



THE 2030 WRG TANZANIA PARTNERSHIP

Financing for Irrigation Development in Tanzania Workshop

30th, 31st March & 1st April 2016 –Ledger Plaza Bahari Beach

BACKGROUND

The Government of Tanzania through the National Irrigation Commission, the 2030 Water Resources Group (2030 WRG), and the Financial Sector Deepening Trust (FSDT) have an interest to develop irrigation financing in Tanzania as a way to facilitate the development of irrigation and drainage infrastructure which will ensure sustainable availability of irrigation water supplies and its efficient use for enhanced crop production, productivity and profitability so as to contribute to food security and poverty reduction.

An option to increasing financing in irrigation is the development of facilities that can channel long-term capital towards irrigation. The facilities will link selected irrigation projects with capital. The projects will include building irrigation infrastructure for a range of users including out grower small scale farmers who farm in a specific zone, emergent farmers who otherwise lack the capacity to structure and negotiate for irrigation infrastructure, and agri-corporates and commercial farmers who can benefit from a long term facility to fund scaling and improvements to their irrigation infrastructure.

OBJECTIVES

The Government of Tanzania through the National Irrigation Commission, the 2030 Water Resources Group (2030 WRG), and the Financial Sector Deepening Trust (FSDT) hosted a three-day forum that brought together public and private sector stakeholders relevant to irrigation development financing in Tanzania, to explore and to assess the interest and feasibility of developing irrigation financing facilities.

The objectives for the forum included:

- (i) Convene stakeholders in financing irrigation development in Tanzania;
- (ii) Profile the NIC and its role in irrigation development;
- (iii) Discuss the policy, legal, regulatory, technological and business environment landscape for irrigation development and financing in Tanzania;
- (iv) Collect thoughts and recommendations on the interest and feasibility of such facilities;
- (v) Highlight high potential projects that can be included in the facility;
- (vi) Exploring the roles of different players to enable such facilities to get to market; and
- (vii) Explore on the role of transaction advisory, as a critical role, to enabling such facilities to get to market.

The aim of the forum were to generate discussions and interest and to set the ground to bring financing facilities to market. The forum identified the interest and capacity of the different stakeholders and determined their potential roles and responsibilities. The output from the forum is a responsibility matrix for selected actors. The matrix will be disseminated to stakeholders and will identify the key next steps and actions.

The forum was facilitated by Mwombeki Baregu, Head of Agriculture and Rural Finance at FSDT; and Onesmo Sigalla, 2030 WRG Tanzania Representative.

FORUM SUMMARY

The forum was successful in meeting its objectives:

- (i) **Convening stakeholders:** The forum had 77 participants. This was 54% of the invited 142 participants. Key partners included those from the Government (the Prime Minister's Office dealing with PPP, Ministry of Water and Irrigation, etc.), SAGCOT, Irrigation equipment providers, and large users of irrigation such as KPL were present. Participants can be broken down as follows: Government – 39, Financial Institutions – 10, Transaction Advisors – 8, Equipment Suppliers – 6, Development Partners – 5, Private Sector (from large irrigation schemes in TZ) – 4.
- (ii) **Profiling NIC:** Various activities helped to profile the NIC as well as the agenda. 1) The forum was opened by the Deputy Minister for Water and Irrigation Hon Eng. Aloyce Kamwela. The Minister also gave an interview to the press along with the NIC. 2) The Director General spoke on many occasions during the forum to give his reaction and comments on the various issues raised.
- (iii) **Discussing the landscape:** The forum was able to discuss the landscape. The agenda was very diverse and allowed for stakeholders to hear and learn about different issues. It became evident that the business environment was still difficult and thus NIC could assist stakeholders to navigate. The issue of water supply also came out strongly.
- (iv) **Collect thoughts and recommendations:** The forum asked participants to draft models on a way forward. Three options were given and discussed. The forum will synthesize these approaches and recommendations and summarize the way forward.
- (v) **Highlight potential projects:** The forum presented the findings and potential projects, as researched by Match Maker Group.
- (vi) **Exploring the roles of different players to enable such facilities to get to market:** The forum provided a chance for different players to indicate the project experiences which would be useful in the irrigation matrix.
- (vii) **Exploring the role of transaction advisory:** The forum was able to explore the role of transaction advisory through the presentation by IFC's transaction advisory team. The forum also discussed the capacity of transaction advisory in Tanzania.

The forum was able to generate a lot of interest from stakeholders on developing solutions to finance water storage facilities for irrigated agriculture. The stakeholders are eagerly waiting to see the matrix and to contribute to the recommended and agree a way forward.

NEXT STEP FOLLOWING THE FORUM:

A core team will meet and discuss actors, roles, responsibilities and the way forward. The core team will include the forum sponsors and potentially others including PMO, SAGCOT, TIB/TADB, and potentially IFAD/JICA.

PROCEEDINGS OF THE DISCUSSIONS

DAY 1

BACKGROUND TO THE NATIONAL IRRIGATION COMMISSION

Key take aways:

- The Minister's address
- From other addresses: NIC, FSDT, 2030WRG
- Comments made by the Minister, NIC, and FSDT during the interview with the press that morning.

Welcoming Remarks

Following words of welcome by the Acting Director General of the National Irrigation Commission (NIC), Eng. Lusemwa, the workshop was opened by the Deputy Minister of Water and Irrigation, Mr Aloyce Kamwela. He commended the 2030 WRG Tanzania Partnership, FSDT and the NIC for this timely initiative as the Government of Tanzania (GoT) ambitions to bring total irrigated area in Tanzania from just over 461,326HA today to 1 million HA by 2020, a target that cannot be met by the GoT and its development partners alone.

The Deputy Minister talked about the Government's objective to turn Tanzania's agriculture from predominantly subsistence agriculture to a modern sector, increasing farmer incomes, mitigating better against production risks in a context of climate change, increasing food security, and feeding local industry with raw materials, ultimately contributing to becoming a middle income country. The government is encouraging the private sector to work together with the government in investing in provision of irrigation services.

Mr Sosthenes Kewe, Executive Director FSDT, went on to describe FSDT's mission and activities, emphasizing that its core focus was financial inclusion. Agriculture is one of FSDT's key target sectors and FSDT has identified 3 main building blocks:

- Conducive financial sector policies
- Basic infrastructure for farmers
- Functioning market forces

Evidence collected by FSDT points to great strides in recent years but also to the huge task ahead, and access to water by farmers is consistently brought up as a key constraint to Tanzania's agricultural sector. With the growing recognition that the private sector has a stronger role to play in developing irrigation, he hoped that the workshop would serve to raise awareness on the possible roles for the private sector, highlighting potential projects, and to think through new mechanisms to finance irrigation.

Mr Julien Haarman, consultant for 2030 WRG, introduced 2030 WRG globally and explained how the Tanzanian Partnership developed since 2013 when the original MoU was signed with the GoT. The initial hydro-economic analysis conducted in 2014 concluded that Tanzania is already close to or below long-term water sustainability; with a total demand of 150% of available water during dry seasons. It showed that irrigation represents 82% of total water abstractions for human uses and is dominated by low efficiency forms of irrigation. Yet only a small fraction of the irrigation potential of Tanzania is currently tapped, which points to both great development opportunities and great risks to exhaust water resources.

Recognizing that investing in improved water storage and more efficient irrigation makes both business and development sense; the GoT through the NIC, FSDT and 2030 WRG came to ask the question: can we turn these risks into opportunities for farmers, offtakers, input suppliers, financial services and ultimately Tanzania's food consumers.

Presentation - Introduction to National Irrigation Commission

Eng. Lusemwa then presented that the National Irrigation Commission was established under the National Irrigation Act, 2013. With the establishment of the NIC, the GoT moved its irrigation function to a more stable position as a Commission.

To deliver on its mission, NIC's key priorities are:

- Investment in irrigation development
- Management of irrigation schemes
- Irrigation research and promotion of appropriate technologies
- Production and productivity of irrigated agriculture
- Training and human resources development
- Institutional capacity building

Presentation – The Irrigation Development Financing Gap in Tanzania

To achieve 1 million ha of irrigated land by 2020 (from the current 461,326 ha), funding resources required are huge at over Tsh. 6.8 Trillion as estimated in 2015. Meanwhile, the gap between the political aspirations (approved budget) and actual disbursement to irrigation has grown dramatically over the past 5 years. He therefore concluded that new ways to leverage private sector financing using scarce public resources were urgently needed in order to meet targets. He also indicated that the operationalization of an Irrigation Development Fund as established for by the National Irrigation Act, 2013.

Following these introductory remarks and presentations, the moderator reminded participants that while we see that private sector has to come into the equation, the question that needs to be addressed is HOW? The workshop is the first time this discussion is formally addressed by a cross-section of stakeholders in Tanzania and the objectives are to identify solutions and practical next steps.

Panel Discussion 1 - Irrigation Legal and Regulatory Landscape

Key take-aways:

- Unclear land tenure and cumbersome access to land
- Tradeoffs between various water uses and lengthy water permitting procedures
- Public sector irrigation development still focuses on open channel irrigation schemes which naturally have limited efficiency levels
- Irrigation PPPs require identification and packaging of a pipeline of private sector investment opportunities and public sector/donor funding to bridge feasibility gaps
- Many laws and process are involved in the irrigation subsector and therefore many institutions are involved

The first panelist, Mr. Sospeter Mtemi, in charge of the Land Department at the Ministry of Agriculture, highlighted the challenges of accessing land for irrigation: complex division of legislation, various categories of land, and various institutions involved in land management. These challenges need to be taken into account in planning irrigation projects.

The second panelist, Ms. Naomi Lupimo, Assistant Director - Division of Water Resources at the MoWI, highlighted the water use permit procedures and outlined the steps involved. She pointed to the tradeoffs between various water uses, explaining that the policy gives priority to water for domestic consumption, followed by environmental requirements, before other uses (including irrigation, hydropower, industrial water, etc.).

The third panelist, Eng. Raphael Daluti, former Deputy Permanent Secretary at the Ministry of Agriculture, described some recently inaugurated irrigation schemes, which while they served a large number of farmers, were not very efficient and did not include associated water storage infrastructure (dam), therefore vulnerable to fluctuating river flows. Eng. Daluti also stated that we need to develop a water use and development plan to reduce the ambiguities which exist.

The fourth panelist, Mr David Nyange, USAID advisor, illustrated some of the multiplier effects of large irrigation schemes, with rapid growth of a farmer community (including immigrant farmers from other parts of the country), and the development of supporting services and broader businesses. He also highlighted some of the key challenges of insufficient coordination (between various water users such as farmers, hydropower, National Parks, etc.), insufficient water storage, poor agricultural practices to harness the full potential of irrigation, and insufficient attention to associated infrastructures (post-harvest, roads, etc.).

The fifth panelist, Mr. John Mboya, in charge of PPP at the Prime Minister's Office, introduced the PPP Centre and its PPP Technical Committee, which is under preparation. This Centre will be charged with approving projects that may be initiated both by the public and the private sectors. He highlighted the need to develop a pipeline of PPP projects in irrigation, conduct feasibility studies, and advertise to private investors. He also referred to the Indian experience of having "feasibility gap funding" by the government for projects where private investors would consider returns too low and/or risks too high.

The sixth panelist, Mr. Shani Mayosa, Legal Officer at the Ministry of Agriculture, described how irrigation is governed by several legislations and as a result requires collaboration of multiple institutions.

Panel Discussion 2 – Investment Landscape

Key take-aways:

- Panelists referred to bonds as a preferred instrument for irrigation projects
- Financing agriculture is the key step to increasing capital markets in Tanzania
- Strong government participation will be required, including funds to back irrigation bonds
- It was identified that the Central Government is the most credible issuer of irrigation bonds for Tanzania.

The first panelist, Mr Ibrahim Mshindo, of the Dar es Salaam Stock Exchange (DSE), introduced the stock exchange's role of intermediating between net savers (individuals, pension funds, insurances, etc.) and net users (corporate, government) by providing the necessary instruments

and financial infrastructure. This complements the work of commercial banks. He pointed that in Tanzania, capital markets represent only 30% of total GDP which is extremely low compared to over 200% common in mature economies. Tapping agriculture (and irrigation), the largest contributor to national GDP, would greatly help deepen local capital markets.

The second panelist, Mr. Gasper Njuu of Enterprise Growth Market Advisors, explained how financiers shy away from primary agriculture - risks are too high, lead times are too long. As a result, even relatively attractive irrigation projects would typically need to include a strong participation by the Government (Central, Local or both). This would also help to address some of the challenges identified in the previous panel such as land tenure issues. Funds would need to be set aside to back irrigation bonds in order to boost investor confidence and ultimately secure debt servicing and final repayment. He referred to the Ethiopian power dam example where the government mobilised the population into investing in a fund used to secure special bonds that helped leverage the necessary financing for the dam. Mr. Njuu identifies the Central Government as the most credible issuer of irrigation bonds for Tanzania.

During the ensuing discussion, participants suggested that irrigation users could pay fees that would feed such a fund, and that various sources of public finance could be eligible to contribute, including the TADB, SAGCOT Fund, etc. Similarly, the bonds could finance various types of irrigation projects, ranging from fully commercial to heavily subsidized. A key challenge would be to ring-fence revenues from particular projects.

Panel Discussion 3 - Agriculture Market Conditions and Transactions

Key take-aways:

- Ongoing and new projects provide opportunities for the creation of financing mechanisms
- Commodities exchange expected to start trading in September may offer trusted off-taker role
- New irrigation course may help build capacity even within the financial sector as irrigation financing develops
- Upcoming revision of the National Irrigation Master plan may provide an opportunity to support pipeline generation for irrigation PPP deals

The first panelist, Mr. Godfrey Malekano of Commodity Market Support Advisors introduced the upcoming Commodities Exchange, expected to start trading next September. The Commodity Exchange will initially focus on 4 value chains, cashew, sesame, sunflower and Paddy/Rice.

The exchange would greatly increase marketing efficiency by:

- Increasing competition among buyers
- Pooling production into larger volumes and standardized qualities
- Strengthening trust between buyers and sellers in the system
- Increasing transparency, including through the use of mobile technology
- Improving reliability in payment and deliveries

The exchange may help the development of innovative financing mechanism for irrigation by helping ring-fence individual project revenues (by serving as a trusted off-taker in the system).

The second panelist, Mr. Suzuki from JICA, outlined JICA's ongoing and planned support programs in irrigation in Tanzania. JICA has been supporting this sector for many years and currently runs the following programs:

- Financing a new irrigation projects
- Technical Assistance (TA) to NIC focused on reviewing comprehensive guidelines for irrigation development
- TA to the Arusha Technical College for the creation of a new advanced studies degree in irrigation
- TA for the revision of the National Irrigation Master Plan (upcoming)
- TA to improve rice productivity in order to harness the full potential of irrigation

Mr. Suzuki emphasized the need for irrigation financing mechanisms to take into account regular maintenance costs and overhead costs required for management of the infrastructure, e.g. strengthening of Irrigators' Organizations.

The moderator suggested that two (2) aspects could be discussed further with JICA:

- Training of bankers in irrigation and/or recruitment of new irrigation graduates into financial institutions to develop the irrigation (financial) markets
- New Irrigation Master Plan to help generate a pipeline of PPP deals that can be financed through new financing instruments.

DAY 2:

HOW DO WE MOVE FORWARD?

The second day brought a selection of private sector players from agribusinesses, irrigation equipment suppliers and banks to reflect on possible ways forward. It started by the presentation by Match Maker Group, a consultancy recruited by 2030 WRG to conduct an initial irrigation market overview in Tanzania to better understand:

- Potential scale of the market and key segments (crops, farmer profiles)
- Available irrigation technologies potentially suitable for various crops/farmer profiles
- Applicability/business case across different crop/equipment combinations

Presentation - Irrigation landscape and Pipelines

Henri von der Land, Managing Partner at Match Maker Group, offered an overview of the Tanzanian landscape for irrigation development, presenting findings emerging from their research. The presentation highlighted that the bulk of the potential market for irrigation in Tanzania is in small holder farmers (less than 10 hectares landholdings). The concept of cash vs. staple crops and tight vs. loose value chains were introduced as they are relevant to the business case for irrigation and the involvement of risk-sharing partners in financing arrangements. In terms of short-term pipeline for irrigation financing, he estimates the latent demand to be in the order of USD 100 millions (USD 70-100 millions for existing and new large schemes, USD 5 millions for large plantations, and USD 5 millions for emerging farmers in tight value chains – including associated out grower schemes). Effective demand may be in the USD 10 – 20 million range.

Key take-aways:

- In the context of sustainable irrigation financing, irrigation water supply should go hand-in-hand with other farming inputs
- Irrigation water supply is the real challenge, as once this is in place, the business case for irrigation is more compelling and the private sector can play a stronger role
- Enabling appropriate land tenure, access to water, power, and roads, as well as adequate protection of domestic agricultural markets are key responsibilities of the government

Mr. Peter Mkufya from Kickstart, introduced the treadle pump product that has now been successfully piloted in Tanzania through the distribution of 45,000 pumps. While Kickstart remains a not-for-profit, they are now going to invite broader private sector participation for up scaling distribution of the product.

The second panelist, Mr. Nikos Aggelidis of Balton, stressed that irrigation could not be considered in isolation, and any hardware equipment needs to come with complementary inputs (fertilizers, seeds) and technical advice on appropriate use. The main issue is water supply to the field, which he sees as a responsibility of the government, along with roads and power. In this area, he recommends that more attention be given to water collection from various sources (groundwater, rainwater, etc.) and storage.

Ms. Brittany Douglas, from Wade Rain Irrigation, presented some background to the company, which while new to East Africa, has been in the irrigation business for over 150 years in the USA. She recommended that better coordination between public and private sector stakeholders be put in place in Tanzania.

The last panelist, Mr. Ritesh Patil and Ms. Rupa Suchak from Jain Irrigation, explained that the company was eager to integrate the issue of water supply in the delivery of their products and services and were keen to collaborate with stakeholders on this issue. Ms. Suchak stressed the critical role of the government in delivering the right enabling environment, including access to land, power, main water, etc.

Eng. Lusemwa from the NIC concurred that making water available was a key challenge, and that in this respect, the irrigation Master Plan will also include dams, small, medium and large in size.

Mr. Geoffrey Kirenga, Executive Director SAGCOT Centre, highlighted some of the relevant reforms underway on the Government side:

- A cabinet paper is under preparation focused on facilitating agribusiness investments taking a comprehensive approach (tax regimes, tariffs, control of smuggling, etc.): the issue of water supply should be reflected also
- New approaches to accelerate land titling are being adopted by the Ministry of Lands with support by USAID and DFID, leveraging technology (remote sensing, etc.)
- A collateral registry is at the design stage that may facilitate access to finance

Panel Discussion 2 – Users (Offtakers) Experiences – financing irrigation and the opportunity to increase productivity

Key take-aways:

- The critical role of the government in enforcing land and water rights was illustrated, along with the need for adequate community facilitation when foreign investors are involved
- Outgrower irrigation financing is how the risks can be shared between financiers, offtakers and the farmers themselves.

The first panelist, Mr. Jack Bennie from Silverlands, gave a brief background to Silverlands' farm in the Iringa area. He then highlighted some of the issues faced with respect to irrigation on the farm:

- Foreign investors require facilitation with the community, as cultural differences can quickly result in unfortunate misunderstandings and tensions
- Enforcing water permits issued by the Basin Water Board can be made difficult by communities who blame larger companies for reduced water availability
- Similarly, land titles issued by TIC can be disputed by local communities and the investor requires mediation by a government mediator to resolve the issues peacefully and sustainably

As for outgrower irrigation, he indicated that the Government had a leading role to play with respect to infrastructure. A challenge was that smallholder farmers sometimes find it difficult to pool their resources, especially land, in order to jointly develop investment in improved farming and better manage water resources (issue of illegal water abstractions).

Mr. Msechu from Kilombero Sugar provided a quick overview of the sugar farm's irrigation and explained that while outgrowers supplied about 30% of total sugarcane requirements for the mills, the issue of water supply constrained the roll-out of outgrower irrigators.

The third panelist, Jerry Goh from Kiliflora, presented the range of water-related CSR projects implemented by the company. This includes a dam upstream that serves both as an intake for the company's irrigation requirements and to feed a community water scheme. He stressed that while the flower operation is equipped with sophisticated computerized hydroponic systems and effluent water treatment in ponds, the flower farming does not involve outgrowers.

In closing the panel discussion, Mwombeki Baregu highlighted that a major question when it comes to outgrower irrigation financing is how the risks can be shared between financiers, offtakers and the farmers themselves.

Panel Discussion 2 - Private Investors Appetite and the Role of Banks

Key take-aways:

- Irrigation cannot be considered as an investment in isolation, broader agricultural sector dynamics need to be taken into account
- Commercial banks can invest in farmers that have basic requirements of land, water and market access, for which other partners, in particular the government have to step in
- Impact investors and leasing finance suggest opportunities to attract intermediary product and services to finance irrigation
- The newly created Tanzania Agricultural Development Bank (TADB) may serve as a key convening stakeholder when it comes to blending different sources of finance for irrigation

Mr. Geoffrey Kirenga, CEO of the SAGCOT Centre, opened the panel discussion by emphasizing the significant opportunities in agriculture development in the region: population boom and urbanization will drive unprecedented demand for agricultural products. However, he also reminded participants that in order to mitigate against risks, agribusiness investments needed to be inclusive, empowering farmers, and sustainable with respect to the use of soils and water. The Southern Agricultural Corridor of Tanzania (SAGCOT) concept provides a platform for facilitating inclusive agriculture partnerships.

Mr. Isaac Masusu from NMB, explained how NMB has been involved in crop financing and warehouse receipts lending with smallholder farmers. As NMB looks to deepen its reach in this segment, it needs to find farmers that are both profitable and lendable (land, water, market), indicating that government and development partners' support was needed to build a pipeline of bankable farmers, with adequate coordination of the range of stakeholders. A particular red flag undermining agricultural finance is government interference in markets, through export bans, tariff manipulations, taxes, etc.

Mr. Henri van der Land from Match Maker Group presented Match Maker's own impact fund, currently USD 4 million and targeting 10 million. More than loans, they consider their investees as "deals", playing an active equity role but investing through debt. They see their role as incubating ahead of commercial bank involvement (once track record is established), and would be keen to explore financing outgrower irrigation through aggregators.

Mr. Patrick Alex, from CRDB provided an overview of CRDB agriculture sector portfolio, in particular their work through SACCOS (Savings and Credit Cooperative Societies) in rural areas. He stressed the potential growth by better stakeholders' collaboration and improved access to water through rainwater harvesting and groundwater use.

Mr. Albert Ngusaru from the Tanzania Agricultural Development Bank (TADB) presented TADB's recent creation and key objective of transforming Tanzania's (smallholder) agriculture. Smallholder irrigation fits very well with this objective and TADB would be well placed to work as an investor and convener of other banks and financiers, by supporting the development of a pipeline of deals, business plans, and concessional lending to bridge feasibility gaps. So far the GoT has injected Tsh. 50 billions into TADB.

Mr. Chris Oliver from EFTA, briefly presented EFTA, a social lender, and their focus on leasing finance (form of debt where moveable equipment is serves as the collateral). After initial inroads in the Moshi-Arusha area and the design and testing of new products, EFTA has started to branch out, including new branches in the SAGCOT area.

Mr. Penniel Lyimo, previously Permanent Secretary at the Prime Minister's Office, stressed that irrigation is only one aspect of agriculture, which financing risks had to consider agriculture as a whole, and as irrigation infrastructure needed public sector investments, various collaboration mechanisms should be explored.

BREAK-OUT GROUPS – What is needed to Structure and enable an Irrigation Financing Facility that will get Participation from Stakeholders (groups)

Key take-aways:

- Sources of finance may include commercial banks, private investors, capital markets, concessional loans by development banks & partners, development partners and government grants, revenues through special taxes and levies (e.g. on telecoms, on imports of agricultural products, on mining, oil & gas, etc.)
- Key players are the Government (NIC, PMO PPP unit, TADB, local governments), value chain players such as agribusiness suppliers and offtakers, financial institutions and stock exchange, development partners
- Instead of focusing on large water supply and irrigation schemes, small-scale units should be explored, comprising at the community-level of multipurpose water storage drawing from a variety of sources (river, boreholes, rainwater, etc.) and managed by community water user associations, as well as adequate efficient irrigation technology at the farm-level (solar powered or manual pumps, pipes, etc.), financed through SACCOS.
- Need to design the right vehicles capable of blending investment from various sources (commercial to grant) and able to generate and invest in a pipeline of irrigation projects requiring different levels of feasibility gap financing. Capturing revenues from irrigation projects may involve the payment of irrigation services fees, production levies, trading taxes, etc.

DAY 3:

THE CRITICAL LINK – THE TRANSACTION ADVISORY ROLE AND PROJECT FINANCE

Mr. Evans Kamau, from the Internal Financial Corporation (IFC) transaction advisory team, introduced the role of IFC in advising transactions in the irrigation sector. He then described in details the transaction advisory processes and structures, using the example of a multipurpose dam and integrated project comprising of 13,800 hectares of smallholder irrigation, 120 MW hydropower plant, and domestic water supply system.

He explained the fundamental principle of PPP arrangements in assigning risks to the most appropriate parties and the critical role of the transaction advisor in helping the contracting party through assessing the PPP project, conducting technical and financial feasibility analysis and due diligence, mobilizing investors and concluding agreements (contracts). Transaction advisors can help ensure projects are viable, bankable and sustainable, avoid mistakes by bringing in experience from other past projects, building capacity within the contracting party(ies), and adding legitimacy to the process. The process would normally take approximately 2 years, including time for assessments, approvals, tendering and contracting.

PPP financing structures typically involve the creation of a Special Purpose Vehicle (SPV), a company dedicated to the project and held by project equity holders, able to secure equity and debt financing on a non-recourse or limited-recourse basis (where the project is guaranteed by itself). Irrigation project revenues are normally captured through the collection of water fees.

In IFC's experience, no irrigation project is financially viable without some element of public support, either in the form of upfront grant/concessional financing, in-kind infrastructures, or long-term subsidies. The transaction advisor helps conduct an economic benefit analysis to assess broader economic benefits of the project and provide a justification for public support. Various models used in the context of irrigation schemes were presented such as the viability gap funds of India or Pakistan, tax exemptions and/or tax stability agreements used in Peru, or government guarantees used in Brazil (Federal Guarantee Fund).

Usually, irrigation PPPs involve large projects able to absorb transaction costs, but bundling several smaller, village-level schemes could be explored. Recent infrastructure PPPs in Tanzania with municipalities could provide useful precedents.

In a second presentation, Ravi Kiran Malik, Technical Advisor at the PMO (Market Infrastructure, Value Addition and Rural Finance - MIVARF), provided a detailed perspective on irrigation finance using the Indian experience. It showed how the government had a very strong role in creating the enabling environment for financial institutions (a majority of which are still public) to extend a wide range of lending products to farmers, and well-resourced institutions to provide necessary public sector finance to bridge the viability gap of irrigation (and water supply) projects. He considers the creation of TADB as a significant milestone in Tanzania but emphasized the need to provide it with the necessary resources to achieve critical mass.

Closing Remarks

Mr. Penniel Lyimo offered closing remarks, highlighting that no country has developed without the transformation of its agriculture as a basis for its industrial development. He invited participants to push through with this initiative spearheaded by the National Irrigation Commission.

Annex 1: AGENDA

DAY 1: BACKGROUND TO THE NATIONAL IRRIGATION COMMISSION

TIMING	TOPIC	SPEAKER
09:00 – 10:00	Introductions	2030 Water Resources Group
	Welcoming Remarks from Ministry of Water and Irrigation	Commissioner National Irrigation Commission
	Opening Remarks from Ministry of Water and Irrigation	Minister Ministry of Water and Irrigation
10:00 – 10:30	Purpose of the Forum	Financial Sector Deeping Trust and Water Resources Group 2030
10:30 – 11:00	Introduction to National Irrigation Commission	National Irrigation Commission
11:30 – 12:00	The irrigation development financing gap in Tanzania	National Irrigation Commission
12:00 – 13:00	Irrigation legal and regulatory landscape <ul style="list-style-type: none"> • Who are the different regulators and government agencies involved • What are their roles • How to collaborate • How to improve efficiencies 	Panel discussion: G. Mandepo - MALF S.Mtemi–MALF J. Mboya – PMO H. Sadiki – MoWI Eng. Daluti – Former DPS
14:00 – 15:00	The investment landscape: <ul style="list-style-type: none"> • The recent reforms in the financial sector • Opportunities arising • How agriculture fits in this landscape • Opportunities and constraints for agriculture and irrigation 	Panel discussion: Juliet Kairuki – TIC Lawrence Mafuru - Ministry of Finance Marwa Moremi – DSE Gasper Njuu - EGMA
15:00 – 16:00	Agriculture market conditions and transactions: <ul style="list-style-type: none"> • The conditions in the market • The deals currently coming to market • Why haven't irrigation deals come to market • What needs to be done to bring similar deals to market 	Panel discussions: Nicholas Jones - AgDevCo Suzuki Fumihiko - JICA Nasama Massinda – CMSA

DAY 2: HOW DO WE MOVE FORWARD?

TIMING	TOPIC	
9:00 -10:00	Irrigation landscape and pipelines: Presentation of findings from recent research	Presentation: Julien Haarman – WRG/IFC Henri van der – Match Maker Group
10:00 – 11:00	The experience of irrigation equipment suppliers in Tanzania: <ul style="list-style-type: none"> • The business environment • The impact of taxes and regulation • The market readiness and awareness • Constraints and opportunities • Requests for greater growth efficiency 	Panel discussion: Ritesh Patil - Jain Irrigation Peter Mkufya - Kickstart Nikos Aggelidis – Balton Brittany Douglas – Wade Rain Intern.
11:30 – 12:30	Users (Offtakers) experiences – financing irrigation and the opportunity to increase productivity: <ul style="list-style-type: none"> • How do you finance irrigation • Do you have or use out growers? How efficient is their irrigation? Do you finance this? • How would improving irrigation efficiency of outgrowers improve your business/value chain? • Are you ready to sponsor efforts to finance out growers? How much? 	Panel discussion: Zabdiel Msechu - Kilombero Sugar Jerry Goh - Kili Flora Jack Bennie - Silverlands
12:30 – 13:30	Investor appetite to fund irrigation facility and what is the role for financial institutions: <ul style="list-style-type: none"> • What is the total funding available for agriculture • Is there enough focus in agriculture by FSPs 	Panel discussion: Geoffrey Kirenga - SAGCOT Fumihiko Suzuki - JICA Henri Van Der – Match Maker

	<ul style="list-style-type: none"> • Is there capacity by FSPs • What capacity needs to be built • What kind of collaborations could work 	Gasper Njuu – EGMA Albert Ngusaru - TADB Patrick Alex - CRDB
14:30 – 15:30	What is needed to structure and enable an irrigation financing facility that will get participation from stakeholders (groups): <ul style="list-style-type: none"> • Users (farmers and agribusinesses) • Investors • Suppliers • Financial service providers • Government stakeholders 	Breakout sessions: All parties will participate
15:30 – 16:30	Presentation from the groups: <ul style="list-style-type: none"> • Users (farmers and agribusinesses) • Investors • Suppliers • Financial service providers • Government stakeholders 	All parties will participate
16:30 – 17:30	Roles and responsibilities to next steps: <ul style="list-style-type: none"> • What are the overall conclusions • Is the market interested in an irrigation facility • What needs to be done • Who will do what • Next steps 	FSDT

DAY 3: THE CRITICAL LINK – THE TRANSACTION ADVISORY ROLE AND PROJECT FINANCE

TIMING	TOPIC	SPEAKER
9:00- 10:00	Transaction advisory – the first step <ul style="list-style-type: none"> • What is transaction advisory • How does it work • How can it help to finance irrigation • Who are the players 	Evans Kamau - IFC
10:00 – 11:00	The transaction advisory process – from idea to offering <ul style="list-style-type: none"> • Step by step process • Who are the parties • What needs to be done 	Evans Kamau - IFC
11:00 – 12:00	Structured irrigation facilities as a solution to irrigation financing	MIVRIF – Ravi Malik Evans Kamau – IFC
12:00 – 13:00	Case studies in irrigation financing – Morocco, India, and Zambia	Evans Kamau - IFC MIVRIF – Ravi Malik

ANNEX 2: Attended Stakeholders

No.	ORGANISATION	NAME	TITLE	SECTOR
1	Argenta Capital	Patrick Muwowo	Managing Partner	Transaction Advisory
2	Balton Tanzania	Nikos Aggrelidis	Sales Manager South Tanzania	Equipment Suppliers
3	Balton Tanzania	Simon Hart	Director - Country Manager	Equipment Suppliers
4	Bill & Malinda Gates Foundation	Liz Dieold	Senior Program Officer	Development Partners
5	CRDB	Patrick Alex	Senior Relationship Manager	Financial Institution
6	Dalberg Capital	Joyce Kabiru	Global Development Advisors	Transaction Advisory
7	Dar-es-Salaam Stock Exchange	Ibrahim Mshindo	Finance & Reseach	Transaction Advisory
8	EFM Radio (Media)	Dorothy George	Journalist	Media
9	EFTA	Chris Oliver	Director Special Projects	Financial Institution
10	EMSA	Godfrey Malekano	Director	Transaction Advisory
11	Enterprise Growth Market Advisors (EGMA)	Gasper Njuu	CEO & MD	Financial Institution
12	Financial Sector Deepening Trust	Christian Mpalanzi	SME Finance Advisor	Transaction Advisory
13	Financial Sector Deepening Trust	Samora Lupalla	Advisor Agric & Rural Finance	Financial Institution
14	Financial Sector Deepening Trust	Mwombeki Baregu	Head - Agricultural & Rural Finance	Financial Institution
15	Former Permanent Secretary	Peniel M. Lyimo	Retired Civil Servant	Government
16	Great African Food Company	Daniel Malango	Sales & Marketing Officer	Private Sector/Potential Projects
17	Guardian Newspaper (Media)	Owden Kyamble	Journalist	Media
18	IFAD	Francisco Pichon	Country Director	Financial Institution
19	IFC	Evans Kamau	IFC	Development Partners
20	Jain Irrigation Systems Limited	Rupa Patil	Manager Projects	Equipment Suppliers
21	Jambo Plastics Limited	Rupa Suchak	CEO	Equipment Suppliers
22	JICA	Fumihiko Suzuki	Program Manager	Development Partners
23	Kickstart International	Mwaluko Mpangwa	Monitoring & Evaluation Manager	Government
24	Kiliflora	Jerry Goh	Executive Director	Private Sector/Potential Projects
25	Kilombero Sugar Company Limited	Zabdiel Msechu	Out Growers Services Manager	Private Sector/Potential Projects
26	Makanza Legal Services	Josephine Makanza	Managing Partner	Transaction Advisory
27	Match Maker Group	Henri van der Land	Managing Partner	Transaction Advisory
28	Member of Parliament	Honorable Cheyo		Government
29	Ministry of Agriculture Food Security and Cooperatives	Eng. Raphael Daluti	Ministry of Agriculture	Government
30	Ministry of Agriculture, Livestock & Fisheries (MALF)	Davind Nyanga	Policy Advisor	Government
31	Ministry of Agriculture, Livestock & Fisheries (MALF)	Shani Mayosa	Head - Legal Unit	Government
32	Ministry of Agriculture, Livestock & Fisheries (MALF)	Sospeter Mtemi	Assistant Director Land Use Planning	Government
33	Ministry of Water & Irrigation	Eng. Frank Changawa	KNWMAU	Government
34	Ministry of Water & Irrigation	Eng. L. A. Simukanga	Environmental Engineer	Government
35	Ministry of Water & Irrigation	Eng. Lukuta Jaivi	Ag. Assist. Director CPSD	Government
36	Ministry of Water & Irrigation	Moses Mnzava	Ag. DIOSS	Government
37	Ministry of Water & Irrigation	Mwanamkuu Mwanyika	Hydrogeologist/Assist. National Focal Point Officer LVBC	Government
38	Ministry of Water & Irrigation	Naomi Lupimo	Assistant Director	Government
39	Ministry of Water & Irrigation	Philipo Patrick	Ag. Pangani Water Basin Water Officer	Government

40	Money Maker	Peter Mkufya	Director - Kickstart	Equipment Suppliers
41	National Irrigation Commission	Bahati Rukiko	Agri. Assist. Director	Government
42	National Irrigation Commission	Dr Joachim Makoi	Agronomist	Government
43	National Irrigation Commission	Eng. Alifa Issae	Ag. DCQA	Government
44	National Irrigation Commission	Eng. Dr. Eliakim Chitutu	Ag. Director Research Tech. Promotion	Government
45	National Irrigation Commission	Eng. Ebenezer Kombe	Zonal Irrigation Engineer	Government
46	National Irrigation Commission	Eng. Gregory Chigwiye	Zonal Irrigation Engineer - Dodoma	Government
47	National Irrigation Commission	Eng. Jeremiah Bayaga	Zonal Irrigation Officer Engineer - Tabora	Government
48	National Irrigation Commission	Eng. Marcos Kessi	Zonal Irrigation Engineer - Kilimanjaro	Government
49	National Irrigation Commission	Eng. Mashiku Majo	Ag. DP	Government
50	National Irrigation Commission	Eng. Mkama Kimasa	Ag. - Infrastructure Construction	Government
51	National Irrigation Commission	Eng. Muyenjwa Mango	Ag. AD - Maintenance	Government
52	National Irrigation Commission	Eng. Naomi Mcharo	Engineer	Government
53	National Irrigation Commission	Eng. Seth Lusweme	Ag. Director General	Government
54	National Irrigation Commission	Ephraim Minde	Zonal Irrigation Engineer - Morogoro	Government
55	National Irrigation Commission	Jackson Bunyinyiga	Ag. Zonal Irrigation Engineer - Mbeya	Government
56	National Irrigation Commission	Kyabula Godfrey	Chief Accountant	Government
57	National Irrigation Commission	Mujuberi Masatu	Ag. CIA	Government
58	National Irrigation Commission	Prudence Rugaimukamu	Zonal Irrigation Engineer - Mtwara	Government
59	National Irrigation Commission	Ronald Komanga	Ag. AD - SS Director	Government
60	NMBTZ	Isaac Masusu	Manager, Agribusiness	Financial Institution
61	NMBTZ	Rebecca Kwayu	ARM	Financial Institution
62	Prime Minister's Office	Asanterabi Sangerai	Assistant Director	Government
63	Prime Minister's Office	John R. Mboya	Assistant Director	Government
64	Private Agricultural Sector Support (PASS) Trust	Safia Mbamba	Zone Manager	Financial Institution
65	Public Relations Manager (Jovago)	Lilian Kisasa	Journalist	Media
66	SAGCOT Center	Geoffrey Kirenga	CEO	Transaction Advisory
67	Silverlands Tanzania Limited	Jack Bennie	Managing Director	Private Sector/Potential Projects
68	TAHA	Michael Jerry	Agri-Finance Officer	Government
69	Tanzania Agriculture & Dev. Bank	Albert Ngusaru	Director of Treasury & Funding	Financial Institution
70	Tanzania Agriculture & Dev. Bank	Michael Madundo	Monitoring & Evaluation Officer	Financial Institution
71	Tanzania Agriculture & Dev. Bank	Prisca V. Chang'a	Ag. Director Managed Funds	Financial Institution
72	Wade Rain International	Brittany Douglas	Managing Director	Equipment Suppliers
73	World Vision Tanzania	Eng. Wolfgang King'oda	Irrigation Specialist	Government
74	Zonal Irrigation Office - Mwanza	Eng. Kalumuna	Zonal Irrigation Engineer	Government
75	2030 Water Resources Group	Julien Haarman	Consultant	Development Partners
76	2030 Water Resources Group	Neema Ndikumwami	Project Coordinator	Development Partners
77	2030 Water Resources Group	Onesmo Sigalla	Country Representative	Development Partners