and then expected to function without any further attention.

scales of water management plan was of course severely disrupted by the security crisis of 2012-2013.

There are no data on which to develop a quantitative analysis of these water management planning efforts. The MTR of PADIN II restricts its efficiency discussion to analysis of the profitability of production of the various commodities being supported, suggesting that in some cases investment has been unrealistically high compared to feasible returns (Nelen et al., 2017, p. 22). A summary discussion of efficiency in the PASARC MTR deals briefly with the project's human resource constraints and, ironically, suggests that PASARC's efficiency is enhanced because in some cases it is able to build on, or rehabilitate the infrastructure and other outputs of previous projects (Baltissen et al., 2016, p. 50; see section 3.2.1 above) – another reference to the 'build, neglect, repair' syndrome.

3.2.3 Transboundary water management

The Niger river system constitutes the most obvious and important TWM challenge for Mali, but several others are significant too: they include the Senegal, the Volta and the Sourou. Through its support to the OMVS, discussed elsewhere by this global policy review (section 1.3.4 above), the Netherlands has had some impact on TWM in the Senegal basin. Linked to the water management initiatives that it funds in the inland delta, there is increasing discussion of stronger TWM efforts for the Sourou basin, shared with Burkina Faso, which is a tributary of the Volta river system. Mali is a member of the Volta Basin Authority, and has appointed a focal point for the Volta in the DNH, which means that some indirect support is provided through Netherlands funding of PCA-GIRE.

EQ 13: Did MFA support contribute to strengthened institutional arrangements and formal agreements over trans-boundary water sharing, allocation and management between countries; do these take into account global norms for international water streams?

EQ 14: Did MFA support contribute to a strengthened enabling (political, institutional, water infrastructure development and O&M) environment for actual implementation of arrangements and agreements?

EQ 15: Have governments of riparian countries allocated budgets and/or taken other measures to follow up and sustain arrangements and implementation of agreements, including joint monitoring?

However, by far the most significant Dutch support for Mali's engagement in TWM has concerned the Niger river and, specifically, co-operation with Guinea in improving management of the upper Niger basin. From central funding and through PCA-GIRE support to DNH, there is also assistance to the ABN, which brings Mali and all nine Niger

riparian states together and has a focal point in the DNH. While the ABN is well established (the original Niger River Commission was founded in 1964) and has had some effect in raising awareness of the need for transboundary management of the river and its basin, it does not have a dynamic reputation, and Netherlands support has made little difference to its effectiveness to date.

Although carried out at a relatively modest technical level, the Dutch-supported collaboration with Guinea has been meaningful in its development of joint monitoring and management approaches and in a gradual adoption of IWRM principles for the upper Niger basin. For example, piezometric, water quality and flood monitoring systems were set up in both countries (although sustainable funding problems arose in Guinea as soon as GIRENS II ended (Hansen et al., 2010, p. 19)), and comparable pilot approaches were promoted for local water resource management by CLEs. While formally sanctioned as TWM by the two governments, the work of GIRENS appears to have been more at project level than at intergovernmental level, with the project operating from its offices at Bamako and at Kankan in Guinea. Participation and contributions from the Guinea side were generally weaker, and the GIRENS II evaluation reported weak involvement of Guinea state representatives (Hansen et al., 2010, p. 47).

Again with slower inputs from the Guinean side (GOM & GOG, 2017, p. 9), PCA-GIRE has continued these technical efforts, with a management unit in Kankan complementing the offices of the DNH GIRE Unit and of Wetlands International (for BAM-GIRE) in Bamako. The project's development of the 'observatory' of the upper Niger basin was noted above (section 3.2.2), and initial work has been done to develop and expand the concept and operation of CLEs in both countries (although pilot project implementation only occurred in Guinea in 2016 (GOM & GOG, 2017, p. 20)). Developing and implementing a TWM programme between two low-income countries with poor logistics, complex institutional frameworks and difficult security conditions was bound to be challenging, and PCA-GIRE's progress (following initial delays) was modest in 2016. TWM can generally be divided into technical, field-level work – for example setting up community structures and water management efforts, and building joint scientific programmes on issues like water quality – and higher-level intergovernmental work that may lead to major water management decisions – for example, concerning the proposed (and controversial) Fomi dam in Guinea. The latter type of work, in particular, is likely to be slow, and to date there have been no major achievements.

Over the review period, MFA support thus contributed to a gradual strengthening of institutional arrangements and formal agreements between Mali and Guinea for TWM in the upper Niger basin, broadly compliant with IWRM principles. The higher-level formal agreements between these two countries and the other seven riparian states through the ABN were not materially affected by Dutch support during this period. Similarly, GIRENS and PCA-GIRE achieved some strengthening of the implementation framework for TWM agreements between Mali and Guinea, although many constraints and obstacles to effective TWM remain to be overcome – not least because neither riparian country has allocated

sufficient budgetary or institutional resources to assure the long-term continuation of the approaches, systems and management measures that Dutch support helped to put in place.

3.2.4 Cross-cutting policy themes

Table 3.1 shows no projects categorised as 'cross-cutting policy themes', apart from the five annual programme support fund allocations, which are used for various short-term, ad hoc tasks such as irrigation studies, (impact) evaluations, pilot activities and training.

EQ 16: Have improvements in water management come about while also issues of environment, climate change and/or other priority policy themes were addressed?

EQ 17: Have improvements come about while maintaining or improving water management benefits for lower income groups and women beneficiaries? In how many layers of decision making are these groups represented?

EQ 18: Have platforms for exchange of NL knowledge and skills been established; has the reputation and market position of the Dutch private sector (turn over, profit) improved; and did these results contribute at the same time to achievement of policy objectives (final outcome level)?

General brief review of the Mali portfolio confirms that it has been implemented with considerable (although not always best placed) attention to environmental concerns and, increasingly and especially, climate change. Of the four countries selected for focused study by this policy review, Mali is the one where programming concern about climate change seems most prominent. As one informant stated, 'there are no average years any more'. For an agrarian economy heavily dependent on predictable Niger flood regimes, the increasing variability of those floods is a significant threat, which underscores the value of the OPIDIN initiative. While Netherlands support has been demonstrably aware of environmental and climate change concerns, it has not been able to address them as effectively as it should. This is due to the difficulty of identifying appropriate technical solutions; the challenging and often insecure working environment; and the failure of macro level water management planning to make properly informed technical choices (section 3.2.2 above).

In earlier support to the OdN, the Netherlands achieved major benefits for the very poor peasant producers on the scheme, empowering them and raising their standards of living. During the review period, however, little further progress was made as support shifted from the field to institutional reform and development of the OdN. Dutch support did continue to assist lower income groups and women beneficiaries in the inland delta – although, as in most rural societies, the poorest groups and communities are not best placed to exploit the opportunities of a community-based planning approach, which tends to favour more

advantaged communities (section 3.2.2 above). The MTR of PASARC reported strong female participation in project activities, notably market gardening, but pointed out common failings in the project's gender approach: equating gender with women and (perhaps less common) conflating the interests of, and support to, women and youth. Women's activities and incomes have been given more attention than their social empowerment and the root causes of gender inequality (Baltissen et al., 2016, pp. 41-45). Similar progress and challenges were reported by the MTR of PADIN II, which pointed out that 'non-discrimination is not enough… PADIN supports women in their traditional occupations (joint enterprises, market gardening, micro credit) but does not put emphasis on creating opportunities for women to exploit the project's other opportunities to increase their revenues' (Nelen et al., 2017, pp. 37-38).

Of the four countries specially studied for this policy review, Mali has shown least progress in terms of promoting Dutch private sector engagement in water management. In the currently insecure conditions, there is understandably little commercial appetite from the Netherlands. Realistically, opportunities are limited at present (Aidenvironment, 2015). While commercial crop production offers interesting opportunities in theory, there has been no significant improvement of the Dutch market position in Mali as a result of, or in connection with, support to improved water management. The PRCA-SA project is actively strengthening value chains for onions and fish, but this concerns the local economy rather than links with the Netherlands.

3.2.5 Organisational and programmatic efficiency

EQ 19: Was the MFA able to fulfil its role as expert, broker and diplomat in enhancing collaboration between concerned actors within the Dutch government, the Netherlands and within partner countries, and enhance complementarity and synergy of activities?

EQ 20: Has the involvement of the Dutch water sector led to information, knowledge and technologies that are relevant and practical for intended beneficiaries to use? Has it leveraged efforts of concerned donors, policy and/or implementing agencies?

The overall ToR for this policy review pose four EQs about efficiency. The two more specific ones, about efficiency in water management in agriculture and (sub) national water management, were mentioned in sections 3.2.1 and 3.2.2 respectively – mainly to say that there are no quantitative data on which to base detailed efficiency analysis. The two more general efficiency questions, shown in the box, can briefly be addressed here.

Through its EKN, the MFA performed well in Mali during the review period as expert, broker and diplomat. The image of the Netherlands as long-term, expert technical partner was

strengthened. Particularly during the security crisis of 2012-2013, the Dutch profile as a reliable partner of the Malian people was reinforced by the maintenance of as much of the portfolio and field presence as possible – considerably more than that of some other donors. Good working relations were maintained over the review period with the GOM (notably the DNH) and with the OdN, although in both cases disappointingly little institutional progress was achieved. The activities in the portfolio could be seen as complementary: work with water and land users in a part of the country with major challenges for agrarian livelihoods and food security – the inland delta – within a framework of institutional support to larger-scale water management of the upper Niger basin and the Malian agency (DNH) with central responsibility for it. Institutional development efforts at the OdN could also be seen as complementary, strengthening the framework for a major part of the Niger water management system and for national food security. This theoretical complementarity was less satisfactory in practice, however. Tangible progress with strengthening the overall management of water resources in the upper Niger basin was slow. At the end of the review period, major water management decisions were still being taken outside a rational planning framework, and the overall effectiveness of macro level water management planning remained limited. Links between field-level initiatives in the inland delta and basin level water management decision making were tenuous. The OdN remained institutionally and operationally weak, and Dutch support was not effectively reaching the peasant producers on the scheme.

Despite this generally strong performance, co-ordination of the various Dutch contributions in the Mali water management sector remained incomplete. As in other countries, a significant challenge for the EKN was to keep fully informed of, and ensure adequate co-ordination of, activities supported from The Hague with MFA central funding (section 3.1.2 and Table 3.2 above). The opportunity for synergy was largely missed.

Largely because of the unattractive commercial environment and the difficult security situation, broader involvement of the Dutch water sector has made less progress in Mali than in the other case study countries covered by this policy review. The Netherlands is seen in more conventional terms as a strong donor with a good reputation in the water management sector – rather than a 'delta country' with a range of potential engagement and support modalities and multiple partnerships to offer. Because IWRM still does not have the political profile and priority in Mali that local conditions demand (Figuères, 2016, p. 8), there is less opportunity for the Netherlands to stand out as the partner of first choice. With 'development' being only one of the three emphases of likely Dutch policy for Mali over the coming years (alongside 'defence' and 'diplomacy'), the Dutch profile in water management may not change greatly – unless, as some informants suggest, the urgent necessity of enhanced water management becomes more apparent to national leadership and a real political will to achieve IWRM emerges.

A related concern is the type of expertise that the Netherlands has to offer to small-scale land and water users in Mali. In earlier decades, the country deployed relatively large numbers of expert staff to field postings with projects in the OdN and the inland delta, tapping the impressive Dutch pool of expertise in Sahelian land and water management.

That pool is reportedly much smaller now. While an era of posting long-term expatriates to the field to work with rural beneficiaries is unlikely to return in Mali, it will remain important to have Dutch expertise that can be deployed for the design, support, monitoring and supervision of such activities.

4

Main findings

The main findings presented below offer an overall assessment of the quality of design and implementation over the review period. As explained in section 1.3.3 above, this brief country study refers to the theories of change presented in the overall ToR for the policy review, and in particular to some key assumptions that were implicit in Dutch policy for support to water management throughout the review period. Building on the findings presented in section 3, the discussion below refers to those assumptions and assess their validity, while also offering an overall response to the evaluation questions.

4.1 Dutch assistance to water management in Mozambique: challenges and contribution

Rooted as it was in earlier responses to drought and famine in the Sahel, Netherlands support to improved water management in Mali during the review period was highly relevant for two reasons. First, Malian food security and livelihoods are heavily dependent on effective water management. Water security and food security are indivisible in this country. Secondly, rooted in its domestic water management skills and wide-ranging international experience, the Netherlands could deploy valuable expertise in tropical water resource management through its development co-operation programme with Mali. With that expertise, at least in the earlier years of the review period (and following on from the efforts of previous decades), the Netherlands could add value and fill gaps in locally available knowledge and expertise. By the end of the review period, as a generation of Dutch Sahel specialists aged, there was less assurance that this was so. More local technical expertise was available, in any case, and the Netherlands was able to appoint qualified international NGOs for some field implementation.

Compared to the other three countries for which this policy review has undertaken special studies, there was less evolution or diversification in Dutch policy mechanisms, instruments or approaches over the review period in Mali. In terms of the 2013 policy statement (section 3.1.1 above), this remained an aid relationship – a relationship that was increasingly challenged by the deteriorating security conditions. The overall question for the Netherlands in Mali was less how it could engage the Dutch water sector with water management challenges in the country, and more how it could maintain some support to water management in a broader context of defence and diplomacy. What resonates most from the EKN's periodic MASPs (notably that for 2012-2015) is the concept of resilience: how Dutch support to improved water management could help make the gravely threatened livelihoods of Malians more durable. Another key comment from the 2014-2017 MASP was about the need for adaptability and flexibility in challenging times: for this, the established model of delegated funding through the EKN was well suited, especially as it included annual programme support funding. Context specificity was feasible. In sum, therefore, many of the policy and procedural embellishments that the Netherlands adopted during the review period were of limited value in Mali, where it was still necessary to tackle long-standing institutional and technical problems of water management in an increasingly difficult context of climate change and insecurity.

4.2 Effectiveness

There are two ways to achieve effective results in support to improved water management. The first, and quicker, way is to work directly with water and land users, at field level: building their skills, helping them develop their institutions, and enhancing their water management and production. If done well, this approach can achieve significantly stronger water management and agricultural production in a few years. The second, much slower way is to build the national institutional framework, capacity, systems and procedures that will manage the country's water resources as a whole, and will guide local users in their smaller-scale management tasks. This is the only truly sustainable approach. If done well, it assures long-term control of water use and long-term support, including institutional maintenance, for local users and their management structures. If the second approach is not followed successfully, any achievements of the first approach are likely to be temporary. After project support ends, institutional and physical infrastructure usually starts to deteriorate, and benefits fade. This has often led, in Mali as elsewhere, to the cycle of 'build, neglect, repair', in which new projects – or additional phases of previous ones – return to work further on the foundations (or ruins) of what was done before.

During the review period, Netherlands support in Mali proved partially successful with the first approach, through the projects in the inland delta. There had been considerable success before 2006 in the OdN zone, but that phase was ending as the review period began. There was much less, and slower, progress with the second approach, working with large-scale and national institutions. The available information – admittedly incomplete – suggests that institutional progress with the OdN was unsatisfactory, despite substantial expenditures. Much valuable work was done, in a generally constructive spirit of partnership, with the DNH. For a number of reasons, however (including the effects of structural adjustment), the DNH and its parent ministry continued to lack capacity and budgetary resources. While the ABN and the Commission for Sélingué and Markala were able to exercise a limited degree of water management control over the Niger system, and there was a degree of co-operation with Guinea upstream, Mali continued to lack institutional capacity and political will for effective domestic or transboundary management of its precious water resources – despite the efforts of the Netherlands and other development partners. When political will was asserted in the latter phases of the PAHA process, the results of a non-transparent process were inimical to rational management of Niger resources, rather than supportive of it.

The conclusion must be – as for some of this review's other case study countries – that it has not been feasible for the Netherlands to achieve significant improvements in the quality (including the transparency) of national water management institutions in Mali. That ToC assumption (1.3.3) was not valid. The assumption that water management plans lead to meaningful, effective action must be similarly nuanced. Dutch support in the inland delta did achieve plans which in turn achieved action that was valuable for local livelihoods. This process involved the user participation and meaningful dialogue to which the ToC assumptions refer – although, as noted above, such approaches are generally harder for the more marginalised and impoverished communities to engage with. At larger scales,

however – including the OdN – the planning efforts supported by the Netherlands achieved less meaningful, effective action. The institutional and bureaucratic obstacles – some of them far beyond the control of any donor – were too great.

The ultimate conclusion must be that – even without security and political constraints – the national institutional environment precludes fully effective support for improved water management in the short to medium term. The results over the review period were partial and insufficient. There are no grounds for expecting much improvement. Real change, helping to build resilient livelihoods, can be achieved at field level in local projects. But that is not enough; and it would be irresponsible, as well as impolitic, to abandon support at the national level. Such support must be grounded in realistic expectations, however, about the pace and extent of institutional and water management change that will be achieved. External support, including that of the Netherlands, must recognise the limits to what it can do.

Dutch support was partially effective in promoting the principles of IWRM in Mali during the review period. Those principles are now widely known, are generally understood and accepted, but are only partially implemented. One important issue is the relative emphasis given to large-scale water management planning and to the micro scale of in-field soil water management, and the question of whether the importance of soil fertility management is adequately recognised. Possibly stimulated by the growing immediacy of climate change, Malians are increasingly aware that the resources of the Niger and other river systems are finite, and that food security cannot simply be assured by increased provision of irrigation water. Optimum water productivity – more crop per drop – is vital, requiring detailed local extension work with land and water users, supported by appropriate technical research and expertise. During the review period, Dutch support to water management in agriculture gave insufficient attention to these basic technical challenges, and was also unable to achieve adequate national level understanding of the need to manage and allocate water (and consequently land) resources more frugally.

One of the ToC assumptions is that regional co-operation was politically and institutionally feasible. In one sense, this proved correct. Through the GIRENS and PCA-GIRE projects, the Netherlands was able to support a degree of collaborative TWM action by Mali and Guinea, and less directly by all nine riparian states through the ABN. The deeper question, however, is how practically effective such political and institutional collaboration was. In that sense, Dutch support was less effective. There were at least as many institutional, bureaucratic and budgetary obstacles to action in Guinea as in Mali, and the ABN (like some other TWM structures investigated by this policy review) had less operational effect than the formality of its institutional arrangements might suggest.

Netherlands support was partially effective with regard to two global cross-cutting concerns. In the case of gender the lesson learned in many countries was learned also in Mali: that true effectiveness means moving beyond women's participation, or even increased activity by women in certain familiar economic sectors, to a more fundamental shift in women's access to social and economic opportunity. Realistically, Dutch or any donor-funded initiatives cannot achieve the latter. That is a matter for domestic social, cultural and

political forces. In the case of climate change, Netherlands support for water management was pushing at an increasingly open door, as Malians began to feel that 'average years' no longer existed. More than in this review's other case study countries, climate change has gained traction as a policy and programming priority in Mali. This should mean a growing awareness of the importance of IWRM – for which the Netherlands is seen as by far the most important development partner. The challenge now is to convert awareness and commitments into practical action to tackle the effects of climate change.

Mali also raises another important, global cross-cutting concern, which is not specifically mentioned in the ToR for this review. This is the relationship between water security and (inter)national security. It is well known around the world that water scarcity can be a cause of domestic or international conflict. Mali, with its very young population, still high population growth rate and insufficient economic opportunities for its youth, presents real challenges. Can better water management be linked to expanded livelihood opportunities for young people in towns and rural areas, helping to reduce radicalisation and conflict within and beyond the country's borders? During the review period, Dutch support to improved water management achieved a partially positive answer to this, through activities in the inland delta (including the short-term efforts at Gao).

4.3 Organisational and programmatic efficiency

Having failed to find data on which empirical assessment of operational efficiency could be based, this brief country study can only offer some general conclusions on organisational and programmatic efficiency. The first of these is that the (by now) conventional mode of delegated funding and management through and by the EKN for a portfolio of projects worked well in Dutch support for improved water management in Mali during the review period. Supported and advised by The Hague, EKN staff were able to practise adaptive management of a relatively conventional portfolio of projects, responding well to various contingencies and managing to maintain at least of some of that portfolio during the major crisis of 2012-2013 and its aftermath.

The second, related conclusion is that the newer organisational features of Dutch policy to support water management are less relevant in Mali. EQ 20 (Annex 2) asks whether the involvement of the Dutch water sector led to information, knowledge and techniques that are relevant and practical for intended beneficiaries to use; and whether it has leveraged efforts of concerned donors, policy and/or implementing agencies. For Mali, the answer is mostly (but not entirely) negative.

Relations with the country were still, of course, classed as 'aid' rather than 'transitional' or 'trade' (section 3.1.1), but Mali was one of the 11 nations with which the Water OS programme, which 'strive[s] to involve the broad Dutch water sector on the basis of value added' (NWP & RVO, nd[16]) was meant to work. While the Water OS key adviser could provide

[16] nd: not dated.

expert advice to the EKN on the Mali water management sector, the scope for involving the broad Dutch water sector was limited – although expertise was mobilised from the Dutch sector to help develop the OPIDIN flood prediction system. (Where Dutch water boards and companies did engage in Mali, it was in the drinking water and sanitation sector and/or in the provision of consultancy services.) Programmatic efficiency for Dutch support to improved water management in Mali continued to depend mainly on bilateral co-operation between the two governments, with international NGOs and Dutch consulting capacity providing some technical and implementation services.

Mali was thus a reminder that the older modalities of development co-operation are still the most appropriate in some countries; and that, within such countries, field-level implementation with direct beneficiaries is a more efficient way of achieving at least short- to medium-term results than institutional engagement with national or large-scale agencies. The implicit ToC assumption (1.3.3) was that strengthening of water management institutions at government and user levels (by enhancing their structure, human resource capacity and budgetary resources) enables them to engage in meaningful dialogue and arrive at broadly accepted water management policies and practices. Experience in Mali suggests that this is only partly true.

5

Recommendations

The primary purpose of this brief country study is to support IOB's overall review of Dutch aid policy for improved water management – not to make comprehensive or authoritative recommendations about the development of support to water management in Mali. However, drawing on the contextual analysis, findings and conclusions set out above, some suggestions can be made about how to shape that support in the years ahead.

'Recommendations' is a misnomer for what follows, given the brevity of this country case study. It is better to call them suggestions. They are offered in humble recognition that the factual and analytical foundation for making them is narrow.

These suggestions are made with an appreciation of the grave challenges that continue to threaten Mali, and that Dutch support must help it tackle. Programming for support to improved water management cannot be part of a conventional development agenda. It must be built into strategy to support Mali's national survival, resilience and ultimate progress in the face of national and regional insecurity; major demographic and economic challenges; and climate change whose severe impacts are already being felt.

1. All programming for water management support should be guided by **realism**. There are two aspects to this realism. The first is the political and security context, which makes a conventional 'development' agenda inappropriate, and calls for integration of water management support in an overall 'defence, diplomacy and development' strategy, as just argued above. The second aspect concerns the fact that effective institutional change is driven from within. No amount of external support, over any number of years, can achieve that change if domestic commitment and conditions do not provide the main force for change. Decades of Dutch support have shown that progress will be slow and incomplete in reforming and developing national water management institutions (including the OdN). There will be at least as much frustration as there is progress. Realism, in these circumstances, does not mean giving up all such efforts. Instead, support strategy should identify those interventions that can, nevertheless, achieve some meaningful progress in the livelihoods of land and water users and in the national frameworks that guide water management. Realistically, the institutional efforts are unlikely to be fully successful. But if some institutional support and contact are not maintained, particularly at central level, it will not be feasible to continue more practical support at more local levels.
2. Unless the proposed self-evaluation of PACOP by the **OdN** provides a credible and convincing rationale to do otherwise, the Netherlands should not plan further support to the OdN or to irrigated producers in the OdN zone. Institutional development efforts at the OdN during the review period were largely unsuccessful. Unless the OdN becomes a competent organisation, it is – regrettably – not a productive use of resources (nor operationally feasible) to attempt support to land and water users in the OdN zone. A further reason not to invest further in this area is that any such investment should be based on a rational and credible allocation of Niger water resources to the OdN and the various other current and planned economic and ecological uses in Mali and downstream. Recent planning efforts have failed to achieve such an allocation.

After decades of Dutch support, the decision proposed here may seem radical, and may pose political difficulties. In the circumstances, however, it can also be seen as overdue.

3. If this were a time for new project formulation at the level of the **DNH** and its parent **Ministry of Energy and Water**, the suggestion would be to maintain a modest but committed presence to assure and deliver the Netherlands' role as a long-term and trusted adviser to the GOM on water resource management, and continue promoting the full adoption and implementation of IWRM in Mali. In fact, the Dutch contribution to PCA-GIRE has three more years to run and will be evaluated this year. During the remaining implementation period, and subject to the recommendations of the evaluation, it seems advisable to focus the programme more, so that activities match resources and are limited to the highest priorities. With realism about the likely pace and scope of progress, those priorities include policy and legislative development and, most importantly, support to the larger-scale establishment of CLEs – along with ongoing advisory and diplomatic support (which may be frustrated) for land and water allocation decisions in the Niger system that are based on sound hydrological, economic and ecological considerations. Although the promotion of IWRM through the establishment of basin/catchment management agencies is a logical goal, it would be risky to invest too much effort in this because progress will, at best, be slow, and the resources, capacity and political will needed to make such agencies a reality will, at best, be limited. Support to the DNH is the aspect of Dutch assistance to Mali water management where realism is most needed. It is essential to continue this support. It would be wrong to expect fully satisfactory results.
4. In the future portfolio, highest priority should be given to support for enhanced water and land management, linked to increased production and food security, in the **inland delta of the Niger**. It is essential to ensure that the hydrology and ecology of this zone are maintained; that everything possible is done to build sustainable increases in the crop, livestock and fish production and processing that depend on effective water management there; and that sustainable livelihoods are promoted for current land and water users and the much larger young generation – all in a stable community and institutional environment. The EKN and the implementing agencies should strive to optimise the achievements of the three current Dutch supported projects linked to this zone, and aim to intensify and improve their assistance to these targets in the years to come. While this study acknowledges that achievements at this level may not last into the long term if national policy and institutional frameworks are not satisfactory, there is much that can be achieved by such field level interventions in the short to medium term. The gravity and urgency of the current situation in Mali make a focus on the short to medium term appropriate.
5. Within its support to PCA-GIRE, the Netherlands should continue to promote ecologically and hydrologically rational **TWM** in Mali, with particular – though possibly frustrating – emphasis on management of the upper Niger basin with Guinea. Here again, realism is vital. Progress will at best be partial. But, as in other aspects of national water resource management, a Dutch presence and contribution are vital.
6. This leads to the final, and most qualitative, suggestion that this brief country case study can offer. It concerns the maintenance and further development of Dutch **'soft power'** in water resource management: the Netherlands' profile, performance and reputation

in Mali as a long-term, trusted, expert adviser in this field. This includes maximising the training and networking opportunities in water management that (centrally funded) Dutch agencies, services and facilities can offer. Without necessarily being the biggest donor, the Netherlands has ample opportunity – some would call it an obligation – to be a good global citizen in its water management support to Mali. Most of the resources and effort should be devoted to field-level work with water and land users – including, to the maximum possible extent, the youth – who can achieve tangible livelihood and security benefits in the short to medium term. But some resources, and great care, should continue to be allocated to national-level work that strengthens the Netherlands' well-deserved, strong reputation in Mali water management. In the long term, that may even serve as a foundation for a broader and more commercially profitable engagement of the Dutch water sector in the country.

References

Aidenvironment, 2015. Mali. Positioning survey for the Dutch water sector. Amsterdam: Aidenvironment for RVO/NWP.
Aqua for All, 2017. Projects. http://aquaforall.akvoapp.org/en/projects/ [accessed 13 February 2017].
Aw, D. and Diemer, G., 2005. Making a large irrigation scheme work. A case study from Mali. Washington, D.C.: The World Bank.
Baltissen, G., Sanou, B.W., Konaté, G. and Goita, M., 2016. Evaluation à mi-parcours du Projet d'Appui à la Résilience des Populations aux Crises Climatiques et Sociales dans la Région de Mopti (PASARC-M). Amsterdam: KIT.
Breman. H., 2015. Mission CNEE au Mali: EES comme accompagnement des décisions au cours du PAHA. Terwolde.
Dessouassi, R., 2015. Observatoire du Bassin du Niger: un outil de gestion concertée des ressources naturelles du Bassin du Niger. Presentation at Atelier Regional des Pays du CILSS sur les Contributions Prévues Déterminées au Niveau National (CPDN-INDCs), Niamey, 28-30 avril.
ECOFOR-SARL, 2010. Evaluation à mi-parcours du contrat plan 2008-2012. Etat/Office du Niger/exploitants agricoles. Bamako: ECOFOR-SARL for OdN.
EKN, 2008. Meerjarig strategisch plan 2008-2011 van HM Ambassade te Bamako. Bamako: EKN.
EKN, 2009. Activity appraisal 20379 PACOP. Bamako: EKN.
EKN, 2011a Het meerjaren strategisch plan. Ambassade van het Koninkrijk der Nederlanden in Bamako, Mali. Bamako: EKN.
EKN, 2011b. MJSP 2012 2015 BAM. Analysis of priority theme food security. Bamako: EKN.
EKN, 2012a. Mémorandum d'appréciation abrégé. Numéro d'activité: 24879. Bamako: EKN.
EKN, 2012b. Mémorandum d'appréciation. 24812. BAM_PASARC-NEF. Bamako: EKN.
EKN, 2013. MASP 2014-2017, Mali. Bamako: EKN.
EKN, 2015. Mali theory of change. Bamako: EKN: internal presentation.
EKN, 2016. Closing activity document: Gao-Plus. Bamako: EKN.
FAO, 2017. FAO water productivity open-access portal. Beta release. http://www.fao.org/in-action/remote-sensing-for-water-productivity/wapor/en/#/home [accessed 1 December 2017].
Figuères, C., 2016. Rapport de la mission de Caroline Figuères (KA Eau-Mali). Mission effectuée entre le 8 et le 16 novembre 2016 à Bamako (Mali).
GOM, 2015. Programme conjoint d'appui à la GIRE (PCA-GIRE), 2015-2019. Rapport de démarrage. Bamako: DNH, Ministère de l'Energie et de l'Eau.
GOM and GOG, 2010. Rapport technique final du Programme de Gestion Intégrée des Ressources en Eau du Niger Supérieur. Bamako and Conakry: GOM and GOG.
GOM and GOG, 2017. Programme Conjoint d'Appui à la Gestion Intégrée des Ressources en Eau (PCA-GIRE). Unité de Gestion des Programmes et Projets GIRE. Rapport Annuel 2016. Bamako: DNH.
GWP, 2012a. http://www.gwp.org/en/gwp-in-action/West-Africa/ [accessed 10 February 2017].
GWP, 2012b. http://www.gwp.org/en/About-GWP/Country-Water-Partnerships/Mali/ [accessed 10 February 2017].

GON, 2016. Rijksbegroting. Homogene Groep Internationale Samenwerking 2016 (HGIS-nota 2016). http://www.rijksbegroting.nl/2016/kamerstukken,2015/9/15/kst212374_2.html [accessed 10 November 2016].
Hansen, P.B., Goita, A. and Gbonimy, K., 2010. Evaluation de la phase II du Projet de Gestion Intégrée des Ressources en Eau du Niger Supérieur (GIRENS2). Horsholm: DHI Water Policy.
ICRAF, 2015. The Drylands Development Programme (DRYDEF). A Farmer-led Programme to Enhance Water Management, Food Security, and Rural Economic Development in the Drylands of Burkina Faso, Mali, Niger, Ethiopia, and Kenya. Final Inception Report. Nairobi: ICRAF.
IFAD, 2017. https://operations.ifad.org/en/web/ifad/operations/country/home/tags/mali [accessed 10 February 2017].
IOB, 1992. La riziculture paysanne à l'Office du Niger, Mali, 1979-1991. The Hague: IOB.
IOB, 2012. From infrastructure to sustainable impact: policy review of the Dutch contribution to drinking water and sanitation (1990-2011). The Hague: IOB.
IOB, 2016. Evaluation of water management for development policy, 2006-2015. Terms of reference. The Hague: IOB.
IUCN, 2009. IUCN Water and Nature Initiative Final Report. DGIS Grant for Water & Nature Initiative (WANI) 2001-2008. Gland: IUCN.
IUCN, 2011. Water vision to water action. Catalysing change through the IUCN Water and Nature Initiative. Gland: IUCN.
IWMI, 2017. http://www.iwmi.cgiar.org/assessment/About_the_CA/index.htm [accessed 10 February 2017].
Madgwick, J. and Pearce, F. (eds.), 2017. Water shocks. Wetlands and human migration in the Sahel. Wageningen: Wetlands International.
Merrey, D.J., Meinzen-Dick, R., Mollinga, P.P. and Karar, E., 2007. Policy and institutional reform: the art of the possible. In: Molden, D. (ed.), Water for food, water for life, pp. 193-231. London and Colombo: Earthscan and IWMI.
MFA, 2007. Everyone's business. Investing in development in a changing world. [parliamentary paper TK, 2007-2008, 31 250, no 1. Een zaak van iedereen. Investeren in ontwikkeling in een veranderende wereld.] The Hague: MFA.
MFA, 2012. Water for development [parliamentary paper TK, 2011-2012, 32 605, no. 65. Water voor Ontwikkeling]. The Hague: MFA.
MFA, 2013. A world to gain: A new agenda for aid, trade and investment [parliamentary paper TK, 2012-2013, 33 625, no. 1. Wat de wereld verdient. Een nieuwe agenda voor hulp, handel en investeringen]. The Hague: MFA.
MTPWWM, MHSPE and MANFQ, 2009 [Ministry of Transport, Public Works and Water Management; Ministry of Housing, Spatial Planning and the Environment; Ministry of Agriculture, Nature and Food Quality; 2009]. National Water Plan, 2009-2015. The Hague: MTPWWM, MHSPE and MANFQ.
Munstege, H., 2013. Eind-rapportage: technische ondersteuning aan de H.M. Ambassade van het Koninkrijk der Nederlanden te Bamako, Mali in het kader van de bilaterale programma's met het Office du Niger. Bamako: EKN.
Nelen, J., Barry, I., Cissé, N.A. and Kergna, A.O., 2017. Evaluation à mi-parcours du Programme d'Aménagement du Delta Intérieur du Niger (PADIN-II). Amsterdam: KIT.

NWP and RVO, nd. Linkage programme supporting Dutch embassies and the Dutch water sector in the field of water development cooperation. The Hague: NWP and RVO.
OdN, 2016. Programme d'appui au contrat plan de l'Office du Niger (PACOP – Activité No 20379). Rapport d'exécution technique et financière. Période: janvier 2016 - juin 2016. Segou: OdN.
Pegasys, 2015. Mid-Term review of the Co-operation in International Waters in Africa (CIWA) Program. Final report.
Van de Putte, B. and Sijssens, P., 2017. Evaluation of the Water OS programme.
SWFF, 2017. http://securingwaterforfood.org/innovators [accessed 13 February 2017].
UNDP, 2017. Human development reports: Mali. http://hdr.undp.org/en/countries/profiles/MLI [accessed 2 March 2017].
UNESCO-IHE, 2015. DGIS-UNESCO-IHE programmatic co-operation. Annual report 2014. Delft: UNESCO-IHE.
UNFCC, 2014. Status of NAPA implementation under the LDCF. http://unfccc.int/adaptation/knowledge_resources/ldc_portal/items/5632.php [accessed 10 February 2017].
UN Water, 2013. Water security and the global water agenda. A UN-Water analytical brief. Hamilton: United Nations University Institute for Water, Environment and Health.
WIN, 2017. WIN programmes. Ongoing initiatives and programmes to promote integrity in the water sector. http://www.waterintegritynetwork.net/water-integrity-programmes/ [accessed 13 February 2017].
World Bank, 2008. Implementation completion and results report (IDA-3390, 3393A) on an adaptable program loan in the amount of SDR 86.7 million (US$115.1 million equivalent) to the Republic of Mali for a National Rural Infrastructure Project in support of the first phase of the National Rural Infrastructure Program. Washington, D.C.: Agriculture and Rural Development Unit, Country Department AFCF2, The World Bank.
World Bank, 2015. Geography of poverty in Mali. Washington, D.C.: PREM 4, Africa Region, The World Bank: report no. 88880-ML.
World Bank, 2017. Mali. http://data.worldbank.org/country/mali [accessed 26 April 2017].
WPP, 2015. Water Security for All: The Next Wave of Tools. 2013/14 Annual Report. Washington, D.C.: The World Bank, Water Partnership Program.
WPP, 2016. A Waterway to Resilience. Fiscal Year 2015 Annual Report. Washington, D.C.: The World Bank.
YEP, 2016. Our Young Experts. www.yepprogrammes.com/our-young-experts [accessed 13 February 2017].

Annexes

Annex 1 Extracts from the terms of reference

Approach and principles

The evaluation approach will have the following main characteristics.

- Independence: the evaluation will take a neutral and unbiased approach, identifying weaknesses, problems and constraints in a constructive manner, noting successes and achievements and drawing relevant conclusions from negative and positive findings.
- Ethics: this independent study will adhere to high standards of evaluation ethics. All interviewees will be assured of confidentiality. Informant opinions will not be attributed by name in the evaluation report (although a list of persons interviewed will be annexed), and interview notes will be kept strictly confidential. All interviewees, including beneficiaries and other field informants, will be asked for their consent before the discussion proceeds.
- Gender: data will be recorded and reported by gender where feasible and relevant. All parts of the evaluation process will mainstream gender awareness and issues, so that there is a full opportunity to identify potential costs and benefits for women in the implementation of Netherlands water management policy in Mali.
- Beneficiary participation: beneficiaries of the programmes under review include poor rural water and land users as well as national and local policy makers, administrators and technical specialists. Although there will be little scope during the mission for direct interaction with water and land users, every effort will be made to include the views of Malian beneficiaries, including staff of water management agencies, in the evaluation findings, either from direct discussions with them or from reports on other consultations with them.
- Triangulation: wherever possible, the evaluation will use two or more sources in order to cross-check, verify and substantiate its findings.

Methods

The study will analyse the performance of the Mali portfolio of support to water management with reference to the general theories of change identified in the overall ToR for the evaluation. At the heart of this theory-based analytical method is the testing of design assumptions about the causal relationships between inputs, activities and results. The outcome of this analysis will be findings and conclusions about the appropriateness of design. If these are positive, extraneous factors must be identified to explain any shortfalls in achievement of objectives. Alternatively, some of the design assumptions may be found to have been inaccurate, suggesting lessons about more realistic ways to shape Netherlands support in order to achieve the desired results.

This will be a mixed methods evaluation.

- Quantitative data will be sought and used, to the extent possible, to establish basic statistics about the portfolio under review: for example, costs, (under) expenditure, disbursement rates, beneficiary numbers and efficiency variables (see EQs 21 and 22). Limited time and resources will be available for the interrogation and analysis of EKN, MFA and other databases for this purpose. To the extent possible and appropriate, existing quantitative analysis will be sourced and incorporated in the evaluation.
- Extensive use has already been made of MFA and other databases on the portfolio under review, showing the numerous activities funded from various sources and implemented by various agencies over the 11-year period.
- Much further effort will be devoted to assessing the character and performance of these activities. Review of the available documentation will be a major part of the evaluation process: studying design, monitoring, progress, completion and (where they exist) evaluation reports on each activity, along with the broader literature on water management challenges and achievements in Mali and the Netherlands contribution in this area.
- Information and opinions obtained from informants will be an essential complement to, and cross-check against, findings from data and documentation. As emphasised above, the evaluation will make an effort to learn the opinions of programme beneficiaries at all levels, as well as interviewing the conventional 'key informants' at the offices of various ministries and agencies in Bamako. Semi-structured interview techniques, using pre-prepared interview schedules, will be used for this purpose. The evaluation matrix refers repeatedly to the conventional 'key informants', who will include:
  - staff of the MFA and other ministries and agencies (such as RVO and the Netherlands Water Partnership) in the Netherlands;
  - experts on the Mali water management sector, and on Dutch support for that sector, in the Netherlands, Mali and elsewhere – including academics, consultants and staff of research institutions and NGOs;
  - staff of the EKN in Bamako;
  - staff of the relevant ministries and agencies in Mali;
  - development partner personnel in Mali – bilateral and multilateral donor organisations, and relevant national and international NGOs.

As the Mali mission will last only five working days, it is assumed that it will not be possible to visit Dutch-supported water management activities or agencies outside Bamako.

Organisation and planning

Team

The team for this country case study will comprise:

- the international consultant to IOB with responsibility for the four country case studies (lead author for the Mali country case study report);
- a local consultant with expert knowledge of water management in Mali.

Schedule

The proposed schedule for the evaluation is as follows.

Table I.1. Mali country case study schedule

Activity	Date
Data and document review, ToR preparation	September 2016-March 2017
Evaluation mission, Mali:	3-7 April
Briefing meeting, EKN, Bamako	3 April
Interviews, data and document collection, Bamako	3-7 April
Debriefing presentation, EKN, Bamako	7 April
Draft report preparation	April-May
Draft report submission	1 June
Review of draft report, comments to evaluation team	1-10 June
Report revision	10-15 June
Final country case study report	15 June

Annex 2 Evaluation matrix

Table II.1 Evaluation matrix (for overall review)		
Evaluation questions	**Specific topics/ indicators**	**Information sources**
The policy cycle		
1. Why is water management in developing countries considered to be in need of international assistance and why did the MFA decide to take up the responsibility of improving it?		literature, MFA policy documents, explanatory memorandum (EM) to MFA budgets
2. What have been the MFA expenditures by year and in total by policy objective, partner country, targeted geographic area, channel, within and outside the policy article. What proportion was spent on Dutch water sector contracts by year and in total?		Piramide, EM to MFA budgets, RVO data
3. In what way was the policy implemented (institutional setting, nature and interconnection of instruments, changes in orientation)?		Policy documents, appraisal documents, interviews with involved stakeholders including: IGG, MI&E, RVO, embassies, implementing agents in the Netherlands and partner countries
4. Did the policy to engage the Dutch water sector manifest itself in new policy mechanisms; what was done to ensure demand driven engagement?		Interviews including: IGG, MI&E, other ministries, RVO, Dutch water sector informants, embassies

[17] Questions 23 and 24 have been amended for this Mali country study. See footnote 16 below.

Table II.1 Evaluation matrix (for overall review)		
Evaluation questions	**Specific topics/ indicators**	**Information sources**
5. What has been the approach to monitoring and evaluation? What evaluations are available and what policy lessons and issues have been reported?	Specific topics of interest for lessons learning include the forms of MFA support/funding proven to be most relevant; the working of interventions and approaches; in country and cross border social, institutional and other factors affecting results; integration with land use planning; PPPs; the (potential) role of the Dutch water sector; innovations of delta areas as focus of Dutch expertise; issues in (financial) monitoring and if these differed between implementing agents.	Evaluation reports, policy level results reporting, MASPs, annual reports, interviews including: IGG, RVO, embassies, water experts interviews of range of stakeholders within the government, Dutch water sector, partner countries
Water productivity		
6. Did MFA support contribute to quality and quantity and right time of water availability to farmers; and increase in agricultural productivity per m^3 of water?	Number of beneficiary farmers (m/f); increase in quality and quantity and right timing of water availability; increase in agricultural yield per m^3 of water	Appraisal documents, evaluation reports, impact studies, interviews including implementing agents, farmers (m/f)
7. Did the MA support contribute to Water User Associations (WUAs) capacity to provide sustained operation and maintenance (O&M) for water infrastructure in a participatory way, also to augment ability of individual farmers to use new representation, knowledge and skills to improve access to water and their on-farm (water) management	Changes in WUA management (technical, social/ political, financial); in service delivery for works and O&M, including capacity to commission work and ensure effective execution; handing over of responsibility to WUAs; use of knowledge and skills by individual farmers; availability and use of WUA funds	Appraisal documents, evaluation reports, impact studies, WUAs records, interviews including WUAs and farmers (m/f)
8. Did farmers pay for services and do WUAs transparently account for funds receipts and expenditures?		WUAs records, interviews including WUAs and farmers (m/f), impact studies
Water management plans		
9. Did MFA support contribute to approved water management plans?	Approved wm-plans; wm-plan reviews taken place at different levels; quality of plans (independent expert assessment)	wm-plans, evaluations, interviews with involved stakeholders including embassies, executing actors, authorities and other stakeholders in concerned country.

Table II.1 Evaluation matrix (for overall review)		
Evaluation questions	**Specific topics/ indicators**	**Information sources**
10. Do the supported water management plans include global principles of integrated development and management of water, stakeholder participation and transparency of processes, equitable development, without compromising vital ecosystems?	Range of stakeholders involved at different levels; involvement of other Ministries outside water; information sharing	wm-plans, evaluations, interviews with relevant stakeholders including: embassies, executing actor, authorities and other (m/f) stakeholders in concerned country.
11. Did MFA support contribute to the strengthening of the enabling (political, institutional, information, water infrastructure) environment for actual implementation of the plans?	Defined and accepted institutional arrangements; delegation of decision making and funding for multi-level actions; strategic working between international funders, PPPs, NGO's, embedded planning capability; information provision; water infrastructure developed including O&M	Documentation on arrangements and procedures, evaluations, interviews with involved stakeholders including: embassies, executing and implementing actors, authorities and other stakeholders in concerned country.
12. Have budgets for implementation of water management plans been allocated and are plans implemented?	Inclusion of plans in government's budgets, policy documents, implementation plans; progress in achievement of wm-plan results	Policy and budget documents, evaluations, interviews including: embassies, authorities, executing actors and other stakeholders in receiving country.
Transboundary water management		
13. Did MFA support contribute to strengthened arrangements and formal agreements over trans-boundary water sharing, allocation, conservation and management between countries; do these take into account global norms for international water streams?	Defined and accepted trans-boundary policy and regulation; allocation and conservation rules and water rights; enforcement water rules and conflict arbitration	Appraisal documents, evaluations, interviews of concerned water experts, responsible water authorities and (m/f) user groupings within the watershed including farmers, industry, fishermen, informants on ecosystem; and involved politicians from riparian countries.
14. Did MFA support contribute to the strengthening of the enabling (political, institutional, information, water infrastructure) environment for actual realization of arrangements and agreements?	Defined and accepted institutional arrangement; strategic working between international funders, NGO's, PPPs; information provision; infrastructure development including O&M	Appraisal documents, evaluations, interviews with relevant stakeholders including: embassies, executing actor, water authorities, other key stakeholders in riparian countries

Table II.1 Evaluation matrix (for overall review)		
Evaluation questions	**Specific topics/ indicators**	**Information sources**
15. Have concerned governments allocated budgets and/or taken other measures to follow up and sustain arrangements and implementation of agreements, including joint monitoring?	Inclusion in riparian countries' policies and budgets; implementation plans; joint monitoring of follow up	Appraisal documents, evaluations, interviews with relevant stakeholders including: embassies, executing actor, water authorities and other key stakeholders in riparian countries
Cross-cutting		
16. Have improvements in water management come about while also issues of climate change, environment or other priority policy objectives were captured?	Environmental assessments; reported 'win win' results	Appraisal documents, result fiches, evaluation reports, impact studies, interviews including IGG, embassies, donor partners, Dutch water sector and other implementing agencies, recipient stakeholders
17. Have improvements come about while maintaining or improving water management benefits for lower income groups and women beneficiaries? In how many layers of decision making are these groups represented?	Social and gender specific results reporting; participation in project structures and WUAs	activity documentation, result fiches, evaluation reports, interviews including IGG, embassies, donor partners, Dutch water sector and other implementing agencies
18. Have there been reported positive and/ or negative side effects?	Reported side effects	Appraisal documents, evaluation reports, impact studies, interviews including IGG, embassies, donor partners, Dutch water sector actors and other implementing agencies
Efficiency		
19. Was MFA able to fulfil its role as expert, broker and diplomat in enhancing collaboration between concerned actors within the Dutch Government, the Netherlands water sector and partner countries and complementarity and synergy between activities?	Reported forms of collaboration, complementarities, synergies and MFA contribution	interviews MFA water experts and informants from the range of stakeholders, including MI&E, RVO, concerned water sector actors, stakeholders in partner countries

Table II.1 Evaluation matrix (for overall review)		
Evaluation questions	**Specific topics/ indicators**	**Information sources**
20. Has involvement of the Dutch water sector led to information, knowledge and technologies practical to the use of beneficiaries and has it leveraged efforts of other donors, governments and implementing agencies?	Use and stakeholders' appreciation of specific Dutch water sector inputs; follow up policies and/or investments by concerned stakeholders	Evaluation reports, interviews including RVO, Dutch water sector informants, embassies, partner country stakeholders, donor partners
21. For the water productivity objective: what have been the costs of supported activities compared to the number of beneficiaries and their water productivity and agricultural production benefits?	Costs of interventions compared to number of beneficiary farmers and their benefits	Progress reports, evaluation reports, impact studies
22. For water management plans: have the cost and duration of key results achievement been as planned, taking into account the quality of these results?	cost of interventions compared to planned duration of key results achievement compared to planning	appraisal memoranda, evaluation reports, interviews of MFA water experts, field studies in three selected countries including interviews implementing agents
Policy options[19]		
23. In Mali, how might the efficiency and effectiveness of Netherlands water management policy implementation be improved?		Study findings, interviews including IGG, MI&E, embassies
24. In Mali, what are the options for maintaining mutually beneficial collaboration and sustainable outcomes in the water management sector in the anticipated policy and budgetary frameworks?		Study findings, interviews including IGG, MI&E, embassies

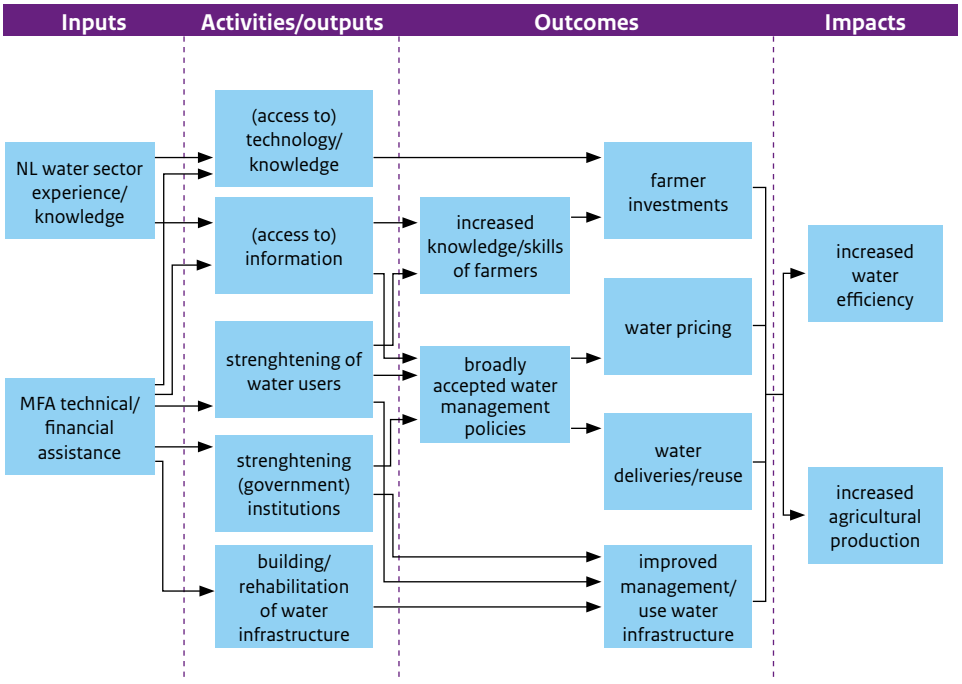
[18] The overall ToR included two final questions under this sub-heading: 'what options are available to increase efficiency and effectiveness', and 'what options are available to decrease the budget with 20%?' An attempt to answer these questions will be made based on the findings of the policy review by the responsible policy department(s). For the purposes of the Mali country study, these questions have been replaced with the ones shown here, as used in the Mozambique study.

Annex 3 Theory of change

As explained in section 1.3.3 above, this annex presents the three detailed ToC diagrams included in the overall ToR for this policy review (IOB, 2016, pp. 10-15). Each inferred, aggregate intervention logic is based on a number of assumptions, reproduced below each diagram for the area of support in question.

Covering a complex, extended set of interventions, these ToC diagrams only offer a summary presentation of design over the 11-year review period. Thus, for example, activities like dialogue, consultation, institutional development and policy development are expected to take place at multiple levels, from local water user groups to international transboundary negotiations between government authorities. Outputs and outcomes, too, may be at local, catchment, national or international scale. The arrows representing causal links from left to right across the logic chain are schematic only.

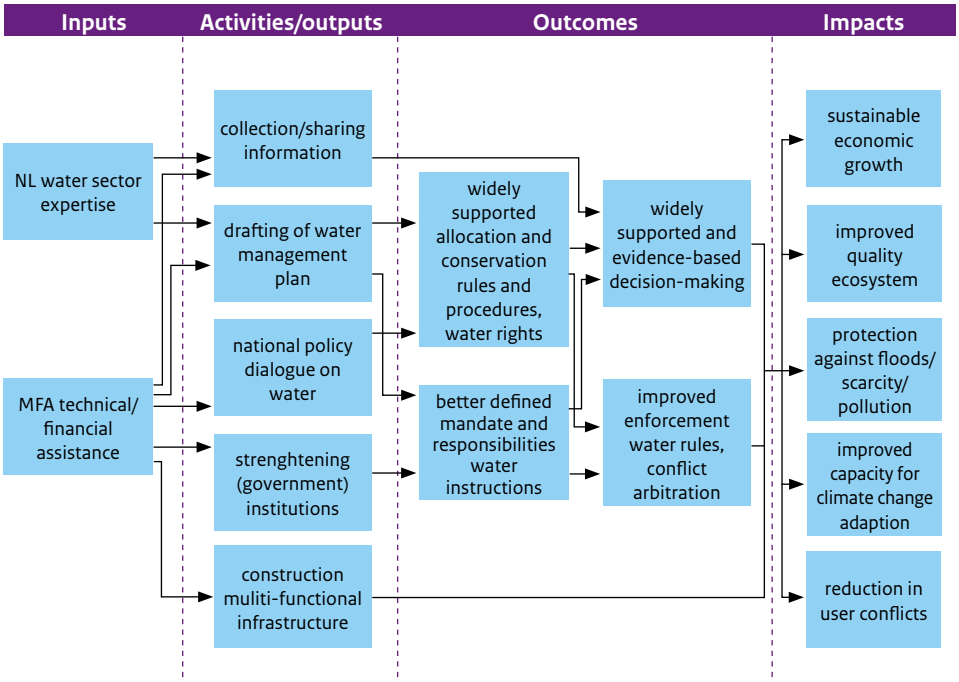
Figure III.1 *Theory of change: support to water productivity*



Assumptions underlying this reconstructed intervention logic are:

- Current water management is not optimal for agricultural production, i.e. a constraint.
- Technical assistance is able to create functioning WUAs by improving their (water) management knowledge and skills and promoting accountabilities in water management.
- WUAs are functioning sufficiently to manage water infrastructure and provide O&M in a participatory way.
- Dutch water sector provides knowledge and technologies that are relevant and practical for farmers to use.
- Farmers are able to use available information and technologies to increase their (water) productivity through investments or use of better techniques.
- Strengthening of WUAs and government institutions enables them to engage in meaningful dialogue and arrive at broadly accepted water management policies that increase water productivity.
- Improved O&M leads to a sustainable increase in the quality of water infrastructure which, together with improved management of this infrastructure, results in reduced water salinity/pollution, waterlogging/improved drainage, improved timing of water deliveries and/or the creation of water buffers.
- Improvements in water management result in the availability of water of sufficient quantity and quality at the right time and an improved relation between quantity of water used and agricultural production.
- Farmers contribute to WUAs in cash and kind, enough to sustain the WUAs financially.
- Individual farmers are able to use their new knowledge and skills to improve their on-farm water management, resulting in improved water availability and an improved relation between quantity of water used and agricultural production.

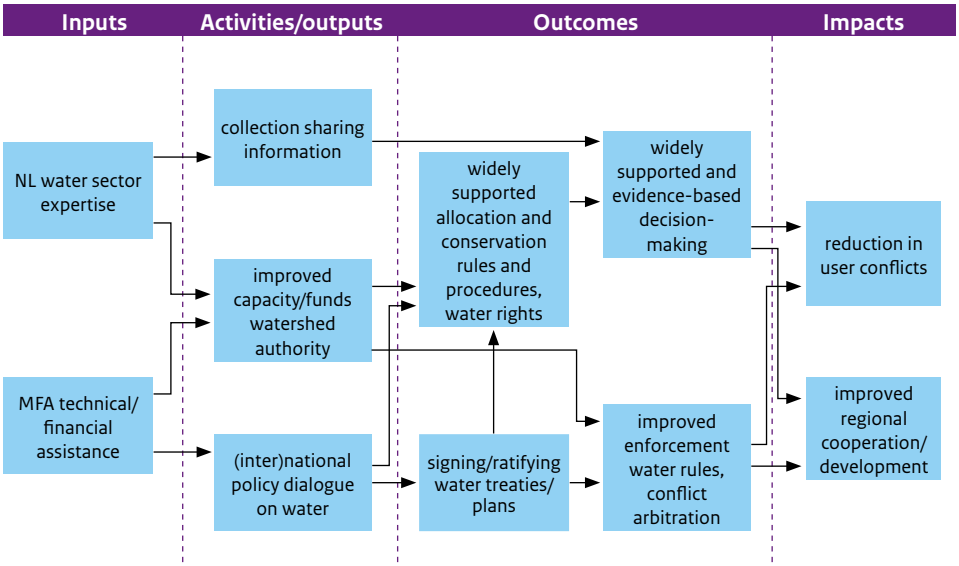
Figure III.2 *Theory of change: support to water management plans*



Assumptions underlying this reconstructed intervention logic are:

- A water management plan is drafted which is supported by all relevant parties and of sufficient quality.
- The inclusive nature of the process of preparing a plan and the plan itself ensures that decisions made and measures taken are widely supported by relevant stakeholders.
- Information is gathered and shared and is sufficient to ensure decision-making is well informed.
- The drafted plan is translated into policy and budgets have been made available for implementation.
- Activities have been undertaken, possibly as part of the plan, to improve the capacity of water institutions, improve water policies and measures and clarify their mandate and responsibilities.
- Water infrastructure is built which enables implementation of water management related decisions.
- Improved institutional capacity, accepted water policies and measures and water infrastructure and O&M services lead to sustained protection from water related problems, improved quality of the ecosystem, capacity for climate change adaptation, reduction in user conflicts and contributions to inclusive socio-economic development.

Figure III.3 *Theory of change: support to transboundary water management*



Assumptions underlying this reconstructed intervention logic are:

- Through financial and technical assistance, diplomacy and (inter)national policy dialogue in which all relevant parties are sufficiently represented, the intervention is able to enhance agreement on sharing of available water, allocation and conservation rules and support for collective trans-boundary management, which leads to the signing of treaties/plans.
- Information gathered and shared is relevant and is used in decision making.
- The MFA supported intervention contributes to the creation or strengthening of a trans-boundary water management authority.
- An improved functioning water management authority is able to improve trans-boundary water management, i.e. water is regulated and allocated in a fair and acceptable way and rules are enforced.
- Improved allocation and regulation of water leads to a reduction in user conflicts between states and individuals and improved regional cooperation and development.

Annex 4 Project data

Table IV.1 below shows the projects covered by this 11-year review that were implemented with bilateral Netherlands funding administered through the EKN. It shows the same set of projects presented in Table 3.1. This chronological presentation helps to show the sequence of activities, and the varying thematic emphasis, over the review period.

Table IV.1 Water management projects: delegated funding, 2006-2016: chronological

No.	Project Name	Start	End	Project budget EUR	Expenditures 2006-2016 EUR
952	ARPON IV bis / PNIR	Aug 02	Dec 08	2,002,392	248,137
12301	TA pour renforcer les institutions du PNIR	May 04	Dec 09	1,032,750	727,852
9743	GIRENS	Sep 04	Nov 08	1,838,774	657,663
12687	Contrat Plan ON 2005/07	Sep 05	Dec 10	5,798,953	4,503,136
13666	Niger Floodplains	Jan 06	Dec 12	3,263,640	3,263,640
15376	GIRENS 2	Oct 06	Dec 11	3,338,267	3,338,267
18442	HELEN	Sep 08	Dec 16	2,872,923	2,872,924
19010	Formulation PADIN	Nov 08	Dec 11	412,163	412,163
19877	Formulation Interim Programme OdN	May 09	Nov 09	21,660	21,660
20379	PACOP	Oct 09	Dec 17	4,815,865	4,771,840
22042	Padin plan triennal	Dec 10	Dec 14	5,997,433	5,997,433
22719	TA DEA	Feb 11	Dec 14	30,894	30,894
23841	POF 2012 IWRM	Feb 12	Dec 15	88,721	88,721
24812	PASARC /NEF	Nov 12	Dec 18	4,359,850	3,750,811
24879	OPIDIN	Dec 12	Dec 15	285,006	285,006
25190	POF 2013 IWRM	Jan 13	Dec 15	41,794	41,794
25501	PADIN II	Jun 13	Dec 19	12,000,000	10,170,081
25726	PRCA-SA	Jan 14	Dec 20	8,000,000	2,969,700
26318	POF 2014 IWRM	Feb 14	Dec 15	73,242	73,242
26783	OPIDIN BIS	Apr 14	Dec 15	99,880	99,880
26584	GAO Plus	Jul 14	Dec 16	900,000	900,000
26989	Programme GIRE	Dec 14	Dec 20	17,298,321	5,677,720
27307	POF 2015 IWRM	Jan 15	Jun 16	121,486	121,486
28817	POF 2016 IWRM	Jan 16	Jun 17	396,730	85,432
Total				**75,090,744**	**51,109,482**

Table IV.2 below gives more detail on the centrally funded activities that were summarised in Table 3.2.

Table IV.2 MFA centrally funded activities with links to Mali				
Activity name	**Period**	**Intervention(s) in Mali, as reported in available documentation**	**Comments**	**Relevance to delegated programme[20]**
Water management in agriculture				
Agricultural development				
no activities				
Water productivity				
ASAP	Nov 12-Dec 17	The Agricultural Smallholder Adaptation Programme (ASAP) was developed by IFAD to make smallholder farmers more climate resilient. ASAP has activities in Mali: pasture improvement and reforestation, complementing activities of PAPAM with regard to climate change adaptation and scaling up achievements of the FODESA project in the areas of water and soil management (IFAD, 2017).	EKN is not aware of this activity, and the work it has done in Mali does not seem to have had strong links with water management.	Not relevant.
ICRAF Food and Water Security (DRYDEV)	Aug 13-Dec 19	The Drylands Development Programme (DRYDEV) was originally called the 'Regional Programme in the Sahel and Horn of Africa; enhancing Food and Water Security for Rural Economic Development', is being led by The World Agroforestry Centre (ICRAF, part of CGIAR) and is, in addition to Mali, being implemented in Niger, Ethiopia, Burkina Faso and Kenya. In Mali DRYDEV focuses on increasing food and water security. In Mali, the National Lead Organization is Sahel Eco, which works with other parties like OXFAM, providing relevant and contextually appropriate support to smallholder farms in (semi-arid) dryland areas (ICRAF, 2015).	EKN reports exchange of experience between DRYDEF and activities supported with delegated funds. EKN participates in monitoring visits.	Relevant to the delegated bilateral portfolio.

Table IV.2 MFA centrally funded activities with links to Mali				
Activity name	**Period**	**Intervention(s) in Mali, as reported in available documentation**	**Comments**	**Relevance to delegated programme[20]**
Water Grand Challenge: SWFF	Jan 14-Dec 19	Securing Water for Food sources and accelerates innovations that enable the production of more food with less water and/or make more water available for food production, processing and distribution. The 4th call for proposals was launched in 2016. One innovation proposed and funded through the programme included Mali and was on Mobile Weather Forecasts (SWFF, 2017).	EKN not aware of this activity.	Relevant in principle.
(Sub) national water management				
(Sub) national water management planning				
no activities				
(Sub) national water management implementation				
(River) basin management				
IUCN Water and Nature Initiative (WANI)	Jul 01-Dec 12	Central in the Water and Nature Initiative of IUCN stood the implementation of IWRM through an ecosystem approach within river basins. Its goal was to mainstream the ecosystem approach into catchment policies, planning and management. Mali was one of the riparian countries of the Senegal river basin in which WANI developed a demonstration project on the provision of a participatory strategic environmental framework for the environmentally sustainable development of the Senegal river basin and on launching a basin-wide cooperative program for transboundary land-water management (IUCN, 2009). WANI was instrumental in the establishment of the Senegal River Water Charter. It also worked on the restoration of flooded forest ecosystems in the inland delta of the Niger (IUCN, 2011).	EKN not (yet) aware of this activity.	Relevant in principle.

Table IV.2 MFA centrally funded activities with links to Mali

Activity name	Period	Intervention(s) in Mali, as reported in available documentation	Comments	Relevance to delegated programme[20]
Coastal development				
no activities				
Disaster management				
no activities				
Transboundary Water Management				
CIWA	Jul 13-Dec 21	The World Bank administers a multi-donor trust fund for the Cooperation in International Waters in Africa (CIWA) programme, which was launched in 2011. The programme aims to support riparian countries in developing sustainable, inclusive and climate-resilient growth in transboundary river basins. Included are the Niger and Volta river basins, of which Mali is a riparian country (Pegasys, 2015).	EKN reports that it supports Mali's participation in this programme, while IGG supports ABN.	Relevant in principle, but the two levels of Netherlands support could be better harmonised.
OMVS support	Oct 13-Dec 19	The World Bank OMVS programme is being implemented by the Organisation pour la Mise en Valeur du Fleuve Senegal. Its main activity supported by NL is to fight the invasive typha plant in the Delta, but anti-erosion activities take place in Mali. Revenues of OMVS are, amongst others, gathered from the electricity generation at the Manantali Dam (Bemo 25865).	EKN and the delegated programme are not directly involved in the OMVS.	Relevant in view of overall Netherlands interest in enhanced TWM by Mali and the states with which it shares river systems.
Cross-cutting policy themes				
Climate ((change) adaptation and mitigation				

Table IV.2 MFA centrally funded activities with links to Mali

Activity name	Period	Intervention(s) in Mali, as reported in available documentation	Comments	Relevance to delegated programme[20]
LDCF for climate change	Sep 12-Dec 17	The Least Developed Countries Fund (LDCF) has been established to support a work programme to assist LDCs in prepare and implement National Adaptation Programmes of Action (NAPAs). This project aims to integrate climate adaptation interventions in the NAPA. The NAPA for Mali was completed in 2007 and to be implemented. Concrete interventions are on 'enhancing adaptive capacity and resilience in the agricultural sector'; 'Strengthening the resilience to climate change through integrated agricultural and pastoral management'; Strengthening resilience of women producer groups and communities'; Integrating climate resilience into agricultural production for food security in rural areas' (UNFCC, 2014).	EKN not aware of this activity: obvious question is what impact the preparation of the NAPA and the development of resilience approaches have had in practice.	Highly relevant given the urgency of climate change issues in Mali.
Good governance				
Water Integrity Network (WIN)	Jul 14-Dec 17	WIN was founded by IRC, SIWI, Swedish Water House, Transparency International and the WB Water and Sanitation Programme and is a network to promote water integrity, to reduce corruption and to improve the performance of the water sector worldwide. Mali is one of the countries where WIN has done an assessment on Water Integrity Risks related to Large Land Deals in Africa (WIN, 2017).	EKN not aware of this activity. Much of WIN's work appears to have been in the drinking water and sanitation sector.	Relevant in principle.
Gender				
no activities				
Environment				
no activities				

Table IV.2 MFA centrally funded activities with links to Mali				
Activity name	**Period**	**Intervention(s) in Mali, as reported in available documentation**	**Comments**	**Relevance to delegated programme[20]**
Across water management themes				
Global Water Partnership activities				
Global Water Partnership	Jan 02-Dec 17	Promotes IWRM, notably through Global Water Partnership West Africa (GWP/WA), established in 2002 in Bamako, and the Mali Country Water Partnership. GWP/WA is a multi-stakeholder platform which advocates, facilitates and supports sustainable WRM in West African countries. GWP/WA aims to solve problems concerning the increase in water demand, droughts, floods and the spread of waterborne diseases and has been working together with the Economic Community of West African States (ECOWAS) to promote IWRM (GWP, 2012a). GWP conducted case studies on 'Capitalizing on the process of elaboration of the Action Plan for IWRM' and a 'Transboundary organization in the Niger River Basin' (GWP, 2012b).	No direct links with the delegated programme, as far as the EKN is aware.	Relevant in principle.
Knowledge institutions' activities				
IWMI Comprehensive Assessment	Apr 02-Dec 09	Through the Comprehensive Assessment of Water Management in Agriculture, co-funded by NL, IWMI aimed to identify knowledge on WM and to evaluate benefits, costs and impacts of water development and challenges (IWMI, 2017). Mali was one of the countries involved. One of the Comprehensive Assessment's publications quoted the OdN as a success story of the institutional reform of large irrigation schemes (Merrey *et al.*, 2007, p. 211, quoting Aw & Diemer, 2005).	EKN not aware of this activity.	Relevant in principle, but no information on its links to the delegated programme at the time.

Table IV.2 MFA centrally funded activities with links to Mali

Activity name	Period	Intervention(s) in Mali, as reported in available documentation	Comments	Relevance to delegated programme[20]
Programmatic support for UNESCO-IHE (Partnership for Water Education)	Jan 02-Dec 20	Through DUPC (DGIS-UNESCO-IHE Programmatic Co-operation), support is provided for UNESCO-IHE activities in many countries to try to find a solution to the lack of water management capacity in Africa and the Middle East. This must be achieved through education, research and innovation, supporting regional and local partnerships and policy forum activities (bemo 17133). Amongst others, activities in Mali are the programme VIA Water for urban water innovations (UNESCO-IHE, 2015).	EKN has no direct evidence of impacts (which are likely, in any case, to be more in drinking water supply than in water resource management).	Issues of water management capacity are highly relevant.
Multi-donor trust funds				
Water Partnership Programme	Jul 12-Oct 16	'The Water Partnership Program (WPP) is a partnership between the WB and the governments of the Netherlands, the United Kingdom, Denmark, and Austria, working together to end poverty and boost shared prosperity through support to investments and analytical work in the water sector.' (WPP, 2016). Mali is one of the countries involved in the Sahel Disaster Resilience Project, which is part of the WPP Disaster Risk Management initiative. Focus is on the assessment on the role of surface and groundwater resources in strengthening disaster resilience. Another activity was planned on strengthening hydro-meteorological services. Furthermore, through WPP, the World Bank supports development in the Sahel region by introducing safety nets to increase resilience. An important focus is on the expansion (almost doubling) of irrigated areas (WPP 2015).	No recent direct links with the work of the EKN. WB has no resident water specialists in Mali and is not an active participant in donor groupings or discussions on water management.	Some of the content of WPP work in Mali, e.g. on irrigation, is clearly relevant to the delegated programme.

Table IV.2 MFA centrally funded activities with links to Mali

Activity name	Period	Intervention(s) in Mali, as reported in available documentation	Comments	Relevance to delegated programme[20]
Promotion of engagement of Dutch water sector				
Young Experts Programme	Nov 12-Sep 17	This programme for young Dutch and developing country professionals to work on projects in the water and food security sectors. In Mali, five young experts, two Dutch and three Malian, were active or have graduated from the programme in the water sector in Mali. They worked for The Rain Foundation, Akvo and Wetlands International (YEP, 2017).	EKN aware of YEP activities: mix of Malian and Dutch personnel. Malian capacity could arguably be developed in more cost-effective ways.	Given the shortage of younger water management expertise in Mali, the activity is highly relevant.
Aqua For All PPP Innovation Programme	Oct 14-Dec 19	This programme aims to promote small-scale innovations in the water sector through public-private partnership arrangements. There are three initiatives in Mali, of which two are ongoing and one (should be) finished, which all have spanned drinking water and sanitation (Aqua for All, 2017).	The programme has focused on drinking water and sanitation, so had no direct links with the water management portfolio until 2014. But its latest phase, which started then, has a broader remit in water resource management.	Potentially relevant.

[19] This assessment of relevance is based on the review team's interpretation of responses from EKN informants and other Bangladesh stakeholders.

Annex 5 Persons met

Table V.1 below includes persons who were interviewed by telephone or Skype [shown by reference to The Netherlands in square brackets].

Table V.1 Persons met

Name	Sex	Position
K. Bengaly	m	Onion specialist, PRCA-SA project, ICCO
Y. Boubacar	m	National Director, National Directorate of Water, Ministry of Energy and Water (MEE)
H. Breman	m	Consultant in environment and development [The Netherlands]
B. Camara	m	Director General, Agency for Environment and sustainable Development (AEDD)
C.Y. Coulibaly	f	Head, IWRM Management Unit, National Directorate of Water (DNH), Ministry of Energy and Water (MEE)
P. Dembele	m	Executive Secretary, Sahel Eco
Y. Dème	m	Country Director and Regional Programme Coordinator, Mali/Senegal, Near East Foundation
M. Diabaté	m	Executive Director, Malian Association for the Environmental Development of the Sahel (AMPRODE/SAHEL)
Y. Diallo	m	Specialist, WASH in Institutions, UNICEF
P. Dobbelaar	f	Chief Technical Adviser, IWRM, Ministry of Water and Energy
C. Figuères	f	Consultant: Key Adviser on IWRM to EKN [The Netherlands]
M. Gareyane	m	Programme Officer, Wetlands International
S. Greenberg	m	WASH specialist, UNICEF
F. Hoogveld	m	First Secretary, EKN
S. Kane	m	Country Manager, Eau Vive Internationale
K.D. Kansaye	f	Information and Communications Officer, National Directorate of Water (DNH), Ministry of Energy and Water (MEE)
K. Keita	m	National Co-ordinator, Wetlands International
G.Y.V. Koucou	m	Fish production specialist, PRCA-SA project, ICCO
H.A. Maïga	m	Honorary Chair, Mali National Water Partnership
B. Mounkoro	m	Co-ordinator, DRYDEV Mali, Sahel Eco
H. Munstege	m	Technical Assistant, Permanent Technical Secretariat, National Small-Scale Irrigation Programme (PNIP)
S. Nooteboom	m	Secretary, International Working Group, Netherlands Commission for Environmental Assessment [The Netherlands]
P. Tholen	m	Head, Development Co-operation, EKN
A.N. Traore	m	Head of Capacity building and Learning, WaterAId
D. Traore	m	Head of Food Security and Climate Change Adaptation Programmes, CARE International

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Cover photo:	Village in the Niger inland delta after the rainy season | Remi Benali, hemis.fr, Hollandse Hoogte.
Photo chapter 1:	Trade over the Niger river | Felix Hooiveld.
Photo chapter 2:	People passing by a map in Office du Niger | Sven Torfinn, Panos Pictures, Hollandse Hoogte.
Photo chapter 3:	Newly constructed Dr. Lely dike near Mopti, part of the PADIN II project | Peter Zoutewelle.
Photo chapter 4:	A boy fishing in the Niger river | Marga Smit.
Photo chapter 5:	Farmers sewing up sacks of newly harvested rice in the Office du Niger | Sven Torfinn, Panos Pictures, Hollandse Hoogte.

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