



Follow-up Report

The Sustainability of Integrated Water Management and Knowledge Transfer in Sisili Kulpawn Basin (FDW/12/GH/02) in the Northern Region of Ghana

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Abbreviations

ATH	African Tiger Holding Ltd
CFM	Conservation Farming Methods
DA	District Assembly
FFS	Farmer Field School
GDP	Gross Domestic Product
GIDA	Ghana Irrigation and Development Authority
IWAD	Integrated Water and Agricultural Development Ltd.
MDG	Millennium Development Goal
MoFA	Ministry of Fisheries and Agriculture
NDA	Northern Development Authority
NGO	Nongovernmental organization
PPP	Public Private Partnership
RMG	RMG Concept SA
ROI	Return on Investment
SADA	Savannah Accelerated Development Authority
TA	Traditional Authority
WGL	Wienco Ghana Limited

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Background and justification

In January 2018, the evaluation team agreed with The Netherlands Ministry of Foreign Affairs to execute some additional research on the two Ghana FDW 12 projects¹ (Sisili Kulpawn Basin in the Northern Region of Ghana, and the SMARTerWASH - Mobile Monitoring for Rural Water and Sanitation Services that Last), to assess post-completion sustainability of partner relationships after formal FDW project completion. The team executed follow-up interviews in June 2019 with respondents from these projects. This report focuses on the first project.

The team executed a total of 8 interviews for this follow-up and did an extensive document scan. The team took a mission to Ghana to execute the interviews and to check on the status of the project. The number of interviews was more limited than expected. This was due to the fact that several of the personnel at Integrated Water and Agricultural Development Ltd. (IWAD) and Savannah Accelerated Development Authority (SADA) (now called NDA) had left their positions, and though it was possible to speak to some, priority was given to interviewing staff and partners that have intimate knowledge of the current status of the partnership and the financial, institutional, environmental, technical and social aspects of the project.

As stated above, the objective of this report is to *assess post-completion sustainability of partner relationships after formal FDW project completions*. This presumed that the partners were/are still working together post-project completion, and a certain form of working relationship remains. The interviews focused on ascertaining whether the partners were still working together and if so, in what form (informally or structurally); and also, if not, what the nature of their relationship was. The information collected also focused on the (changes in) relations with the organisations external but relevant for the project, in other words, the governance of the project (this comes out in the institutional sections of the report).

The evaluation team, however, surmised that the objective was also to assess the sustainability *of the project*. To structure the interview results and the report, this write up used the FIETS criteria as developed by RVO, but also by the partners involved in the Dutch Wash Alliance. These projects were funded under the FDW 12 funding stream, but most of the criteria found and used derived from FDW16. In effect the definition of sustainability of a project or a programme as defined by the Dutch Wash Alliance is:

A WASH development programme is sustainable “*when it is capable of supplying an appropriate level of benefits during an extensive time period after the withdrawal of all forms of support from the external agency*”.

Also, in short, the kinds of measures used by RVO/FDW 16 relate to the following aspects:

RVO FDW 16

Financial: Use of local resources, payment by local end users, involvement of local firms, and a good business case.

Institutional: Local public sector responsibility, stakeholder involvement, clarity on responsibilities and regulations

Environmental: integral approach, ‘do good’, climate adaptation and mitigation

¹ Also the Colombia project: Intelligent Water Management Colombia. This will be a separate but coordinated report

Technical: sustainable O&M and monitoring, appropriate technology
 Social: inclusive, gender responsive, involvement and engagement,

The team attempted to provide some quantification, but this was difficult without any means of verification. Of interest is that fact that post completion, the projects no longer used the FIETS criteria and indicators to evaluate their projects.

Background to the project

The project started in 2014 and ended in 2017. The intention of the project was to foster smallholder farmers and enhance private sector-led growth through the promotion of improved farming practices, integrated water management methods and the development of irrigation agriculture in the savannah agro-ecological zone in the Northern Region of Ghana. The project was a pilot project and planned to scale up after completion of the FDW funded project.

Wienco (Ghana) Limited (WGL) was established in 1979 by African Tiger Holding Limited (ATHL)², as a joint venture Ghana-Dutch company involved in businesses in the agricultural sector. The company has been working in Ghana since the beginning to enhance the productivity of the (mostly small-scale) Ghanaian farmers, to ensure high yields and to secure small farmer’s revenues. WGL also strives for the improvement of sustainability and market access (Appendix 1: Project Plan, 2012)³. For the purpose of the project, Wienco Ltd. established a legal entity, a branch named Integrated Water and Agricultural Development (IWAD) Ghana Ltd. Wienco transferred parts of its rights and obligations for the project to IWAD. IWAD Ghana Ltd joined the PPP as a separate company for the coordination and operational aspects at field and local level. IWAD’s role is to act as the project coordinator, responsible for organizing construction, operation and management of the irrigation infrastructure, delivery of irrigation water and the production of crops. (Progress Report Result 1, IWAD 2015, and Partnership Agreement)

IWAD’s vision was to expand commercially viable irrigation practices in the Sisili Kulpawn Basin through the delivery of high-quality irrigation support, new technology development and knowledge transfer, promoting water-use efficiency and sustainability and securing farmer’s revenue for both Smallholders and Nucleus Estates⁴. The following table provides an indication of the partners who took part in the project and the PPP.

Table 1 SK Project PPP structure

Partner	Sector	Strategic role
Wienco Ghana Ltd.	Private	Coordinator (sold off by African Tiger Holding Limited (ATHL) during the project duration)
Integrated Water and Agricultural Development Ltd. (IWAD)	Private	Coordinator and Implementation (fully owned by ATHL)
Savannah Accelerated Development Authority (SADA)	Public	Governmental representation, facilitation of processes (now called NDA)
Wageningen University and Research Centre – Alterra	Research	Capacity building, training and research, knowledge development
RebelGroup International BV	Private	Transaction advice and scaling up of the project

² ATHL was established in 1996 and is a Ghanaian investment firm with long term investments in sectors that include agriculture, real estate and property development, hospitality, financial services etc. Other than Wienco which was sold in 2011 and IWAD, African Tiger Holding has investments in ventures such as Royal Senchi Ltd, Zaina Lodge and Integrated Tamale Fruit Company.

³ Appendix I: Project Plan Sustainable Water Fund (October 2012). Title: Integrated Water Management and Knowledge Transfer in Sisili Kulpawn Basin (FDW/12/GH/02)

⁴ <http://african-tiger.com/bedrijven/iwad-ltd/>

The impact and institutional report of May 2019 analysed in detail the institutional and governance relations in the partnership.

The sustainability of the partnership

As stated before, the project (to which we refer to here as the Yagaba project), was a pilot project, and planned to scale up after completion of the FDW funded project. Rebel Group as a partner was tasked with looking at options for scaling up. By the end of the FDW funded project, these plans were underway.

After the completion of the FDW funded project, the partners stopped work together in Yagaba. IWAD took over as the lead role in managing Yagaba and working with national and local actors. SADA (now called NDA) took on a diminishing role and Alterra disappeared entirely from the picture. In the scaling up, Rebel Group remained involved, and IWAD asked a trusted colleague from NDA to working with Rebel on the model for the new project, named in short, the XL project. ATHL took over as the lead of XL and is now the main player.

There is little chance that the partnership in its previous structure will be revived. In effect, the Yagaba model has been tested and the partners that were involved are no longer necessary. IWAD has become an established entity in the area, and has been looking for a different constellation of partners for the XL project.

When asked why the former partners were no longer taking part in the continuation of Yagaba, some respondents revealed some disappointment with the role of various partners (both public and private) in the project and criticised some of the partners for not delivering according to agreements. There were different views on this, from both the public and private sectors, but the perception remains.

In addition, the political context in which Yagaba finds itself had changed. The government in Ghana has changed as well as the political priorities. The new government, and NDA's new CEO have new interests, and engage less; contact between IWAD and the NDA is now minimal. The new leadership does not have the same understanding of the project and its potential benefits. The role of NDA in IWAD and on its board has not been resolved. IWAD feels the loss of the old leadership, who were good sparring partners.

The sustainability of the Yagaba project

Situation at the completion of the FDW project

At the completion of the FDW project, the following statement reflected the status of the project:

'IWAD and the partners of the PPP made a great effort to implement the project with its technical and social components and to find a commercial model for agriculture in the Norther Region of Ghana that can also survive economically. There were many challenges during the planning and implementation of the project and IWAD had to find innovative ways of building infrastructure and social relations with the population. Many aspects had to be adapted to reality once difficulties were encountered and project activities were not implemented as planned'⁵.

The project faced substantial challenges, including:

- flooding and hampered access to the site;
- local conditions (droughts and pests);
- interest and willingness of the local farmers to take part in the project;
- the quality of labour;
- farmers showing up on an irregular basis, difficulties getting full attendance at the training/on the site;
- acceptance of irrigation;
- irrigation costs as inputs to the project costs; and
- delays in funding allocations and to the cash flow of the project.

⁵ Final Report: Sisili Kulpawn Basin in the Northern Region of Ghana, 28 May 2019, pp.63-64.

The project was not able to show return on investment (RoI) in the project period, though this was not expected. The project suffered from cash flow problems and ATHL, the owner of IWAD, had to make substantial investments to help the project bridge the cash-flow problems. IWAD and its partners had to adjust and to innovate by focusing on rice production (better output) and making plans to invest in solar to reduce input costs from Irrigation. The other strategy to improve on viability was to focus on upscaling.

Yagaba at the time of the assessment

To analyse the sustainability of the Yagaba project, it is important to look briefly at the plans for upscaling, in what IWAD (ATHL) calls the XL project. The XL project is to be called the Savannah Agricultural Commercial Irrigation Project with focus on two types of crops: 1) Sugar Cane, 2) Rice, Soya, and Cereals (food products) to be produced on a commercial basis. The project will be located, on the White Volta in the Northern Region of Ghana River, bordering the Mamprugu Moaduri and West Mamprusi District, approximately 100 km North west of Tamale. It is adjacent to the Yagaba project⁶. The total project area is 12-14,000 hectares.

The planned irrigation development of the XL project will follow the Yagaba flagship design, using different irrigation types: centre pivot, sprinkler, flood irrigation and drip irrigation⁷. Approximately 80% will be dedicated to nucleus farmers and 20% will be dedicated for the smallholder/out-growers irrigation scheme – they will be involved in growing both types of produce.

Water for the project will be extracted from the White Volta, which has more capacity than the water source for the Yagaba project. The Water Resources Commission has provided assurances that the project will be able to extract the amount of water necessary. The government is still talking about building a dam with World Bank funding.

Sugar cane is currently not produced locally, but there appears to be a huge potential for sugar cane production in Ghana, provided the right protection mechanisms are put in place – illegal trade and reduction of ongoing tariffs.

The Yagaba project is very important to the XL project. During the FDW phase, it tested out a model and, since then, has influenced the choices made when designing the XL project. In addition, in the upcoming years the Yagaba project will test out seeds for and sell seeds to the XL project, acting as an important element of the value chain. Yagaba will also dependant on the XL project for revenues and access to markets.

The following sections focuses on the sustainability of the Yagaba project. Please note that for the most part reference is made to IWAD as the main actor, and the main driver of the initiative.

Financial Sustainability

Financial sustainability relates to the availability and viability of the business case, and after project completion, the use of domestics resources as possible. It also relates to a reduction in donor dependency.

An evaluation conducted in early 2018 confirmed the conditions in place on FDW project completion⁸. Some issued being faced were mentioned above. Effectively, IWAD has been working to improve on some to improve viability and the business model. The following information provides some detail on the status of the challenges that have financial consequences for the production process and the Yagaba model.

It became clear over time that the costs of providing energy to irrigation (diesel gas used to power irrigation), were too high, and too high as an input cost to the nucleus and small-hold farmers. IWAD and partners looked

⁶ Project documentation

⁷ Project documentation

⁸ Please also refer the final institutional and impact evaluation on the project

into solar energy to reduce the costs of the irrigation farming and applied to USAID for funding in capital investment. The 2 year PICA project, as it is called, aimed to reduce the cost of energy by 50%. Installation is now completed and IWAD is working on the final evaluation of the project. It has reduced cost of production, the energy costs by 30%. IWAD is looking to achieve a 40 -50% reduction.

After 5 years, IWAD has decided to go into seed production. The crops IWAD and partners had been growing were not as profitable as desired and seed production showed more potential. IWAD has been looking into diversification: soya for instance is an option, as there are new varieties. During the FDW project, IWAD reverted to growing rice, as it was profitable, but then discovered that rice requires rotation. There continues to be need to look at alternative options. Further, related to the role of Yagaba in XL: the new project will grow sugar cane. Yagaba has planted 16 varieties of sugar cane, is testing these out and will sell the seeds to XL.

Looking at the market for seed production, there are currently 3 opportunities: 1) the smallholder farmers get an input package/credit that includes seeds; 2) the Ghana government is buying seeds under the Food and Jobs Policy; and 3) the seeds (50% of the seeds) are being sold to the new upscaling project, XL. These markets are important, more profitable, and more sustainable. They keep operations going and pay salaries. Of issue, unfortunately, is that the government (The Ministry of Food and Agriculture) is not paying on time; there have been substantial delays. This affects cash flow.

For the smallholder farmers: they continue to receive input credit at the beginning of the season, they repay the credit with the harvest; if they have harvest left over, they either sell it to IWAD, use it to feed their families or sell themselves to the market. IWAD is working with the input package, for instance trying to reduce irrigation costs. IWAD also continues to get certain subsidies, on fertilizers, for instance. IWAD continues to provide support on input, as well as a savings structure. In 3 years, the farmers should have enough savings to repay and to re-invest. IWAD is, however, now exercising tighter control over what to do with the funds as some of the framers have done some crazy things with their funds.

Some of the farmers are still having problems. There have been droughts, brushfires. A shortage in tractors, implies delays in providing tractor services, planting and therefore in harvesting. The crops and harvest have not produced the outputs desired.

The trend, at the moment, is to weed out the farmers who are unwilling to work and to continue cooperating with the committed farmers, a key business decision. In 2018, IWAD was working with up to 500 farmers, this has been reduced by 60% in 2019. Labour is still a challenge, as young men still do not get actively involved in farming activities; whereas the women are doing better. Of interest, however, is that Yagaba has become interesting for the labour market, with migration of labourers to the area (growing with the XL project). In addition, some of the farmers owe money, have not paid up for 3 seasons and are unwilling to pay the money back. IWAD could pursue this but the farmers do not have the funds, so it does not make sense. Instead IWAD is trying to encourage them to stay in the discussion.

IWAD is still working on 'adoption': the extent to which the farmers adopt good farming practices. Training continues on the use of the new practices and in the use of tractors and other large machinery. After years of using traditional practices, many are beginning to see the value of new practices (amongst the irrigation farmers in particular). The rice farmers are doing well and are using new practices.

NDA has made a €500,000 contribution to the project, with a balance still outstanding. Of note is that it was our understanding at the time of project completion that the outstanding €3,000,000 has been paid, however, respondents insisted this is not the case.

Finally, faced with the continued viability of the project, IWAD has had to re-organize and lay off personnel to cut costs.

The model is still dependent on donor funding. Though external funding is being channelled to the XL project for studies and capital investment, the XL project will be one of Yagaba's clients, and therefore the dependence, though indirect, still continues. Access to local markets however, appear to be more promising, so in time, the model may be sustainable locally and result in RoI (to be clarified in upcoming financial studies). It is clear that to come to this point, Yagaba could not have been possible without FDW, and additional investments by ATHL.

Institutional Sustainability

Institutional sustainability relates to clarity on who will take the lead in the project over the longer term, as well as related to the roles and responsibilities of the different actors when working together. It also relates the existence of the clear policy and regulatory framework to facilitate the execution of a project.

There has been a shift in the importance of different actors in the Yagaba project, since the partnership ended. In fact, other than IWAD, this shift has been to local institutions as key to the outcomes of the project. In effect, the constellation of local actors and the governance structure is the same as at project completion.

Box 1: Who are the key actors now?

- The different national ministries and agencies remain the same (NDA, Ministry of Food and Agriculture, the Environmental Protection Agency, Ghana Irrigation Development Authority, Water Resources Commission, etc.).
- As stated before, there is little contact between IWAD and NDA, NDA seems to be reticent to take on a key role.
- The agricultural college, Damongo, is providing training to young students on farming techniques, and on how to use the equipment. UDS is sometimes hired on contract to provide specific services.
- The farmers' field schools (FFSs) are still functional: farmers are still coming to the centre to get training (on how to use IT, for instance). FFSs are still operational in the demonstration farm, and still use good practices. The staff providing technical assistance and then check to see if practices have been implemented. The FFS are trying to encourage children to learn and gender is an important priority.
- The District Assembly (DA) in Yagaba is an important partner. IWAD and the DA meet regularly to discuss to discuss ongoing issues: under discussion at the moment is the desire of the community to have IWAD build facilities such as clinics and schools (see also below). The DA is the authority responsible for providing these, using their own funds.
- The Farmers Associations are becoming more functional. IWAD has worked with them extensively, for instance on the outcome mapping methodology and was successful in setting up and using the methodology. The FAs have their own meetings and have begun to come with their own ideas on how they want to work with IWAD and to focus the investment. Though farmers pay back individually, they have begun to understand the benefit of working in association to discuss, decide and propose activities. Discussion with IWAD occurs on a weekly basis.
- Traditional authorities: the parties discuss issues with flooding, fires and with cattle. TA assistance continues to work on sensitization, so that they invest more of their time in development.

Institutionally, the clear lack of coordination between institutions remains a challenge. IWAD has tried to involve the key institutions in the plans, but finds them, in some cases, unresponsive. For instance, IWAD has informed the Ghana Irrigation Development Authority (GIDA) of what IWAD is doing, and would expect the organization to be more engaged. This has not happened. From the perspective of certain government institutions, they have multiple priorities and often cannot give their attention to Yagaba in the face of other pressing issues. One public respondent commented that this as a missed opportunity on the part of the government, in particular NDA: having the chance to partner with the private sector to achieve development objectives would be a benefit in Ghana, particular with a private sector firm that is 'here to stay'.

As the government has changed, ATHL (in XL) and IWAD (in Yagaba) are faced with new policies. The institutional and regulatory setting is complex. Relations with public organisations, however, are ongoing. ATHL and IWAD, with a long history of working in Ghana are well placed to drive this project.

Environmental Sustainability

The project has recognised the potential and substantial burden of project activities on the environment. Environmental risks⁹ were described on the project site as follows:

Agricultural growth, although desirable, does inevitably place pressure on the environment. In various part of the world agriculture does even account up to 70% of the water withdrawals and 30% of greenhouse gas emissions (including 16% from deforestation). The development of the Sisili–Kulpawn irrigation project will also be accompanied by several environmental risks and is therefore classified (under the Environmental Protection Agency Act 490 and the Environmental Regulations Assessment, 1999) as an Environmentally Sensitive Project which will require a full Environmental Impact Assessment (EIA) prior to project implementation. From a purely environmental viewpoint, the proposed flagship project (400 ha) is likely to have a moderate impact on the natural environment provided the drainage is managed properly.

The establishment of the proposed Kulpawn dam with a potential scale -up to 20.000 ha under irrigation (Sisili–Kulpawn XL project) is a much larger project and there are certain risks associated with large water infrastructure projects (dams breaking, exceptional releases of water, environmental flows etc.). This will also require other organizations (such as the WRC, the Dam dialogue platform and the Volta Basin Authority) in the ECOWAS area to get involved.

Although the implications are yet difficult to predict, and while the dam may open new ecological niches, the complexity of such changes suggest that the issue of upstream and downstream ecological flows will be critical and should be studied in detail. Any design for the dam will need to take into consideration the specific recommendations that emanate from the preceding studies and EIA.

Other key environmental aspects that will be considered are the protection of natural resources and ecosystem services, the impacts on air quality related to vegetation clearing and air borne dust emissions, the potential for surface and groundwater contamination by fertilizers and pesticides. Each of the above elements will also be addressed in detail in the Project Environmental Impact Assessment planned for 2013 (flagship project) and 2014 (XL project).

Mitigating environmental risks were fundamental to the design and execution of the FDW project. The project documents define environmental risks and mitigating measures, and record the actions taken to mitigate the risks, using FIETS indicators. Though difficult to check as part of this assessment, respondents indicated that the project continues to incorporate mitigation measures in the activities. There has not been much change since the writing of the final project report.

On the ground, environmental sound practices have always been an integral part of the project and continue to be. Of note is that conservation farming has been eliminated, as application was not successful and adoption was minimal. In its place, IWAD is monitoring the use of good agro-practices on the part of the farmers, post training and TA support, whether the farmers are taking over/using the practices.

Technical Sustainability

Technical sustainability relates to the appropriateness and acceptance of the technology, and the continued investment after project completion in operation and maintenance, as well as monitoring of performance.

⁹ From the site: <http://cms.iwadghana.com/environmental-risk/#.XTG0G0gzYdU> [accessed 19 07 2019], word for word.

Technology was fundamental to the design, as well as the business model of the project. Affordability, as mentioned above, has been an issue, as has been adoption. Work with the technology and its appropriateness is still ongoing. Adjustments have been made (solar energy) and work done to stimulate adoption (various measures, mostly continued capacity building).

- Technical staff is now getting training in the use of solar energy.
- IWAD is looking at the sugar cane value chain and mechanization and testing this out. This will have an influence on Yagaba and inputs provided.
- The project has discovered that the soils in the area are very fragile. Instead of tilling, the staff are doing something called 'disking', medium tillage, right into the soil.
- Adoption is an issue but is improving (see above on business model).

At the time of the project completion, there was some question on whether the technology was perhaps too complex for the farmers to grasp. The project has had to adjust to this. In this respect, continued capacity building has been essential for sustainability. As mentioned above, adoption has been slow, but respondents were more positive on the ability of the farmers to adopt good practices. Maintenance of facilities has continued, it is IWAD's best interest to have fully functioning facilities and equipment. Adjustments of use in technology has been necessary in view of local conditions, with the soil for instance. Of note, as an indicator of sustainability, the technology practices and lessons learned from the Yagaba project are being used in the XL project.

Social Sustainability.

Social sustainability relates to the inclusive and participatory nature of processes, the gender sensitivity of activities, as well as the extent to which the project supports the economic and social wellbeing of the end user. The Yagaba project, from the beginning, placed community engagement and gender at the centre of activities. The project, by nature, was set up to contribute to the economic and social well-being of the small holder farmer. One respondent commented on the longer term sustainability. *'The project has helped and will continue to help in the ambitions of the small farmers, in the possibilities of continuous production (wet and dry seasons). It was an investment in attitudinal change'*. This is true, but the weeding out of some of the farmers implies that the project ultimately has benefited some but not others and has created some resentment.

Stakeholder consultation processes have always been a fundamental idea of the project. These processes took place during the initial phases of the project. The entry process had some challenges when resistance from some farmers developed. One respondent remarked that the process missed a few key components: for one, a diverse local team (agricultural specialist, psychologist) that understood the local culture and norms and values, and the social structures in place. Second: more time prior to project start up to for the software aspects, and to understand the possible impacts of what the project was trying to do. One public respondent remarked that, in retrospect, IWAD and partners spent an inadequate amount of time on community entry. Much should have occurred during the pre-project phase, during the design phase. The fact that it did not, in his opinion, caused the challenges IWAD now faces in XL¹⁰.

Land, for instance has always been and is still an issue for the farmers that have contributed land to the project. According to certain respondents, land 'owners' have the perception that they have been short changed. IWAD has encroached on their land, which they need for cattle to pass. To deal with some of the conflict, IWAD has set up a pledge fund and is contributing to it to help the families in the 3 communities that

¹⁰ In XL, there are already visible social issues and tensions. The communities in the XL project are in the same tribe as those in the Yagaba project, they intermarry, travel and communicate. In Yagaba, the expectation of the communities was that IWAD was going to come with cash, to put in their pockets, to build schools and provide clinics, and other social amenities. They are not happy that this is not happening. This has influenced the attitude of the families in the XL project. They see IWAD as unwilling to help out.

have contributed land to the project. IWAD has not yet decided how much to put in the fund. It was set up in March 2019 and there is still no decision on how the funds will be used¹¹.

Additional tensions exist, as the community is putting pressure on IWAD to provide community facilities. This is in conflict with the private sector perspective on this issue: IWAD believes that there is a need to change the expectations on the part of the community; that the government should be the one to provide communities with social facilities, not the private sector. Communities still depend too much on handouts, an attitude that has been built over time. NGOs often come with funds, and no matter the sources, communities are never pressured to repay. One respondent commented on the need for the government to invest more in the ongoing conversation. A respondents from SADA (NDA) added to this seeing this as the responsibility of NDA and admitting that the organisation has not taken this up enough. Some suggested that this could be the role of an independent player, such as an NGO, to take up this move to change.

Reflections

The partnership in its original form no longer exists, though some bilateral relations between partners do. These are based on past experience working together and the current needs of the project. The partnership served its purpose during the FDW project, but is no longer necessary for the Yagaba project in its current set up. When looking at the sustainability of the partnership, it is difficult to judge if this change is 'positive' or 'negative'. It is simply a result of the natural evolution in the project.

When looking at sustainability of the project several issues stand out. These are issues that perhaps did not received enough attention in project design and inception and affected the sustainability of the project. These revolve around markets, the ability to manoeuvre complex broader institutional settings, difficulties dealing complex social and cultural mores, and differences in interests and perspectives. Many of these are political risks.

Related to markets, Yagaba was essential for testing out the business model that could be replicated in XL. Respondents made comments to the effect: *'There has been proof of concept, the project is an example for Africa'*. *The link with private sector in irrigation project is a proof of the concept'*, as well as *'The project is a model that can be replicated. It is a novelty as it has challenged social conventions and made a statement that, all things are possible in agriculture in the north of Ghana'*. These statement are highly positive. However, IWAD has been dealing with the challenge of achieving return on investment in the difficult *Ghanaian* market. Frankly, the financial sustainability of the project could not have been possible (and this is still to be proven) without FDW, and in the longer term continued donor assistance, as well as the deep pockets and commitment of ATHL. The question is if these issues and the related risks were sufficiently taken into account during project design.

In addition, this project was set up in a complex institutional setting. The project was highly risky and was faced with the challenge of manoeuvring complex government, community and farmer relations. IWAD, well positioned in Ghana, played a key role. Though now no longer a key partner, SADA/NDA played an essential role in facilitating relations. This set the scene for the relations that are now in place. Respondents commented, after a number of years, on the visibility of the project within the government of Ghana: *'The president of Ghana visited IWAD to see the project. This is a big deal'*. It appears that the project was able to deal with broader institutional relations, but respondents also commented on the complexity of this, whether the different partners really understood this complexity going in and whether they built sound strategies to deal with this. This also true for the difficulties of dealing with social and cultural mores. Local respondents

¹¹ The current concept is that the communities will manage the fund and decide on how the funds are to be allocated. They have set up a committee, of which IWAD will be a member. The membership will be comprised of 3 representative per community (for a total of 9), 2 from IWAD and 2 from the DA. The communities will come with a project proposal; this will be judged by the committee, and then the funds will be distributed.

commented on the need to make better and earlier use of local resources to help deal with these habits and attitudes and to reduce social tensions.

The project has been and continues to be characterised by different interests and perceptions. One year after completion these differences amongst respondents are still marked and unresolved. IWAD is fundamentally driven by private interests and perceives issues using this lens. SADA/NDA has its own perspectives, as do the DAs and the farmers. In some cases, these interests appear irreconcilable. The project in its design focused on arguing which interests were complementary and therefore could provide added value to the project, but perhaps missed and could have benefitted from more attention to making the divergence in interests more explicit, with strategies to deal with these.

Finally, it is interesting to compare the effects of changes in the government in Ghana on this project and another FDW PPP project, approved in the same FDW 12 batch. The other FDW PPP project was driven by the public partner and came to halt when the government changed and the budget allocation was no longer available (the end user was unable to pay). In comparison, this project has been affected by this change (the NDA is no longer engaged, a loss), but with the private sector in the driver's seat, it has been less influenced by the political risk that came with the shifts in policies. This is an interesting fact, as it shows how sensitive public partners are to these risks, and the effects on the long term sustainability of a project and PPP. Yagaba and XL may still be dependent on donors, but the project is still up and running, and has a future.