



FAO | AgWA | OMVS

ROUNDTABLE

Dakar, 24-25 January 2017

**Working together within and
beyond SDAGE and PGIRE**

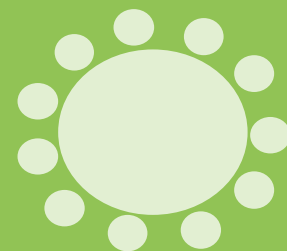


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Context tool of DTI

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Web design

Case study





Diagnostic Tools for Investment (DTI) in Water for Agriculture

National Investment Framework

Context Tool

Institutional and
Policy Tool

Financial Tool

Diagnosis

Institutional
and Policy
Diagnosis

Financial
Diagnosis

National
Investment
Profile

References and background information:
TerrAfrica approach, AgWA Partnership, NEPAD
initiative, CAADP process, national policies,
strategies, and programs, etc..





Diagnostic Tools for Investment (DTI) in Water for Agriculture

Integrated platform to link institutional frameworks, investment needs and potentials in three parts



Context tool

Provides a set of indicators that help understand the **need and the potential to invest** in the development of water resources for food and energy production within/cross country(ies).



Institutional & Policy tool

This tool facilitates the identification of **practical ways forward that reflect the institutional, legal and policy realities** in a country, providing a more solid base for policy and investment design/implementation.



Financial tool

This tool provides reliable and project-based estimates of **on - going and planned investment** in the development of water resources for food and energy production in the short, medium and long term within a country.

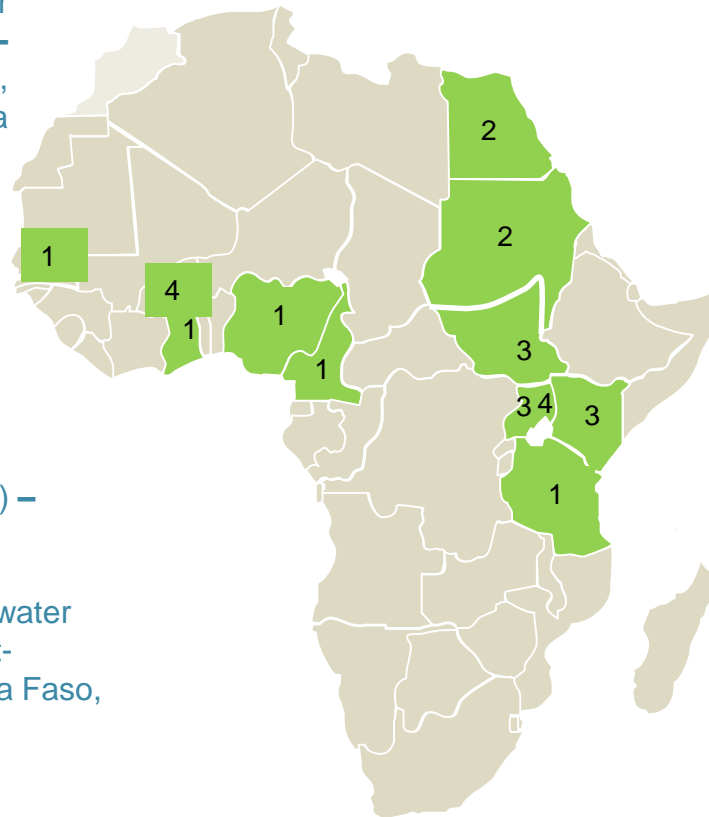
Working together within and beyond SDAGE and PGIRE





Diagnostic Tools for Investment in recent action

1. Building up Mature Partnership for Scaling up Agricultural Water Management in Africa (AgWA) – **IFAD** – Ghana, Senegal, Cameroun, Burkina Faso, Nigeria and Tanzania
2. Support to the pre- and post-CAADP compact process for improved agricultural water management – **FAO**
3. Support to Agricultural Water Management in the Horn of Africa through the Partnership for Agricultural Water in Africa (AgWA) – **USDS**
4. Support to sustainable agricultural water management and the pre- and post-CAADP compact process in Burkina Faso, Morocco and Uganda – **Swiss Cooperation**





Analytical framework for understanding the potential contribution of the sustainable use of water resources for agricultural and energy production in 5 dimensions:

- Agriculture
- Irrigation
- Food security, poverty and food self-sufficiency
- Water resources and hydropower
- Environment and Climate change

Two indicators/outcomes:

- **Investment Need Index (INI)**
- **Investment Potential Index (IPI)**

- ✓ Each of the categories has been further disaggregated in different indicators
- ✓ Indicators can be easily quantified based on national statistics and international databases

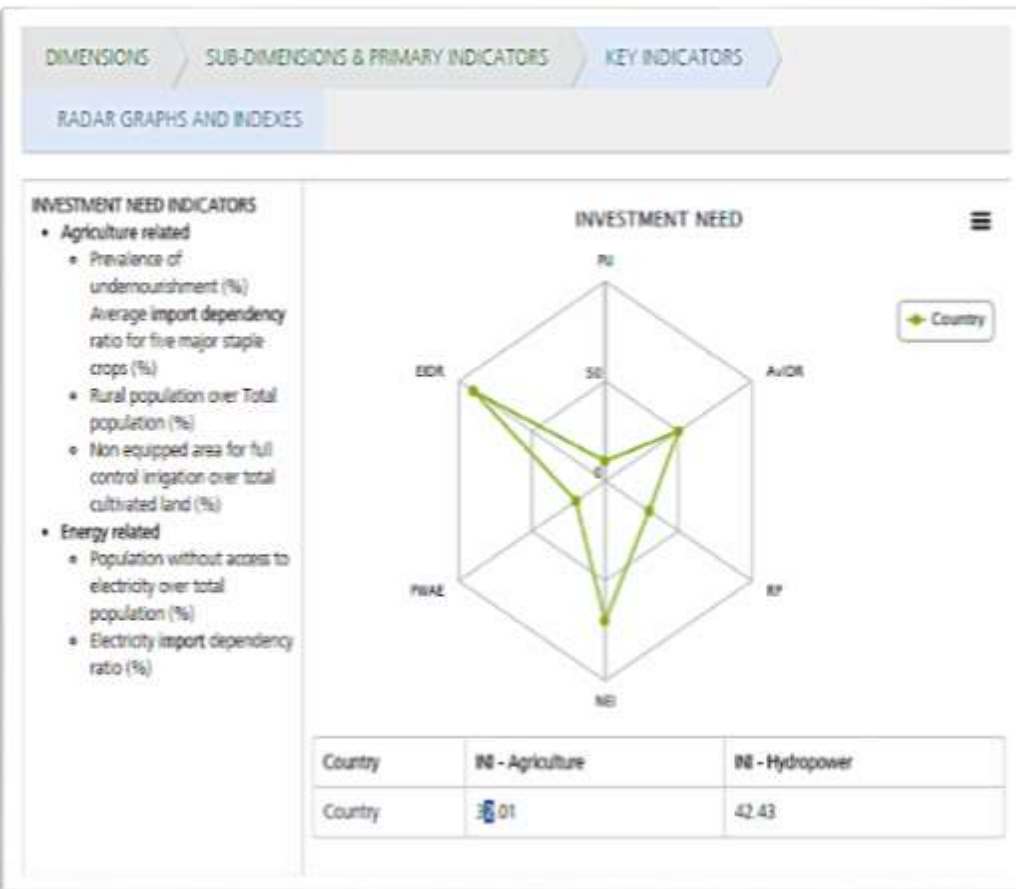




Context tool of DTI



Context tool



- Six indicators to measure the country performance in access to electricity, food security, import dependency, prevalence of rain fed agriculture
- The geometric mean of the value of the indicators is the **Investment Need Index (INI)**
- The greater the Index, the higher the need for investment in water management for agriculture and energy

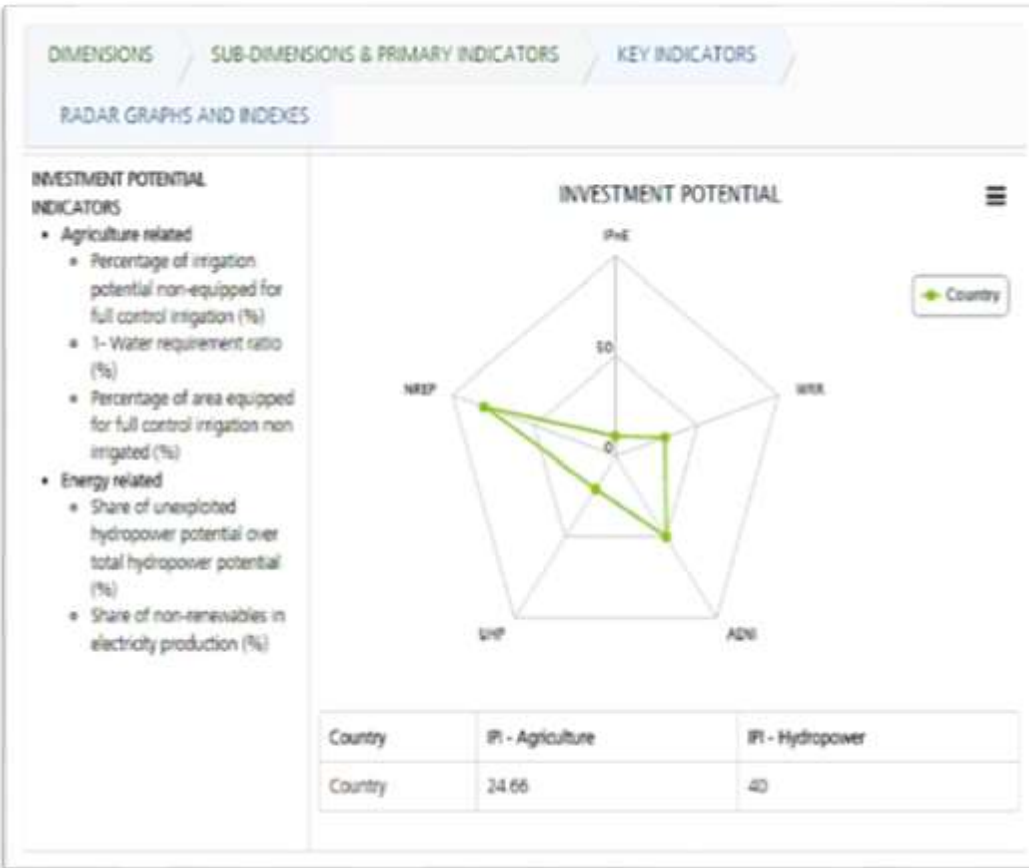




Context tool of DTI



Context tool



- Five indicators to measure the country's potential in developing water resources for irrigation and hydropower
- The geometric mean of the value of the indicators is the **Investment Potential Index (IPI)**
- The greater the Index, the higher the potential to invest in water management for agriculture and energy





Identification of practical ways forward in the quality, cost-effectiveness and accessibility of water resources for agriculture and energy that reflect the institutional, legal and policy realities of a country in two dimensions:

- Strategic priorities and political commitment of government and donors
- Efficiency of the public spending in the irrigation and hydropower sectors

Main indicator/outcome:

- **Institutional and Policy Index**





Institutional and Policy tool of DTI



Institutional &
Policy tool

STEP 1 –

MAPPING EXERCISE

- **Legislation mapping:** overarching, comprehensive, reform of the water sector
- **Policy framework mapping:** redefine government's role: from direct service provision to regulatory functions.

STEP 2 –

DIAGNOSTIC EXERCISE

- The objectives of the evaluation of the public expenditure allocations comprises assessment of the efficiency (investment priorities and political commitments) and strategic priorities (decentralization and participation, timely utilization of budgetary appropriations)

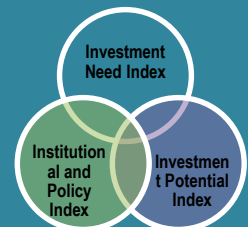
STEP 3 –

INSTITUTIONAL AND POLICY INDEX:

(Summary representation of below)

STEP 4 –

ACTION MATRIX





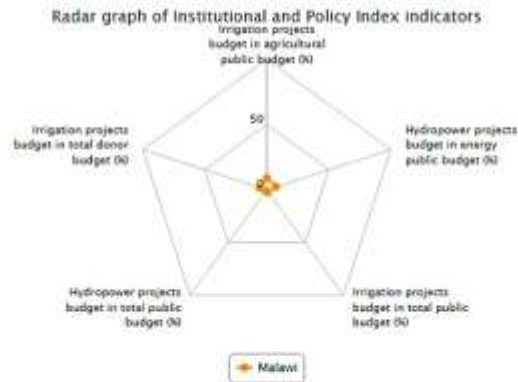
Institutional and Policy tool of DTI



Institutional &
Policy tool

Malawi Report Download

Investment priorities and political commitment Decentralization and participation Timely utilization of budgetary appropriations



INSTITUTIONAL AND POLICY INDEX (IPI)

Country	IPI - Agriculture	IPI - Hydropower
Malawi	4.48	3.17

IPI - AGRICULTURE

0-20	Low commitment in investing in water for agriculture.
21-40	Moderate commitment in investing in water for agriculture.
41-60	Considerable commitment in investing in water for agriculture.
61-80	High commitment in investing in water for agriculture.
81-100	Very high commitment in investing in water for agriculture.

IPI - HYDROPOWER

0-20	Low commitment in investing in water for energy.
21-40	Moderate commitment in investing in water for energy.
41-60	Considerable commitment in investing in water for energy.
61-80	High commitment in investing in water for energy.
81-100	Very High commitment in investing in water for energy.

- The Institutional and Policy Index is composed of six indicators:
 - Irrigation projects budget in agricultural public budget
 - Hydropower projects budget in energy public budget
 - Irrigation projects budget in total public budget
 - Hydropower projects budget in total public budget
 - Irrigation projects budget in total donor budget
 - Hydropower projects budget in energy public budget
- The greater the Index, the higher the commitment of public sector and donors towards water management





Institutional and Policy tool of DTI



Institutional &
Policy tool

Action matrix

INSTITUTIONS & ACTORS (responsible for actions)	OBJECTIVE	ACTIONS	SPECIFICATION OF ACTION AND RELATED PROCESSES	FURTHER POLICY & REGULATORY CHANGES NEEDED
Ministry of water and irrigation (MWI)	Capitalize on increased investment to the sector	Personnel strengthening and full implementation of the new MWI Human Resource Management	Include: support to internal “groups of reformers” sanctions against rent seeking, performance-based benefit is to key staff	Adapt government’s Results Based Management initiative to the water sector needs.
	Enhance MWI role of coordination and advocacy for the sector	Introduce strategic Financing Framework, a mechanism for systematic resources mobilization and sound financial planning	In cooperation with NIB and in line with new Irrigation policy, and beyond Treasury transfers.	Enhance private sector participation but avoid long term financing burdens resting on public sector balance sheets

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Complex cost-benefit analysis provides project-based estimates of on-going and planned investment in the development of water resources for agriculture and energy with 6 major indicator:

1. Investment Envelop
2. Internal Rate of Return (%)
3. Investment Type of Projects
4. Financing Sources
5. Cost Distribution
6. Developed Areas (ha)





Financial tool of DTI



Financial tool

Level	Category	Agriculture Projects	Hydropower Projects
First Tier: essential information	Project characteristics	Beginning year of the project / End year of the project	
	Investment cost	Total investment cost / The currency adopted / The relevance of the water component	
	Type of project	Small-scale irrigation development Rehabilitation & moderniz. of irrigation Large-scale irrigation development Others (specify)	Small-and medium-scale hydropower Rehabilitation of dams and hydropower plants Large-scale hydropower development
Second Tier: financial indicator related information	Project characteristics	Total hectares of land Dominant food and cash crop	Installed capacity of the hydropower facility measured in Megawatts
	Costs of production and prices	Currency used / Reference year	
		Yields (ton/ha) for the main crops Retail prices for the main crops Average production cost for the main crops, including maintenance	Average running cost for hydropower plants in the country (currency/MW) Average price of power (currency/MW)
Third Tier: accuracy enhancing information	Project characteristics	Hectares of land under irrigation or rehabilitated by crop	
	Investment cost	Total yearly investment cost over the time scale of the project	
	Funding Partners	Total investment cost by partner disaggregated into public, private (including beneficiaries) and donors	

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Financial tool of DTI - Investment envelope



Financial tool

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI Context Tool Institutional And Policy Tool Financial Tool

Uganda

Project data Crop data Hydropower data Reports

Project list

Investment envelope

All values are in million US\$

Project Shares	Short Term	Med Term	Long Term	Total
Small Scale Irrigation development	23.91	5.60	0.00	29.51
Rehabilitation and modernization of irrigation scheme	24.79	0.00	0.00	24.79
Large Scale Irrigation Development	64.00	0.00	0.00	64.00
Small and medium scale hydropower	36.45	5.55	0.00	42.00
Rehabilitation of dams and hydropower plants	0.00	0.00	0.00	0.00
Large Scale Hydropower development	603.07	74.17	0.00	677.24
Other (Agriculture)	0.00	0.00	0.00	0.00
Total	752.22	85.32	0.00	837.54

Project Shares	Short Term	Med Term	Long Term	Total
Small Scale Irrigation development	2.85	0.67	0.00	3.52
Rehabilitation and modernization of irrigation scheme	2.96	0.00	0.00	2.96
Large Scale Irrigation Development	7.64	0.00	0.00	7.64
Small and medium scale hydropower	4.35	0.66	0.00	5.01
Rehabilitation of dams and hydropower plants	0.00	0.00	0.00	0.00
Large Scale Hydropower development	72.00	8.86	0.00	80.86
Other (Agriculture)	0.00	0.00	0.00	0.00
Total	89.81	10.19	0.00	100.00

Table presents information from the following projects: 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271.

- Total investment in the short, medium and long term by project typology
- When yearly costs are not provided, the disbursement pattern is simulated within the Tool
- Only the non-disbursed cost of on-going projects is considered
- Only the water related component of the cost is included

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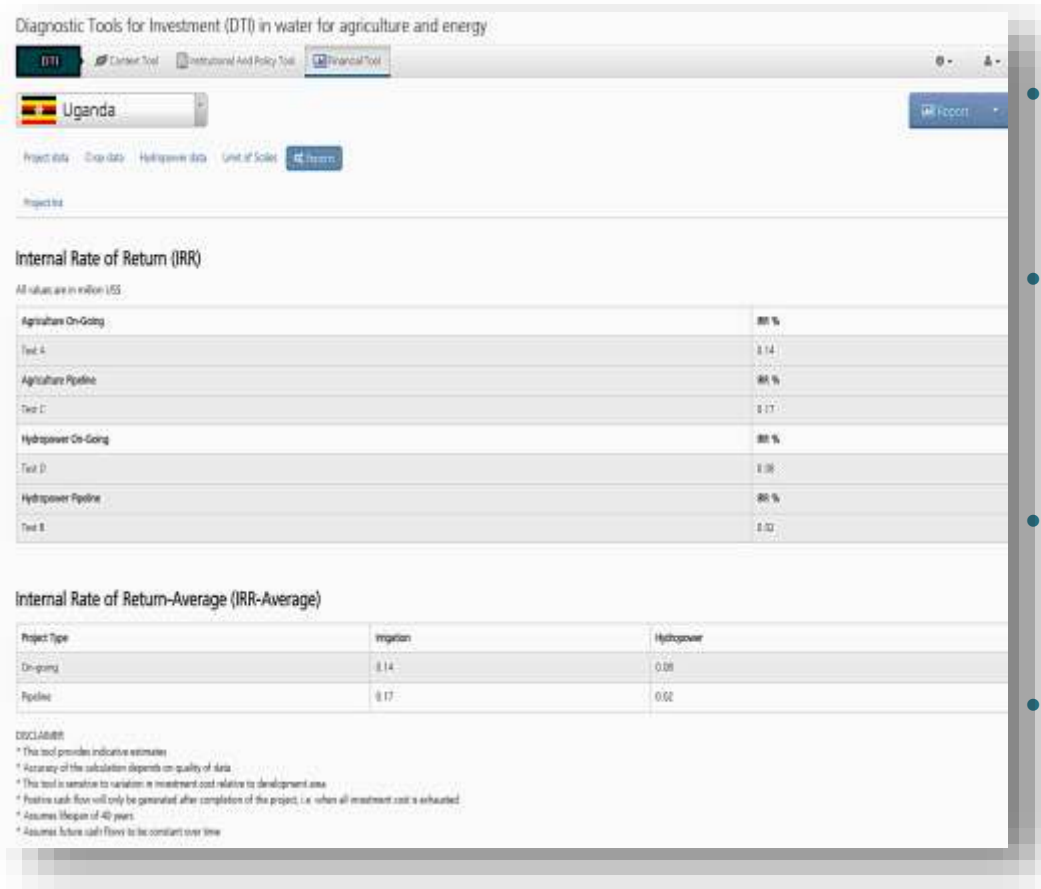




Financial tool of DTI - Internal Rate of Return



Financial tool



- The internal rate of return is the interest rate corresponding to a 0 (zero) Net Present Value
- The IRR is derived from the sum of the cash flows calculated for the implementation and operation period of the project
- The costs and benefits that accrue from the operation of the project are taken into account in the IRR
- The IRR is calculated for each project and analysis for the various types of projects is conducted

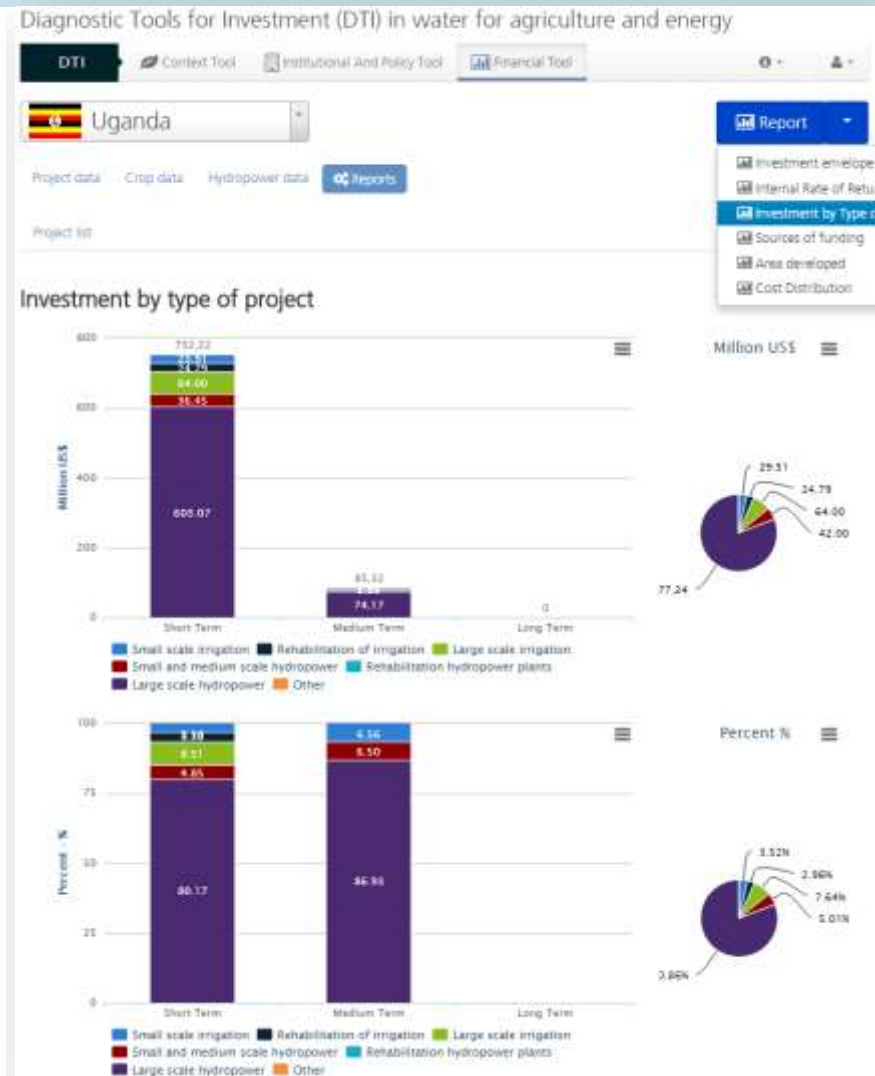




Financial tool of DTI - Investment type of projects



Financial tool



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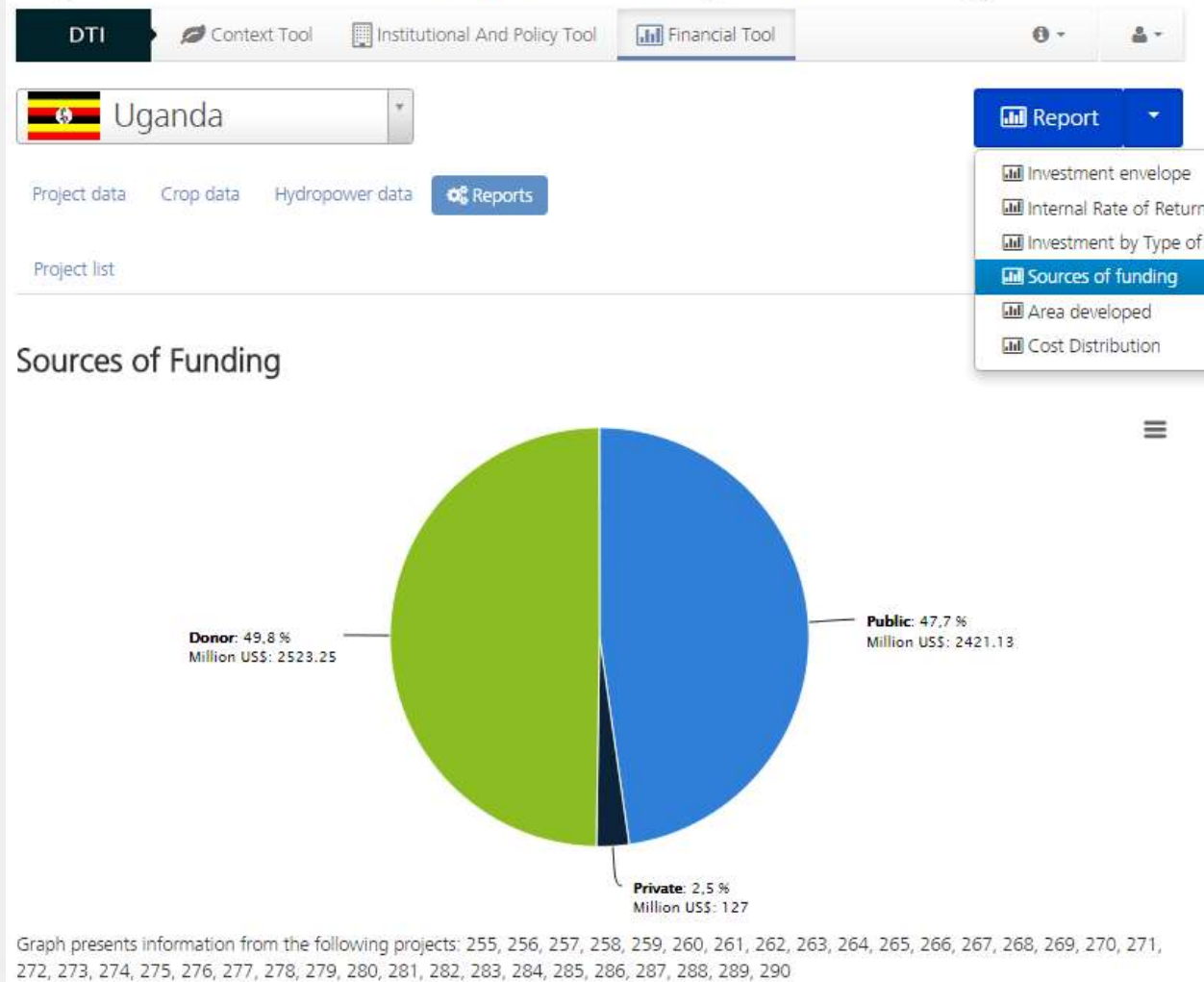


Financial tool of DTI - Source of funding



Financial tool

Diagnostic Tools for Investment (DTI) in water for agriculture and energy



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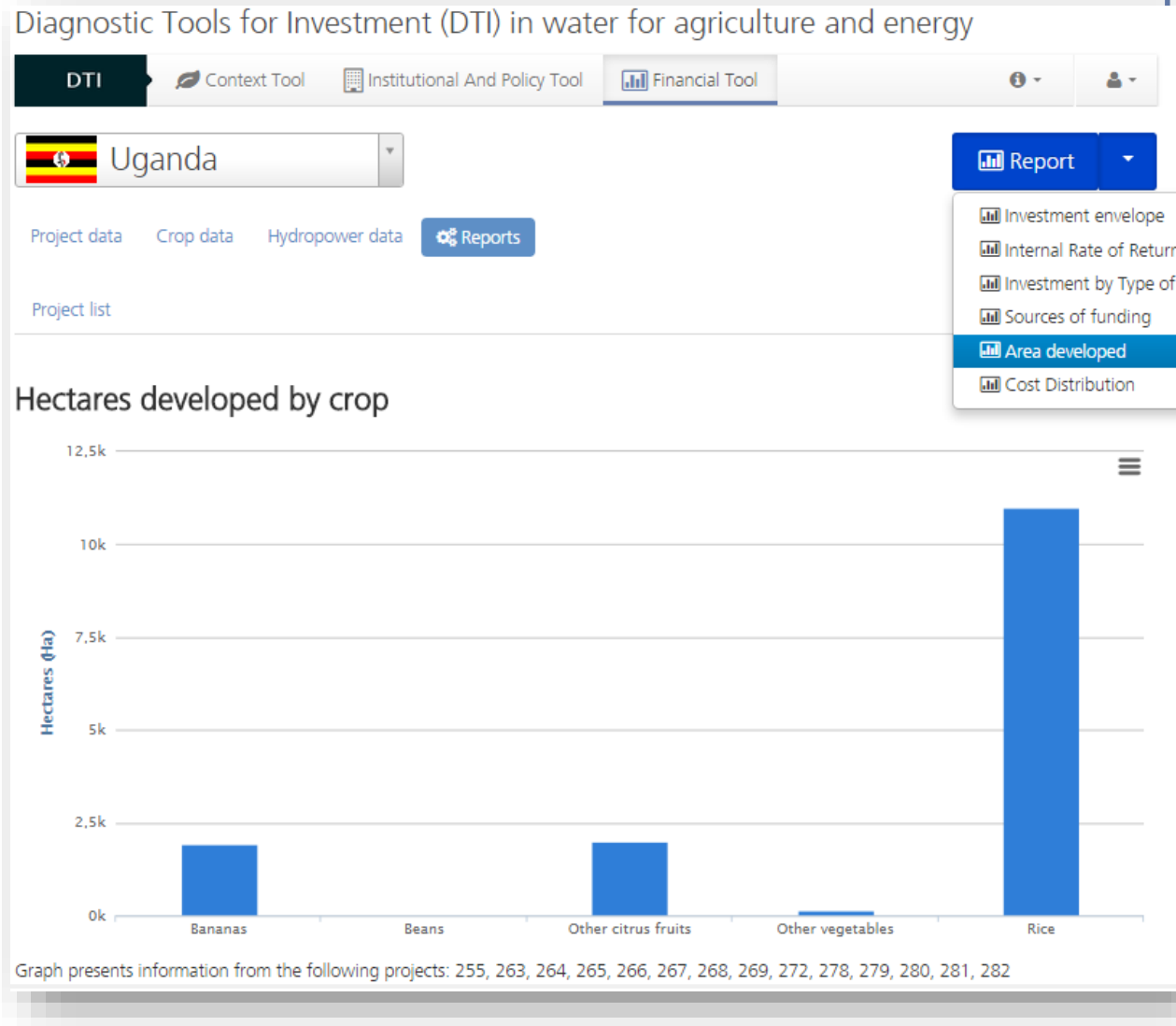




Financial tool of DTI - Area developed



Financial tool



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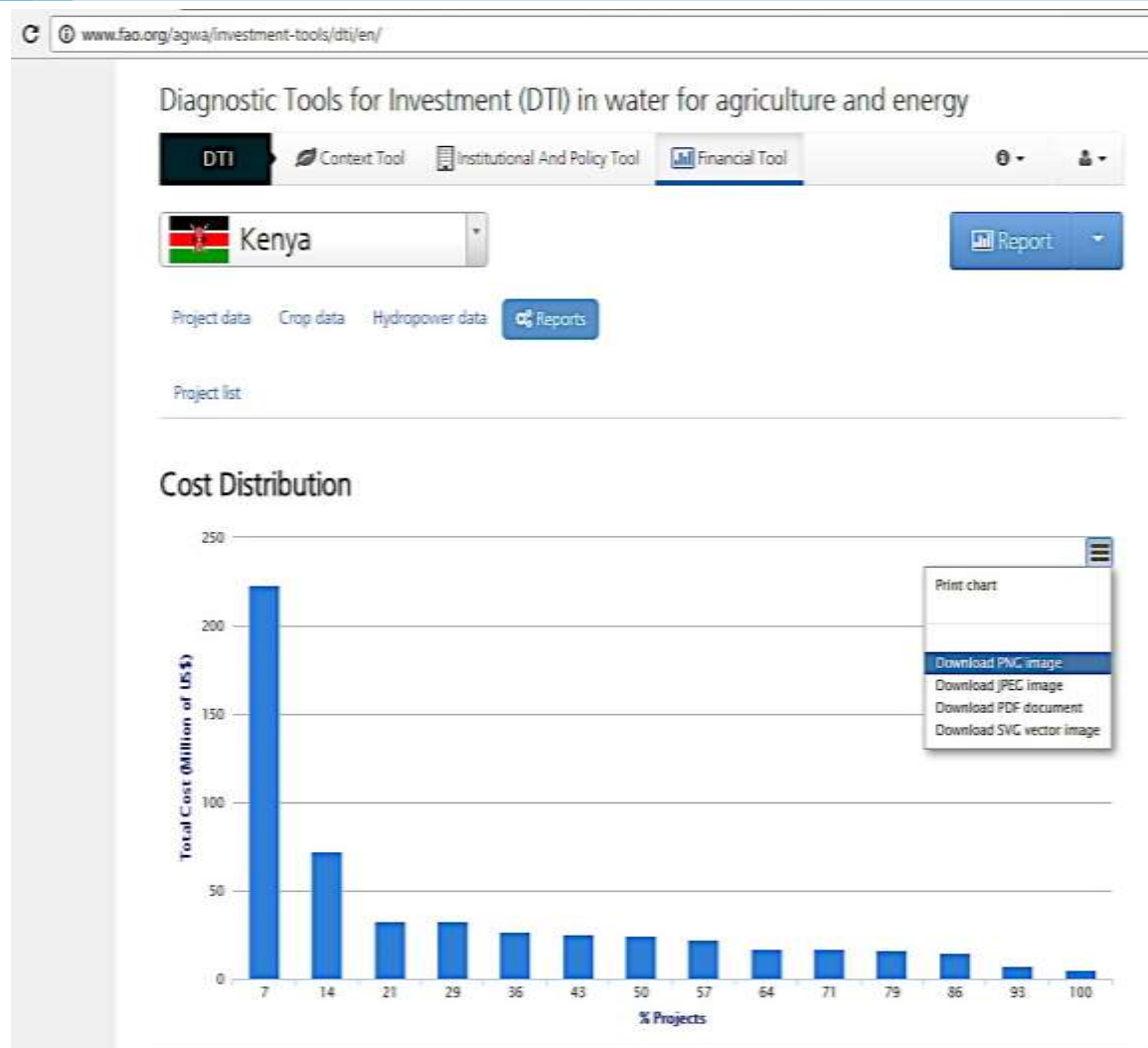




Financial tool of DTI – Cost distribution



Financial tool

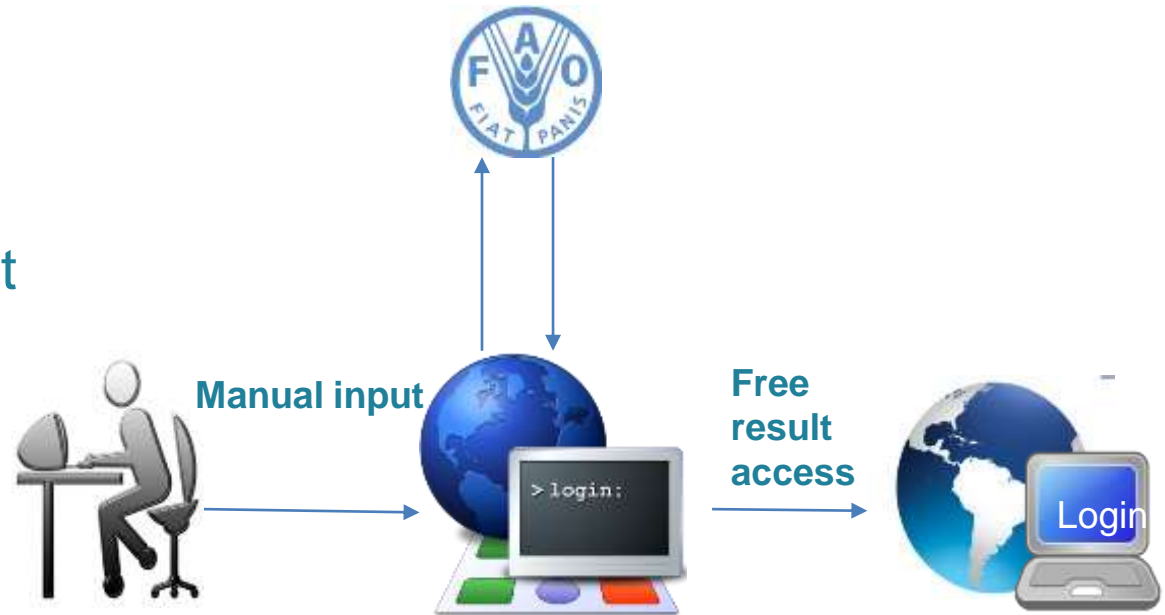


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- ✓ FAO grants access
- ✓ FAO update dataset
- ✓ FAO revise dataset




- ✓ Account is protected by password
- ✓ Input update is manual
- ✓ Results are calculated online

<http://www.fao.org/agwa/investment-tools/dti/en/>





Web design

**Food and Agriculture Organization of the United Nations**

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English

AgWA

Partnership for agricultural water for Africa

Home Background Priority Areas Projects Resources **Investment Tools** Partners News and Events


DTI


AgWA has developed a number of Diagnostic Tools for Investment (DTI) in Water for Agriculture and Energy to offer an integrated platform to systematically assess, at country level, trends in use of water resources, the policy and institutional frameworks and the investment needs and potential to boost the sustainable use of water.

The tools work in synergy to provide a clear representation of all dimensions relevant to the use and management of water resources for agriculture development and hydropower generation. These are:


Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI Context Tool Institutional And Policy Tool Financial Tool


 **Swaziland**

**Context tool**

This tool provides a set of indicators that help understand the need as well as the potential to invest in the development of water and energy resources for food and energy production within a country.

**Institutional and Policy Tool**


This tool facilitates the identification of practical ways forward that reflect the institutional, legal and policy realities of a country and provides a more solid base for policy and investment design and implementation.

**Financial tool**

This tool provides reliable and project-based estimates of on-going and planned investment in the development of water resources for food and energy production in the short, medium and long term within a country.

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI Context Tool Institutional And Policy Tool **Financial Tool**

 **Uganda** **Report**

Project data Crop data Hydropower data **DTI Reports**

Project list

DTI Context Tool Institutional And Policy Tool **Financial Tool**

#	Title	Type	Start Year	End Year	Total Cost (Million USD)	Update Time
255	Bigasha Dam	On-Going	2014	2015	0.76	13/05/2015, 13:33
256	Ongole Valley Dam	On-Going	2014	2016	2.17	13/05/2015, 14:06
257	Karabok Dam	On-Going	2014	2016	1.82	13/05/2015, 14:08
258	Andiba	On-Going	2013	2015	1.33	13/05/2015, 14:09
259	Namatala Dam	On-Going	2013	2016	0.06	13/05/2015, 14:11
260	Rwengasju Irrigation Scheme	On-Going	2014	2015	2.28	13/05/2015, 14:13
261	Mabira Dam	On-Going	2014	2015	0.76	13/05/2015, 14:15
262	Buli Water Scheme Rakai	On-Going	2014	2014	1.14	13/05/2015, 14:37
263	Drop Irrigation at Apechak Dam	On-Going	2012	2014	0.06	13/05/2015, 14:58
264	Lungoromit Dam	On-Going	2012	2014	0.06	13/05/2015, 15:01
265	Kakunga Dam	On-Going	2012	2014	0.06	13/05/2015, 15:04
266	Kagango Dam	On-Going	2012	2014	0.06	13/05/2015, 15:07
267	Lj Dam	On-Going	2013	2014	0.06	13/05/2015, 15:09
268	Akawaak Dam	On-Going	2013	2014	0.06	13/05/2015, 15:11
269	Acaripi Dam	On-Going	2014	2016	0.37	13/05/2015, 15:14
270	Construction of new schemes	On-Going	2014	2015	0.30	13/05/2015, 15:56
271	Nakigombwa Irrigation Scheme	On-Going	2014	2018	40.00	13/05/2015, 15:58
272	Igongoro Irrigation Scheme	On-Going	2014	2018	40.0 (0.55)	14/05/2015, 12:04
273	Ayago Hydropower Project	On-Going	2014	2018	1800.0 (0.55)	13/05/2015, 16:06
274	Karuma Hydropower project	On-Going	2014	2019	2200.0 (0.55)	13/05/2015, 16:10

Prev | From 1 to 20 (Total: 38) | Next

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Application and conclusion

A comprehensive **Toolbox** for the:

- ✓ analysis of the water use patterns at country level;
- ✓ systematic study of the policy and institutional frameworks;
- ✓ definition of investment needs in water for agriculture and energy;
- ✓ definition of project and overall rates of return and analysis of cost distribution.

- Direct support to policy consultations and ready to use by decision makers
- Easy to use and update thanks to the web platform interface
- Immediate outputting of easily understandable results and possibility to update inputs at any time
- Alignment with national and regional initiatives: no duplication, but integration!





DTI in practice

Case study





Context Tool – Data input

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI Context Tool Institutional And Policy Tool Financial Tool

Malawi Report Download

Agriculture **Irrigation** Food Security Water Resources and hydropower Environment and Climate change

Indicator Name	Year(s)	Value	Unit	Source
Total area equipped for full or partial control irrigation	2006	73.50	1000 ha	AQUASTAT
Area equipped for full control irrigation: Surface	2000	6.36	1000 ha	AQUASTAT
Area equipped for full control irrigation: Sprinkler	2000	43.19	1000 ha	AQUASTAT
Area equipped for full control irrigation: Localized	2000	5.45	1000 ha	AQUASTAT
Irrigation potential	2011	161.90	1000 ha	AQUASTAT
Area equipped for irrigation by source of water				
Area equipped for full control irrigation by surface water	1992	27.99	1000 ha	AQUASTAT
Area equipped for full control irrigation by groundwater	1992	0.01	1000 ha	AQUASTAT
Area equipped for full control irrigation by mixed surface water and groundwater	1992	0.00	1000 ha	AQUASTAT
Area equipped for full control irrigation by direct use of treated water	no data	no data	1000 ha	AQUASTAT
Water requirement ratio	2012	27.00	%	AQUASTAT
Percentage of area equipped for full control irrigation actually irrigated	1992	98.00	%	AQUASTAT

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI Context Tool Institutional And Policy Tool Financial Tool

Malawi Report Download

Agriculture **Irrigation** Food Security Water Resources and hydropower Environment and Climate change

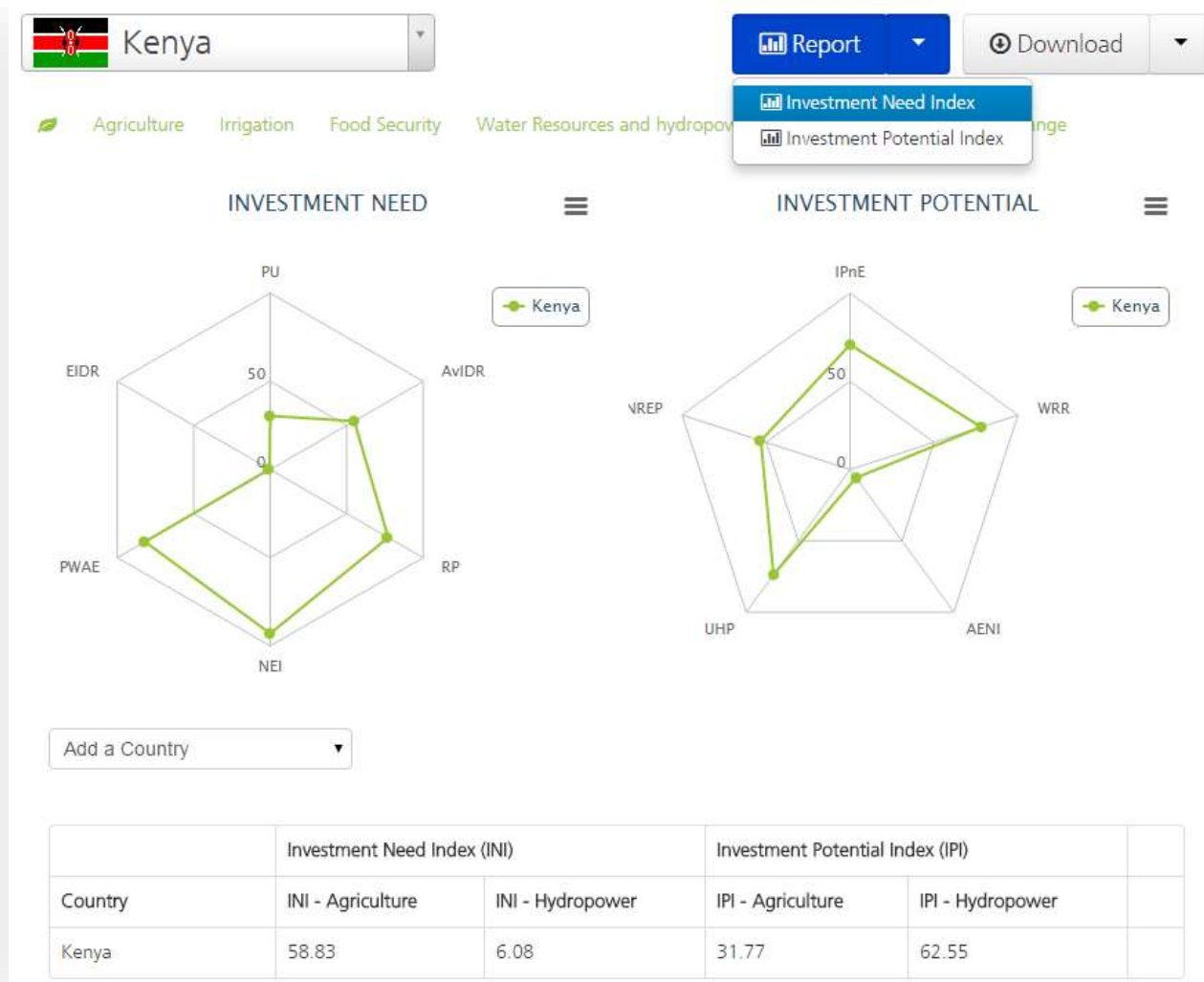
Indicator Name	Year(s)	Value	Unit	Source
Economic and social importance				
Agriculture, value added to GDP	2011	30.17	% of GDP	World Bank (World Development Indicators)
Total economically active population in agriculture over total economically active population	2012	78.11	%	FAOSTAT (Population)
Rural population over Total population	2012	79.18	%	FAOSTAT (Population)
Productivity				
Cultivated land [Arable land + Permanent crops]	2009	401.00	1000 ha	FAOSTAT (Resources)
Crop yield of five main crops (sorted by production quantity in the country)				
Cassava	2011	215407.77	kg/ha	FAOSTAT (Production-Crops)
Mize	2011	22079.49	kg/ha	FAOSTAT (Production-Crops)
Potatoes	2011	170993.45	kg/ha	FAOSTAT (Production-Crops)
Sugar cane	2011	1088956.52	kg/ha	FAOSTAT (Production-Crops)
Bananas	2011	261534.81	kg/ha	FAOSTAT (Production-Crops)

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Context Tool – Results









Institutional and Policy Tool – Data input

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI Context Tool Institutional And Policy Tool Financial Tool

 Swaziland  Report  Download

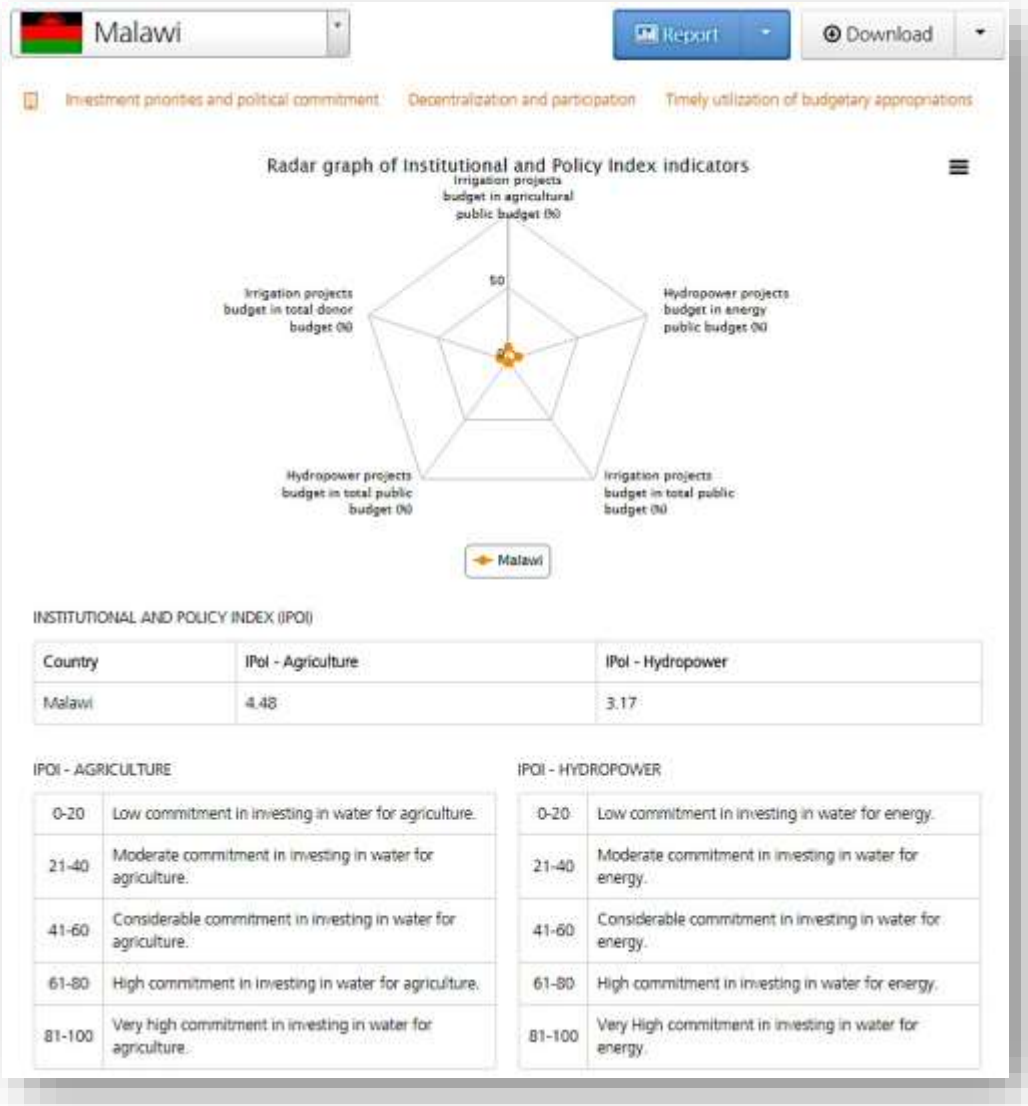
 Investment priorities and political commitment Decentralization and participation Timely utilization of budgetary appropriations

Indicator Name	Year(s)	Value	Unit	Source	Comment
Irrigation projects budget in agricultural public budget	<i>no data</i>	<i>no data</i>	%	<i>no data</i>	<i>no data</i>
Hydropower projects budget in energy public budget	<i>no data</i>	<i>no data</i>	%	<i>no data</i>	<i>no data</i>
Irrigation projects budget in total public budget	<i>no data</i>	<i>no data</i>	%	<i>no data</i>	<i>no data</i>
Hydropower projects budget in total public budget	<i>no data</i>	<i>no data</i>	%	<i>no data</i>	<i>no data</i>
Irrigation projects budget in total donor budget	<i>no data</i>	<i>no data</i>	%	<i>no data</i>	<i>no data</i>
Hydropower projects budget in total donor budget	<i>no data</i>	<i>no data</i>	%	<i>no data</i>	<i>no data</i>





Institutional and Policy Tool - Results





Financial Tool - Data input

www.fao.org/agwa/investment-tools/dti/en/

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI | Context Tool | Institutional And Policy Tool | **Financial Tool**

Kenya

Project data | Crop data | Hydropower data | Reports

1 General information | 2 Funding information | 3 Project shares | **4 Crops** | Prev | Finish

Add Crop

Select previously added crops	no data	no data	+ Add
Select a new crop	no data	no data	+ Add

Crops

Crop Name	Ha

Save Project

www.fao.org/agwa/investment-tools/dti/en/

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI | Context Tool | Institutional And Policy Tool | **Financial Tool**

Kenya

Project data | Crop data | **Hydropower data** | Reports

	Currency	Reference Year	Small/Medium	Rehabilitation	Large	
Production costs (Currency/MW)	US Dollar (USD)	2008	700000	700000	700000	
Price (Currency/MW)	US Dollar (USD)	2008	700800	700800	700800	

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Financial Tool - Creating list of projects

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI | Context Tool | Institutional And Policy Tool | **Financial Tool**

Kenya

Project data | Crop data | Hydropower data | **Reports**

Project list

#	Title	Type	Start Year	End Year	Total Cost (Million)	Currency	Update Time
418	Perera Irrigation scheme	On-Going	2009	2014	2 520.00	KES	08/12/2016, 10:48
419	Katlic Irrigation Scheme	On-Going	2009	2013	1 890.00	KES	08/12/2016, 10:56
420	Mitundu	On-Going	2009	2015	5 580.00	KES	08/12/2016, 11:02
421	Rapi	On-Going	2009	2012	800.00	KES	08/12/2016, 11:08
422	Kibwezi Clusters	On-Going	2009	2011	398.00	KES	08/12/2016, 11:13
423	Kayote	On-Going	2009	2013	1 284.00	KES	08/12/2016, 11:17
424	Lower Nzoia Phase I	On-Going	2009	2014	2 081.00	KES	08/12/2016, 11:21
425	Lower Nzoia Phase II	On-Going	2009	2014	1 953.00	KES	08/12/2016, 11:26
426	Lower So-Bari	On-Going	2009	2014	2 520.00	KES	08/12/2016, 11:31
427	Ahero West Kano	On-Going	2009	2013	1 755.00	KES	08/12/2016, 11:37
428	Lower Kaji	On-Going	2009	2013	1 315.00	KES	08/12/2016, 11:41
429	Kieni	On-Going	2009	2013	1 314.00	KES	08/12/2016, 11:45
430	Mwea Irrigation Scheme (irrigation water stabilization)	On-Going	2009	2013	17 280.00	KES	08/12/2016, 11:49
431	Razing Mainga dam	On-Going	2009	2010	15.00	USD	08/12/2016, 12:24

Per: from 1 to 14 (total: 14) | Next

Kenya

Project data | Crop data | Hydropower data | **Reports**

Project list

#	Title	Type	Start Year	End Year	Total Cost (Million USD)	Update Time
418	Perera Irrigation scheme	On-Going	2009	2014	31.55	08/12/2016, 10:48
419	Katlic Irrigation Scheme	On-Going	2009	2013	23.86	08/12/2016, 10:56
420	Mitundu	On-Going	2009	2015	69.06	08/12/2016, 11:02
421	Rapi	On-Going	2009	2012	7.51	08/12/2016, 11:08
422	Kibwezi Clusters	On-Going	2009	2011	5.00	08/12/2016, 11:13
423	Kayote	On-Going	2009	2013	16.08	08/12/2016, 11:17
424	Lower Nzoia Phase I	On-Going	2009	2014	26.10	08/12/2016, 11:21
425	Lower Nzoia Phase II	On-Going	2009	2014	24.45	08/12/2016, 11:26
426	Lower So-Bari	On-Going	2009	2014	31.55	08/12/2016, 11:31
427	Ahero West Kano	On-Going	2009	2013	21.97	08/12/2016, 11:37
428	Lower Kaji	On-Going	2009	2013	16.48	08/12/2016, 11:41
429	Kieni	On-Going	2009	2013	16.45	08/12/2016, 11:45
430	Mwea Irrigation Scheme (irrigation water stabilization)	On-Going	2009	2013	215.72	08/12/2016, 11:49
431	Razing Mainga dam	On-Going	2009	2010	15.00	08/12/2016, 12:24

Per: from 1 to 14 (total: 14) | Next

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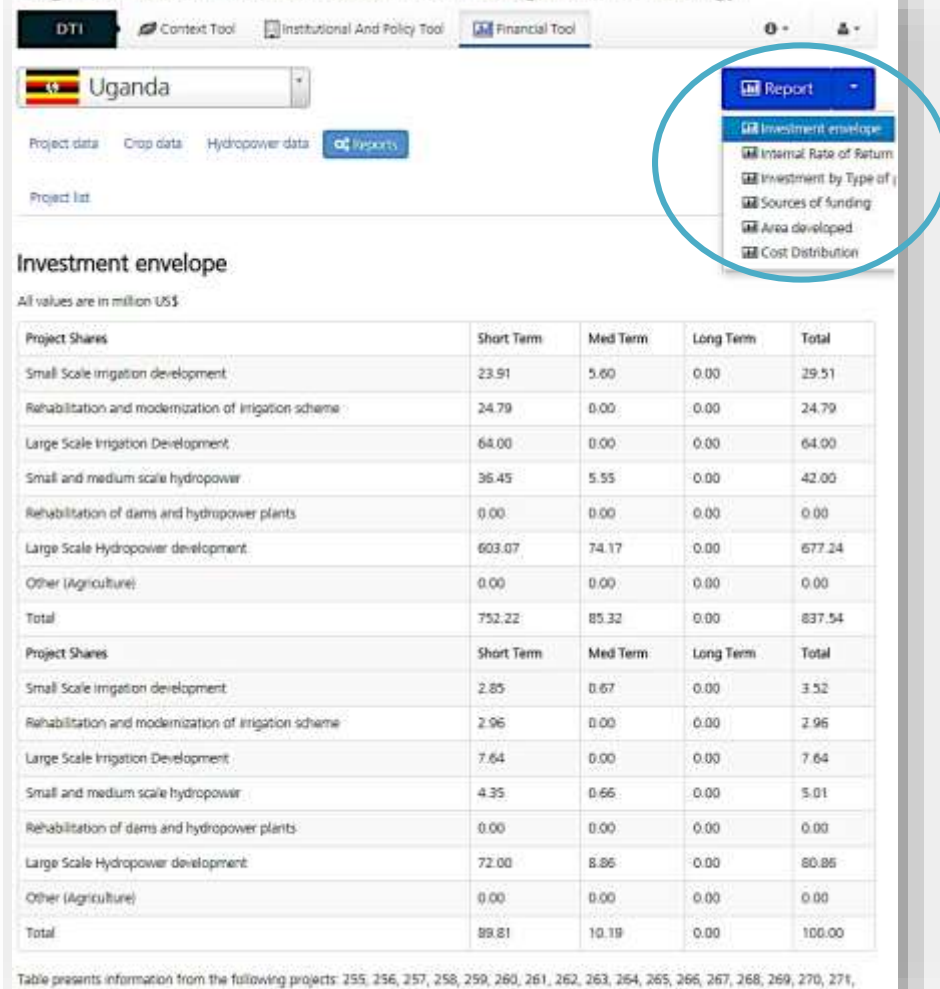


Financial Tool - Choosing the type of analysis

Diagnostic Tools for Investment (DTI) in water for agriculture and energy



Diagnostic Tools for Investment (DTI) in water for agriculture and energy



Working together within and beyond SDAGE and PGIRE





Financial Tool – Result: Investment envelope

www.fao.org/agwa/investment-tools/dtl/en/

Investment envelope

All values are in million US\$

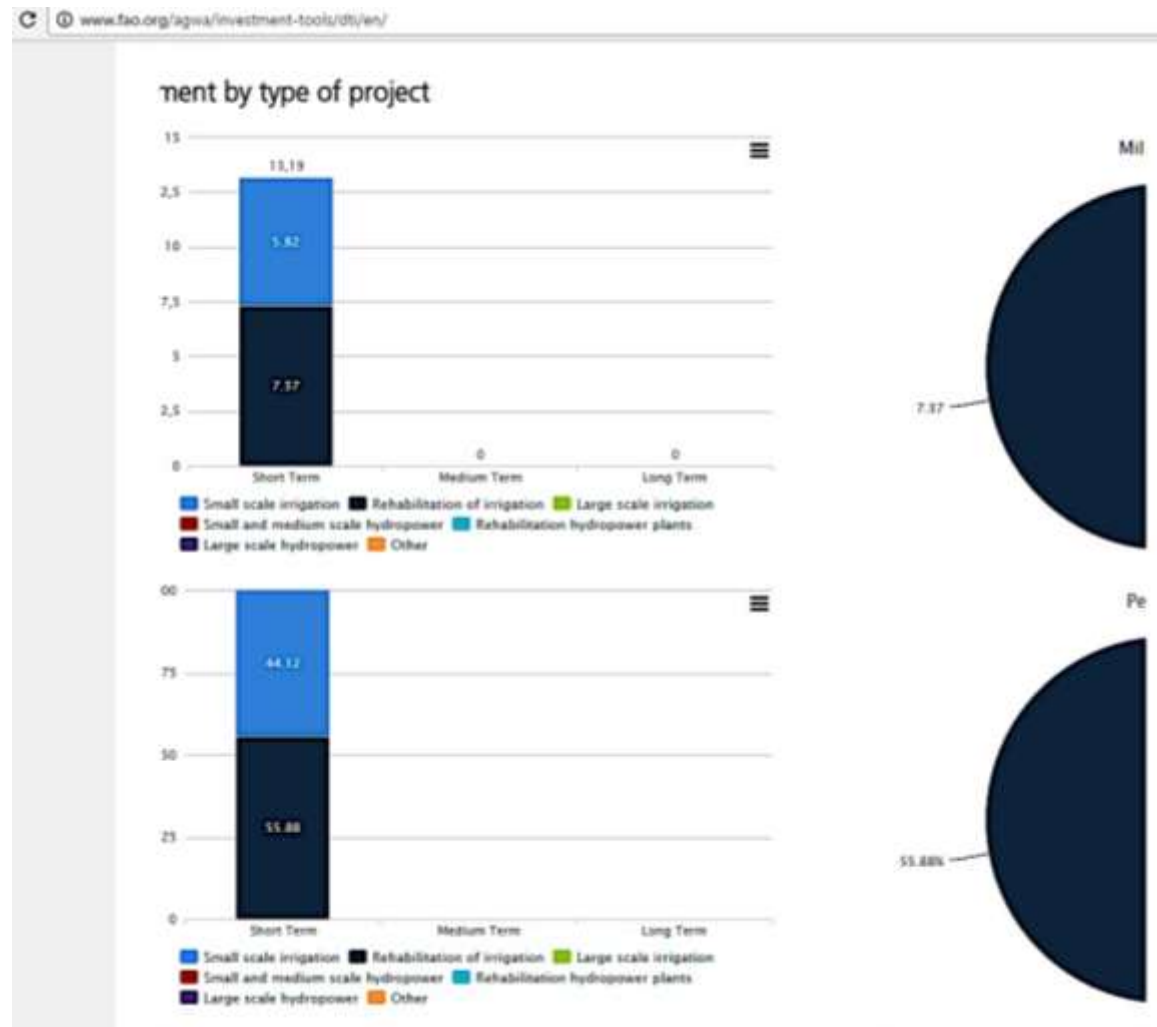
Project Shares	Short Term	Med Term	Long Term	Total
Small Scale irrigation development	5.82	0.00	0.00	5.82
Rehabilitation and modernization of irrigation scheme	7.37	0.00	0.00	7.37
Large Scale Irrigation Development	0.00	0.00	0.00	0.00
Small and medium scale hydropower	0.00	0.00	0.00	0.00
Rehabilitation of dams and hydropower plants	0.00	0.00	0.00	0.00
Large Scale Hydropower development	0.00	0.00	0.00	0.00
Other (Agriculture)	0.00	0.00	0.00	0.00
Total	13.19	0.00	0.00	13.19
Project Shares	Short Term	Med Term	Long Term	Total
Small Scale irrigation development	44.12	0.00	0.00	44.12
Rehabilitation and modernization of irrigation scheme	55.88	0.00	0.00	55.88
Large Scale Irrigation Development	0.00	0.00	0.00	0.00
Small and medium scale hydropower	0.00	0.00	0.00	0.00
Rehabilitation of dams and hydropower plants	0.00	0.00	0.00	0.00
Large Scale Hydropower development	0.00	0.00	0.00	0.00
Other (Agriculture)	0.00	0.00	0.00	0.00
Total	100.00	0.00	0.00	100.00

Table presents information from the following projects: 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431





Financial Tool – Result: Investment by type of project





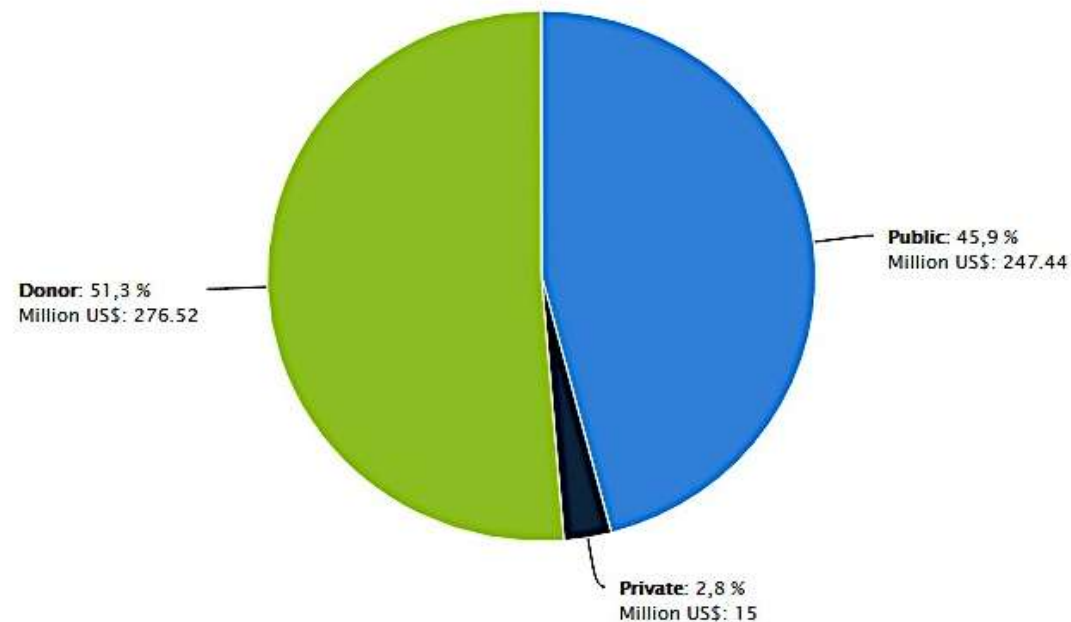
Financial Tool – Result: Source of funding



www.fao.org/agwa/investment-tools/dti/en/

Project list

Sources of Funding

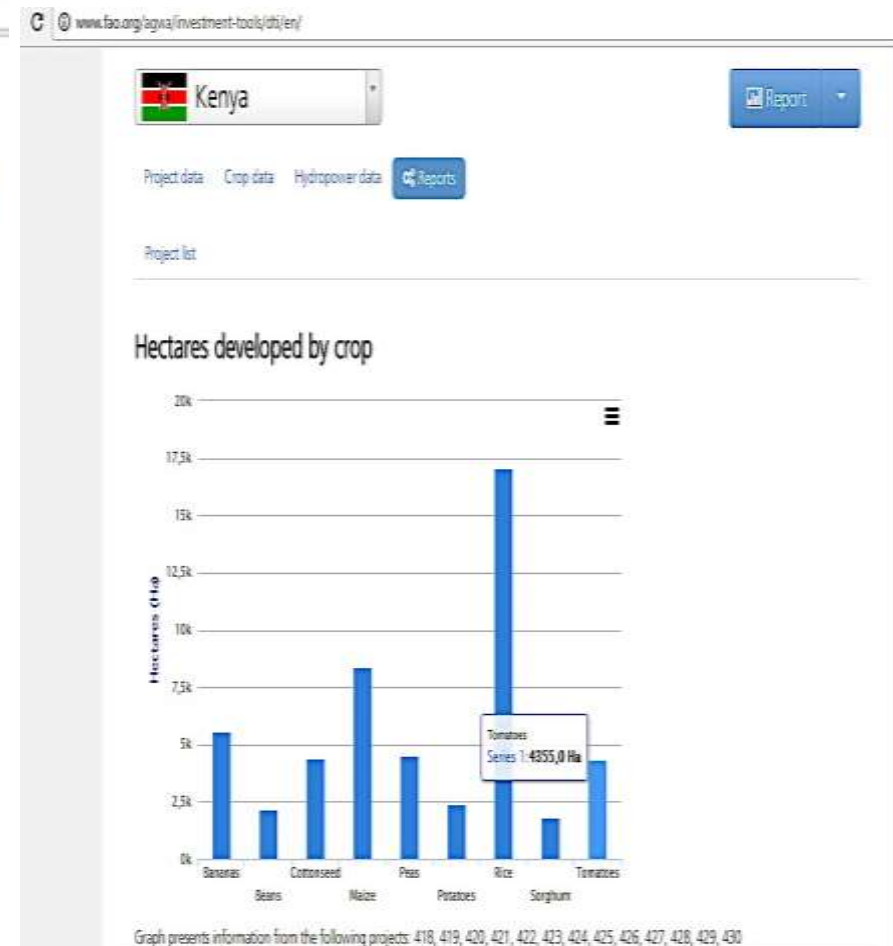
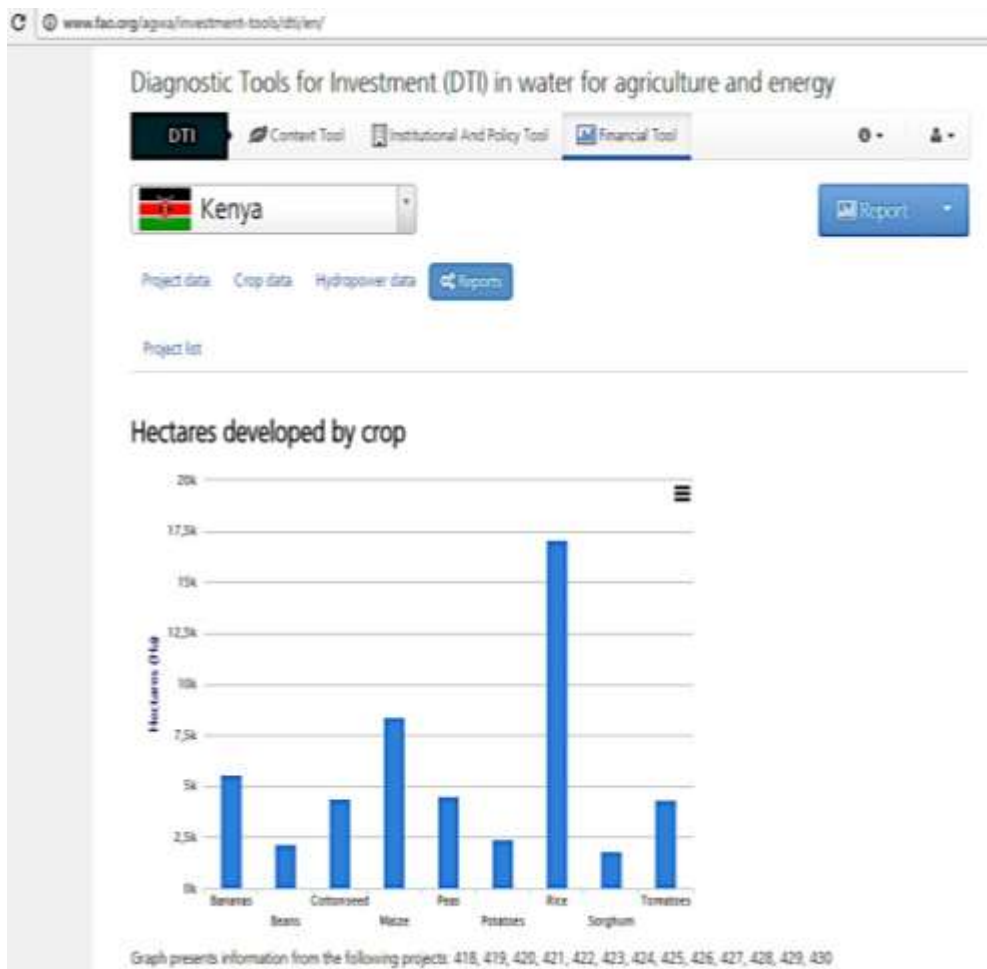


Graph presents information from the following projects: 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431



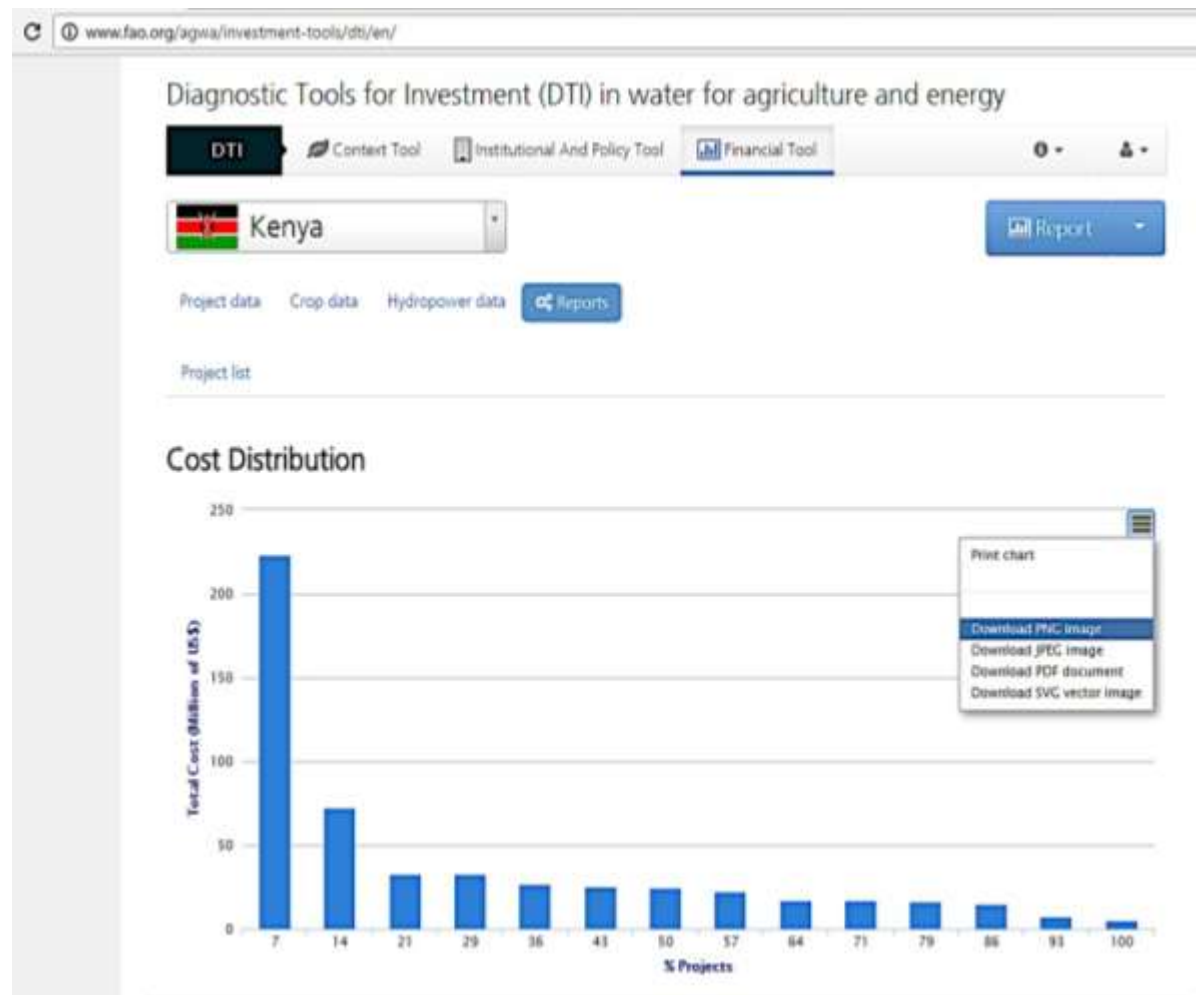


Financial Tool – Result: Developed areas





Financial Tool – Result: Cost Distribution to download





Financial Tool – Result: Internal Rate of Return

Diagnostic Tools for Investment (DTI) in water for agriculture and energy

DTI Context Tool Institutional And Policy Tool **Financial Tool**

Uganda Report

Project data Crop data Hydropower data Limit of Scales Reports

Project list

Internal Rate of Return (IRR)

All values are in million US\$

Agriculture On-Going	IRR %
Test A	0.14
Agriculture Pipeline	IRR %
Test C	0.17
Hydropower On-Going	IRR %
Test D	0.08
Hydropower Pipeline	IRR %
Test B	0.02

Internal Rate of Return-Average (IRR-Average)

Project Type	Irrigation	Hydropower
On-going	0.14	0.08
Pipeline	0.17	0.02

DISCLAIMER

- * This tool provides indicative estimates
- * Accuracy of the calculation depends on quality of data
- * This tool is sensitive to variation in investment cost relative to development area
- * Positive cash flow will only be generated after completion of the project, i.e. when all investment cost is exhausted
- * Assumes lifespan of 40 years
- * Assumes future cash flows to be constant over time



THANK YOU FOR YOUR ATTENTION!!

Working together within and beyond SDAGE and PGIRE





Policy/institutional cohesion:

- Analysis of policy/institutional structure and their effect on common basin-level policies
- Strategy harmonization over basin-level legislation
- Creating balance between countries for common investment decision





Economic integration:

- Basin-level consolidation for supply/demand in energy and agriculture
- On-going and future investments in energy and agriculture sectors
- Comparative advantages of irrigation and hydropower (identifying future balance through comparison of countries' potentials)
- Single country advantages of hydropower production and irrigation

