



RESTRUCTURING PAPER  
ON A  
PROPOSED PROJECT RESTRUCTURING  
OF  
IRRIGATION DEVELOPMENT AND SUPPORT PROJECT  
APPROVED ON APRIL 7, 2011  
TO  
REPUBLIC OF ZAMBIA

AGRICULTURE

AFRICA

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**ABBREVIATIONS AND ACRONYMS**

CLT	Community Land Trust
CPPP	Community Public Private Partnership
EFA	Economic and Financial Analysis
EIRR	Economic Internal Rate of Return
ENPV	Economic Net Present Value
ESIA	Environment and Social Impact Assessment
FIRR	Financial Internal Rate of Return
FTE	Full Time Equivalent
GoZ	Government of Zambia
ha	Hectare
IDA	International Development Association
IDSP	Irrigation Development and Support Program
IP	Implementation Progress
ISF	Irrigation Support Fund
MoA	Ministry of Agriculture
PDO	Project Development Objective
PIU	Project Implementation Unit
PPP	Public Private Partnership
RAP	Resettlement Action Plan
SDR	Special Drawing Rights
ToC	Theory of Change
USD	United States Dollar
WUA	Water Users Association
ZATP	Zambian Agribusiness and Trade Project
ZMW	Zambian Kwacha (after January 1, 2013)



**BASIC DATA**

**Product Information**

Project ID P102459	Financing Instrument Investment Project Financing
Original EA Category Full Assessment (A)	Current EA Category Full Assessment (A)
Approval Date 07-Apr-2011	Current Closing Date 15-Dec-2018

**Organizations**

Borrower Ministry of Finance	Responsible Agency Ministry of Agriculture and Livestock, Ministry of Agriculture
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**Project Development Objective (PDO)**

Original PDO

The project development objective is to increase yields per hectare and volume of products marketed by smallholders benefitting from investments in irrigation in selected sites served by the project.

**Summary Status of Financing**

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net Commitment	Disbursed	Undisbursed
IDA-48740	07-Apr-2011	23-May-2011	11-Nov-2011	15-Dec-2018	115.00	80.40	25.45

**Policy Waiver(s)**

Does this restructuring trigger the need for any policy waiver(s)?

No



## I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

### Project status and implementation Progress

**1. Original objectives and expected results.** The original IDSP Development Objective is to increase yields per hectare and value of diverse products marketed by smallholders benefitting from investments in irrigation in selected sites served by the project. Originally the Project aimed to develop 10,000 ha of irrigated land and required infrastructure, benefitting 14,000 water users and 70,000 people in total, and to provide support to the Government and the project beneficiaries in developing their capacity for sustainable irrigation management. The project became effective in November 2011. Its closing date is December 15, 2018. Total cumulative disbursement to date is US\$ \$80.4m and \$71.6 has been spent. Undisbursed and unspent (available) funds sum up to \$34.3m.

**2. From preparation to implementation.** According to the Project Appraisal Document irrigated land would start becoming available by the third year of project implementation. At the moment of approval however, there were no feasibility studies or designs in place and costs were estimated based on limited experience with such sized projects in Zambia. The procurement of the feasibility and design studies, the studies themselves, the need to elaborate environmental and social plans from the framework available at the time of approval, as well as the procurement of the scheme and dam contractors took considerably more time than expected. The physical construction on the main sites could only start by late 2016, after five years. The cost per irrigated hectare of land in the three main schemes was almost double the estimate during preparation, and the ambition to develop four more schemes had to be dropped. The area in the main schemes that would be provided with irrigation dropped to 6,281 ha.

**3. Beneficiary numbers** changed due to several factors. The original beneficiary estimate at project appraisal included not only the current three irrigation sites but also the expansion area. Detailed analyses and baseline studies following project approval, led to more accurate estimates of household size (down), average irrigated farm area (up), and the area of irrigable land (down). The number of beneficiaries therefore fell to 26,000. The largest share of the reduction is due to dropping the development of four more schemes.

**4. Progress on physical infrastructure.** Four main construction contracts for the three main sites and for the Mwomboshi dam are now in place. The contract to build the Mwomboshi dam is projected to conclude by early 2019 and is six months ahead of the contracted schedule. The contracts to construct the irrigation sites in Lusitu and Musakashi are projected to be finished by the middle of 2019. The contractor for the construction of the irrigation scheme in Mwomboshi declared failure after minimal progress (2%) and this contract will be terminated. Through International Competitive Bidding a new contractor will be identified. At the understanding that the ICB process will take six months and construction of the Mwomboshi site will take close to 18 months, the Mwomboshi scheme will be delivered towards the end of the proposed extension period.

**5. Irrigation Support Fund.** In response to the slow execution of the project, the GoZ and the World Bank decided by 2014 to use the Irrigation Support Fund to finance irrigation sites at five government institutions.



IDSP would contribute the cost of equipment and some infrastructure, the institutions would prepare the land for cultivation. A total of 2,254 ha was targeted for development at five government institutions. The first 1152 ha are being used, the remainder will come available throughout 2018 and early 2019. Figure 1 summarizes the progress on the main and the institutional schemes.

**Figure 1: Construction progress on IDSP sites**

	2018				2019				2020				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>Lusitu (254ha)</b>	[Orange bar]				[Orange bar]				[Green bar]				
<b>Musakashi (1006ha)</b>	[Orange bar]				[Orange bar]				[Green bar]				
<b>Mwomboshi (1615ha)</b>	[Orange bar]	[Orange bar]			[Orange bar]				[Orange bar]				
<b>Early institutions (1152ha)</b>	[Green bar]	[Light Green bar]		[Green bar]	[Green bar]	[Light Green bar]		[Green bar]	[Green bar]	[Light Green bar]		[Green bar]	
<b>Remaining institutions (1102ha)</b>	[Orange bar]				[Light Green bar]				[Green bar]				
	Current closing date:				Proposed closing date:								
	Dec 15 2018				Nov 30 2020								
Scheme Construction	[Orange bar]			[Orange bar]				Cropping Season, dry					[Light Green bar]
Dam construction	[Yellow bar]			[Yellow bar]				Cropping Season, wet					[Green bar]
Dam filling	[Blue bar]			[Blue bar]									

**6. Livelihood improvement.** The project has made considerable progress in developing the human and economic livelihood conditions in the main sites. 116km of rural roads were put in place, 52 boreholes for drinking water were drilled and 366 resettlement houses were built. 43% of the people that need to be resettled have moved in their new houses, often with great satisfaction. The remaining houses will be occupied as and when site construction requires additional displaced families to be resettled.

**7. Institutional infrastructure.** To administer the irrigation schemes, IDSP has established a new type of institution, the Community Land Trust (CLT). CLTs receive land from the GoZ on a 99-year leasehold and then provide subleases to the beneficiaries, both for their irrigated land and their housing plots. CLTs have been legally established, their rights and obligations have been drafted, their boards have been established. The land of the three main schemes should now be vested in the CLTs, and the process of land allocation and titling should start. Once the schemes are close to operational, Water User Associations will be formed to support irrigation management. The institutional infrastructure developed under IDSP is a breakthrough for Zambia and potentially a key achievement of the project.

**8. Tier system.** The three IDSP schemes are based on a tier system:



- Tier 1 -local community smallholder farmers with a maximum plot size of 1 ha, using flood or furrow irrigation;
- Tier 2 - emerging commercial farmers with larger plots, either individual farms or small groups of farmers, using sprinklers or small central pivots;
- Tier 3 - commercial farmers using center pivots (Mwomboshi and Musakashi) or microjets (Lusitu); and
- Tier 4 – in Mwomboshi only, established commercial farmers that obtain access to the water source.

**9. A bidding process** was launched In March 2017 to identify commercial operators for Tier 3 who would farm a sizable part of the irrigated land, but also would operate the irrigation scheme, and would provide technical assistance to small farmers. The bidding process was unsuccessful, with only one bid forthcoming for one scheme. A new more flexible and differentiated bidding process was proposed.

**10. Management and coordination.** After improvements in 2017, IDSP coordination returned to unsatisfactory in 2018. The M&E position was rendered vacant and not refilled. Attention to the institutional and organizational dimensions of the project, such as land allocation and scheme operation was small. Information sharing was erratic and progress reports shared by Project Management could not be verified. On issues such as the land dispute and the contractor failure in Mwomboshi, the Bank received incomplete or late information.

**11. Policy.** IDSP has supported the development of a National Irrigation Policy. The initial drafts have been submitted to consultations within the country. The policy outlines a new system of water rights, defines the type of organizations that can be engaged in irrigation management and defines the role of the government in irrigation development and oversight. The final policy will be submitted to Cabinet by the middle of 2019.

**12. Safeguards.** After initial problems in safeguards management, safeguards management improved. At the three main sites there was good communication between contractors, supervisor and PIU. At the institutional sites environmental permits have been requested or obtained, and social assessments have been undertaken to ensure that no one was affected by the irrigation development. The safeguards rating on Involuntary Resettlement (OP/BP 4.12) dropped to unsatisfactory due to the land dispute. For Safety of Dams (OP/BP 4.37), the rating was dropped to moderately satisfactory due to lack of information on the progress on dam safety procedures.

**13. State of progress and key ratings.** The PDO ratings of the IDSP project have been Unsatisfactory for the last six implementation support reviews. The main reason was that the current PDO could not be achieved in the project duration. The IP rating of the project was Moderately Unsatisfactory for the three reviews up to August 2018 but was downgraded to Unsatisfactory due to the land dispute. At the same time the project made progress in several results areas as illustrated in Table 1.

**Table 1: IDSP - Key accomplishments (August 2018)**



Results areas	Results measure	Progress rating	Comments
<b>Dam and Irrigation scheme construction works</b>			
Mwomboshi Dam	<ul style="list-style-type: none"> <li>• Procurement completed and construction underway</li> <li>• 6 months ahead of construction schedule</li> <li>• Dam Safety Panel active</li> </ul>	95%	completion expected early 2019
Irrigation schemes (Mwomboshi, Musakashi & Lusitu)	<ul style="list-style-type: none"> <li>• 2875 ha irrigation works &amp; equipment procured</li> <li>• Construction underway</li> </ul>	35%	Lusitu and Musakashi to be completed by mid 2019, Mwomboshi by late 2020
Implementation Support Fund (ISF)	<ul style="list-style-type: none"> <li>• 2254 ha of irrigation works &amp; equipment procured</li> <li>• 1152 ha already under irrigation</li> </ul>	51%	remaining area is expected to become operational during 2018 and early 2019
<b>ESIA and Resettlement Action Plan (RAP) and compensation</b>			
RAP - Implementation	<ul style="list-style-type: none"> <li>• 366 new housing units constructed</li> <li>• 165 households have been resettled</li> </ul>	80% 43%	Resettlement will follow the progress in scheme construction
<b>Improved access to basic infrastructure</b>			
Roads	<ul style="list-style-type: none"> <li>• 116 km of roads constructed or rehabilitated</li> </ul>	100%	Completed
Water and Sanitation	<ul style="list-style-type: none"> <li>• 52 new boreholes constructed</li> <li>• New housing units have access to improved sanitation</li> </ul>	100% 100%	approximately 1780 beneficiaries received access to improved water supply and sanitation
Electricity	<ul style="list-style-type: none"> <li>• All sites connected to the electricity grid</li> </ul>	100%	Completed
<b>Land consolidation, formation of the Community Land Trusts (CLT), and land titling</b>			
Drafting of legal documents	Key legal instruments prepared <ul style="list-style-type: none"> <li>• Land Administration Policy,</li> <li>• Deed of Trust,</li> <li>• Lease Agreements,</li> <li>• Bidding documents for scheme operation</li> </ul>	70%	relevant innovative knowledge products
Formation of CLT	<ul style="list-style-type: none"> <li>• CLTs formed and operational;</li> <li>• Registered in accordance with the GoZ Societies Act;</li> <li>• Election held and governance structure in place</li> </ul>	70%	Including sensitization and training of community members to be completed by mid 2019
<b>Update of national irrigation policy</b>			
Draft irrigation policy	<ul style="list-style-type: none"> <li>• New draft irrigation policy submitted</li> </ul>	80%	Currently under review by government

**B. The restructuring request and recent developments around it**



**14. Government request.** On February 2017, the Government requested a restructuring including a three-year extension that should focus on the provision of irrigation infrastructure and institutional strengthening. The three-year extension request was based on the filling schedule for the Mwomboshi dam. While project implementation and project disbursements had improved since 2016, IDSP would not be able to complete project implementation in time. The project was running some three years behind schedule and the Development Objective and Implementation Progress ratings were both unsatisfactory. The costs overruns required that the ambition levels be reduced, and the focus be put on the main deliverable, which was the access to irrigation services. The proposed restructuring package followed the request of the Government, but after technical consultations it was agreed that a two instead of three-year extension would suffice to safely fill the Mwomboshi dam and reach the objectives of a less ambitious restructured project.

**15. Land dispute.** In early August 2018, a simmering land dispute on the Musakashi site escalated. Triple S Ranch Limited, a commercial farm operation, and the Ministry of Agriculture were both claiming an area of about 1000 ha, on which part of the IDSP irrigation scheme was situated (about 300ha). Triple S and the Ministry of Agriculture filed criminal cases against each other, for trespassing and for document fraud. Later in August, 30 policemen set up camp on the disputed land. On August 27, 2018 the World Bank issued a suspension threat and requested the Government, to seek a solution consistent with the Resettlement Action Plan in place for the Musakashi scheme and respecting the General Conditions of WB financing. This would imply that the Government would adjust the Musakashi scheme to exclude the disputed land from the project, as was agreed under the RAP; until the Musakashi scheme would be redesigned and restructured to refrain from accessing the disputed land and from any action (including sending government security personnel to the disputed land) to remove Triple S from the disputed land; and to agree on reasonable compensation to Triple S Ranch Limited, if so required. A response from the Government was requested by September 14, 2018. By September 6 and September 21, 2018, the Government, through the Ministry of Finance, sent two responses that allowed the World Bank to remove the suspension threat. On October 15 the WB formally lifted the suspension threat.

**16. Assurances for the restructuring.** The government's restructuring request of February 2017, including a two-year extension was put on hold until after the resolution of the land dispute. In the light of the poor ratings of the project, the three-year delay and the difficulties around the land dispute, the WB requested assurances that would facilitate successful completion of the project. The WB's final position was reflected in a letter sent on October 23 and focused on three points: Management/coordination of IDSP needed to be strengthened; the PIU needed to be strengthened at minimally two places (a new M&E specialist; an irrigation management specialist); for four critical issues in project implementation (construction progress, land titling and allocation, bidding for scheme management and tier 3 farming, dam safety) detailed action plans needed to be provided. Restructuring would be pursued if a final Action Plan that would address the three points in a satisfactory manner had been shared with the WB before October 30.





**17. Re-engagement.** By November 14, 2018 the GoZ and the World Bank agreed to pursue a restructuring on the condition that an acceptable action responding to the original three points requested by October 23, 2018 would be submitted by November 23, 2018. Two letters from the Ministry of Finance received on November 23, 2018 and December 3, 2018 jointly provided the assurances requested: The Government would proceed to strengthen the management/coordination of the project by appointing a new coordinator; Terms of Reference and recruitment schedules for the M&E specialist and the irrigation management specialist were provided; By December 10, 2018 detailed action plans were provided for the four critical issues in project implementation that would be finalized before January 31, 2019. Box 1 provides a summary of some important milestones in the Restructuring Action Plan that the Government provided. Covenants have been added to the Amend Letter of the Financing Agreement to secure compliance with these assurances.

**Box 1: Important milestones in the Restructuring Action Plan provided by the Government of Zambia**

January 1, 2019: M&E Specialist recruited and reporting to work.

January 1, 2019: Dam safety manuals prepared and shared with the World Bank.

February 1, 2019: Addendum to Musakashi RAP shared and discussed with the Bank.

March 1, 2019: Irrigation Management Specialist recruited and at work.

May 30, 2019: subleases issued to tier 1 farmers (smallholders) for Lusitu and Musakashi schemes.

June 30, 2019: Lusitu and Musakashi schemes completed.

June 30, 2019: new contractor in place for Mwomboshi scheme.

June 30, 2019: contracts awarded for operation of irrigation schemes and commercial farming for Lusitu and Musakashi schemes.

June 30, 2019: Upstream gauging station installed for Mwomboshi dam.

June 30, 2019: Community land trusts start operating, production starts in Lusitu and Musakashi

**C. Rationale for restructuring**

**18. Refocusing the PDO and the Results Framework.** The current PDO of IDSP is to “increase yields per hectare and value of diverse products marketed by smallholders benefitting from investments in irrigation in selected sites served by the project”. It is difficult to measure changes in yields and value of products marketed, since most of the newly irrigated land would most likely not go under production. Moreover, at the end of the proposed extension most farmers will still be adapting to their new circumstances (certainly in Mwomboshi) and it would be premature to measure yields and value of marketed produce. With the modification of the PDO, the Results Framework will also need to be modified. A further reason to modify the results framework is the change in the number of beneficiaries.

**19. Simplifying the proposed management arrangements.** Based on the feedback of the bidding process for irrigation manager and Tier 3 commercial investor, a simpler and more flexible bidding process will be put in place. PPP partners will be allowed to choose and bid without restriction on the irrigated agriculture and on the irrigation management function. The enhanced flexibility and transparency in the selection process will maximize the chance of selecting suitable PPP partners that will meet the requirements and aspirations of the



Ministry of Agriculture. More time will be given to the new selection process to ensure that potential partners are adequately informed and able to develop proposals. The new process will encourage higher intensity cropping (large farms tend to have less intense land use than medium sized farms) that may lead to more job opportunities for the local population.

**20. Providing a two year no cost extension to complete activities.** The milestones of the restructuring action plan as presented in Box 1 reflect the key activities to be undertaken in the extension period:

- Completion of scheme construction
- Land allocation and land titling;
- Resettlement of beneficiaries
- Putting in place operators of the schemes and commercial farmers;
- Dam operation and dam safety procedures
- Activation of the Community Land Trusts.

Most of these activities can be undertaken by June 2019, with some delays in Mwomboshi. The two-year extension is needed however to bring the construction of Mwomboshi scheme to completion and to allow the secure filling of the Mwomboshi dam. At that time the Bank can step back and assess if the infrastructure has been successfully and safely delivered.

**21. Reorganizing the project from four to three components.** The project's success is dependent on two key elements: physical infrastructure and institutional arrangements. In response to the Government's request the project will therefore be organized in two main components (plus a management and coordination component). This allows for the Theory of Change to be clearly observed, the progress on both elements to be better monitored and the potentially important institutional innovations of the project to be highlighted more clearly. The simplification is in line with the Zambia Country Partnership Framework 2018-2023, which puts major emphasis on improved implementation arrangements and simplified designs.

**22. To re-allocate funding to address cost overruns and account for the SDR depreciation.** Infrastructure development has been significantly more expensive than expected at approval, whereas some other elements such as capacity building could be contracted below the original estimates. The SDR depreciation has led to losses in US\$, the currency in which the project is budgeted, of more than US\$6 m.

**23. Ratings after restructuring.** By reducing the ambition levels, pursuing a stronger focus, and implementing the restructuring action plan, the project main ratings may move back in the satisfactory range, and satisfactory safeguards compliance can be achieved.

## II. DESCRIPTION OF PROPOSED CHANGES

### A. Proposed changes

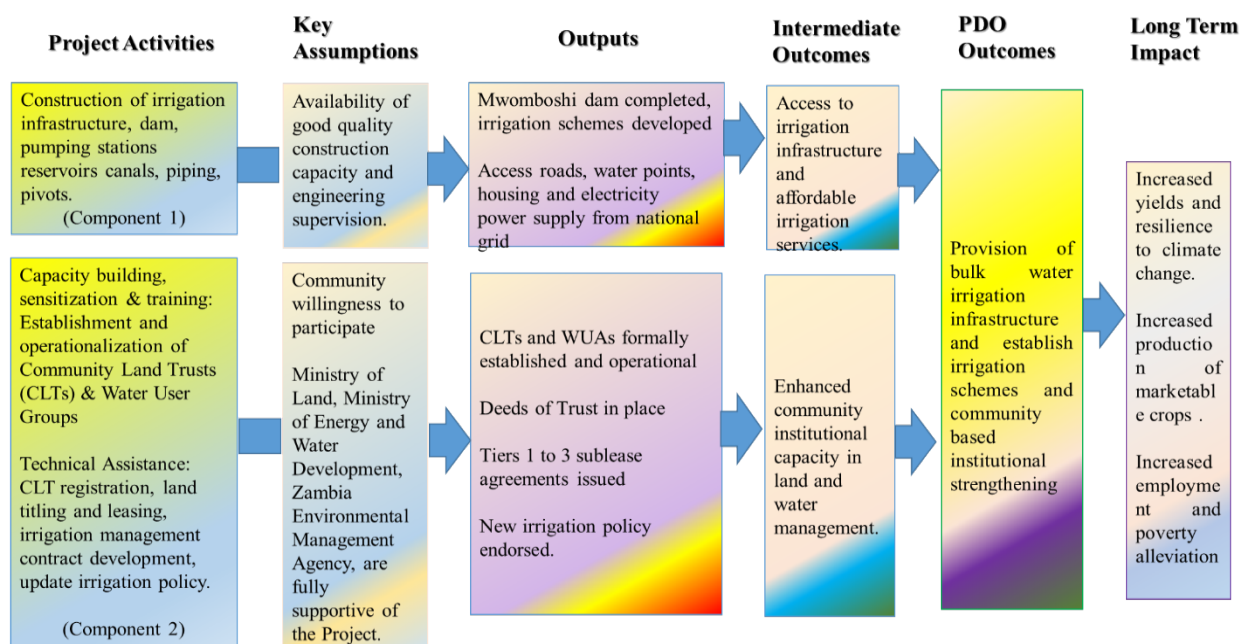
**24. Refocusing the PDO and the Results Framework.** Through IDSP the GoZ undertakes two major types of investments:



- The construction of physical irrigation infrastructure consisting of a reservoir, irrigation schemes, and social infrastructure for resident beneficiaries (improved housing, water and sanitation, roads and electricity);
- The development of irrigation management capacity by introducing Community Land Trusts (CLTs) for local administration of land; establishing Water User Associations (WUA); and engaging private sector agents in management arrangements for bulk water supply, irrigation schemes and large scale irrigated agricultural production (tier 3). Furthermore, the GoZ is improving its national irrigation policies, and facilitating secure land titles for the land in the irrigation schemes through the Community Land Trusts.

25. Together these two activities will allow farmers to **access to irrigated land**. Eventually this will enable them to increase yields, incomes and employment, but that process will only be playing out after project closure. The revised PDO of the IDSP as agreed with the Government of Zambia, is *“to provide improved access to irrigation services in selected sites in the Recipient’s territory”*. Figure 2 provides a visual representation of the Theory of Change and how this leads to the achievement of the PDO.

Figure 2: Restructured IDSP - Theory of Change



26. About 1000 smallholder families at three sites will have access to irrigation bulk water infrastructure and affordable irrigation services on 2,875 ha land, together with improved land tenure security, particularly for women. Besides, there will be a tier of commercial farmers at the Mwomboshi irrigation site, who receive water for a fee from the new Mwomboshi reservoir, while using their own irrigation infrastructure to irrigate their existing crop land of up to 3,406 ha. Furthermore, IDSP has been supporting five public institutions to develop 2,254 ha of irrigated land.

27. The original Results Framework has been revised to reflect the reformulated PDO and the ToC. The most important changes are laid out in table 2. See also the revised Results Framework.

**Table 2. List of original indicators dropped or revised**

PDO Indicator	Status	Original target	New target
Yields (tons/ha) of major irrigated crops in the target sites for: Wheat, Bananas, Tomatoes, Onions	Dropped	Wheat 5.3 Bananas 32.0 Tomatoes: 11.0 Onions: 12.0	
Value of diverse agricultural products marketed (K/year) in target sites	Dropped	195B	
Direct project beneficiaries (number) of which female (percentage)	Revised	70,000	26,000
Area provided with new/improved irrigation and drainage services (ha)	Revised, moved from intermediate to PDO indicator	10,000	8,535
Farmers reached with agricultural assets or services	New		1,515
<b>Intermediate Result Indicators</b>			

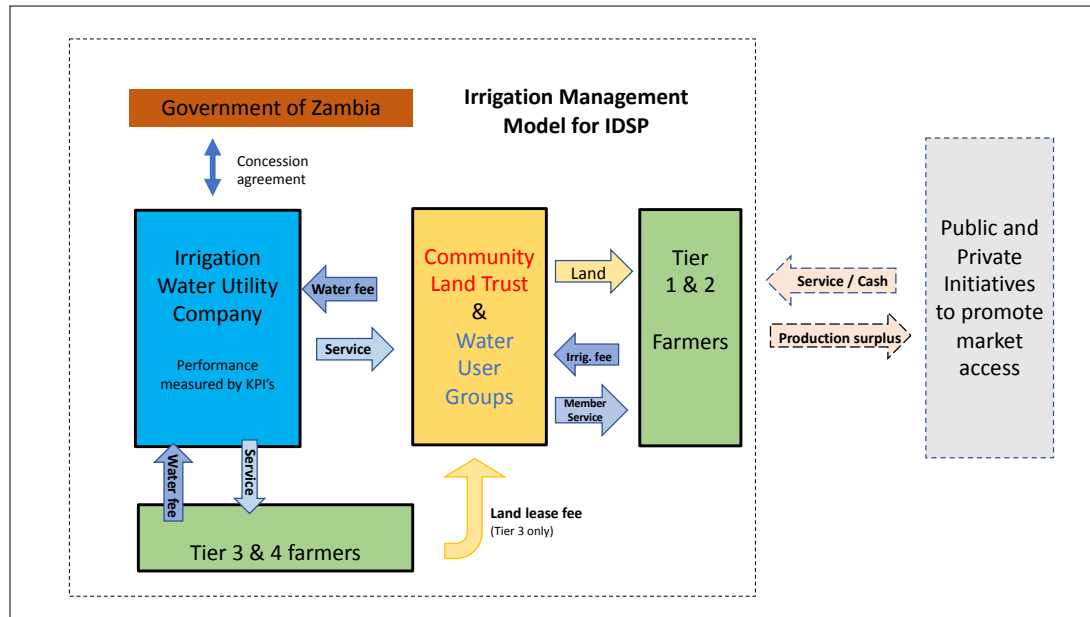


Area covered by - Prefeasibility studies - Feasibility studies	Revised	25,000 20,000	16,295 10,352
Technologies demonstrated by the project in the command areas	Dropped	16	
Mwomboshi dam completed and handed over	New		Handed over
Number of water users provided with irrigation and drainage services	Revised	14,000	
Km of rural roads rehabilitated	Revised	120	116
Number of people provided with access to improved drinking water	New		2285
Resettlement houses occupied by rural families	New		457
Water User Associations established	New		4
Beneficiaries satisfied with the operation of their Community Land Trust (%)	New		75
Proportion of grant recipients that have successfully implemented their proposals	Dropped	80	
Volume of finance provided to farmers (disaggregated by gender) (ZMW)	Dropped	7 million	
Gross margin from agricultural and livestock production Tiers 1 to 3 (ZMW)	Dropped	7million	
Number of IFR and progress reports delivered on time	Revised	100%	16
Updated National Irrigation Plan and Irrigation Strategy submitted for approval	Retained	Available and Reviewed	Available and reviewed

**28. A workable Irrigation Management Model for IDSP.** An Irrigation Management Model for IDSP is being designed that ensures economic, social and environmental sustainability, while addressing interests of each partner (see figure 3 below). The Government of Zambia finances the irrigation infrastructure and enters into a concession agreement with a private agent for one or more schemes. The private agent will serve as a water utility company providing water to individual farmers (tier 3 and 4) and groups of water users (tier 1 and 2) in the scheme, who in return pay fees for the services and water received. The tariff structure will be regulated by the government and ultimately determined by the operation and maintenance cost of the schemes. The management arrangement will be put in place following the bidding process, during the completion of site construction. The bidding process will start in January 2019 and is scheduled to be completed by June 2019.

**29. Sustainability of the approach** is ultimately linked to the integration of farmers in profitable agricultural value chains, as the increased income will define the level of charges that farmers are able to pay. Investments into value chain development, input supply or access to finance, however, are no longer part of project activities because they would require further extension of the closing date. Value chain integration may be pursued through other public and private initiatives such as the newly launched Zambia Agribusiness and Trade Project (ZATP). The irrigation management model is shown in Figure 3 below.

**Figure3: IDSP Irrigation Management Model**



**Project extension and restructuring of components and sub-components.**

**30. Time.** The project cannot be completed before its current closing date (December 15, 2018). Construction is ongoing in the three schemes: while Lusitu and Musakashi can be completed in about six months, the Mwomboshi scheme needs 24 months. In addition, the filling of the Mwomboshi water reservoir will require two rainy seasons and must be managed carefully. At least one production cycle is needed to calibrate the design of the schemes before regular operation can be expected. During this time the project will provide support as needed. The project completion date needs to be extended until November 30, 2020.

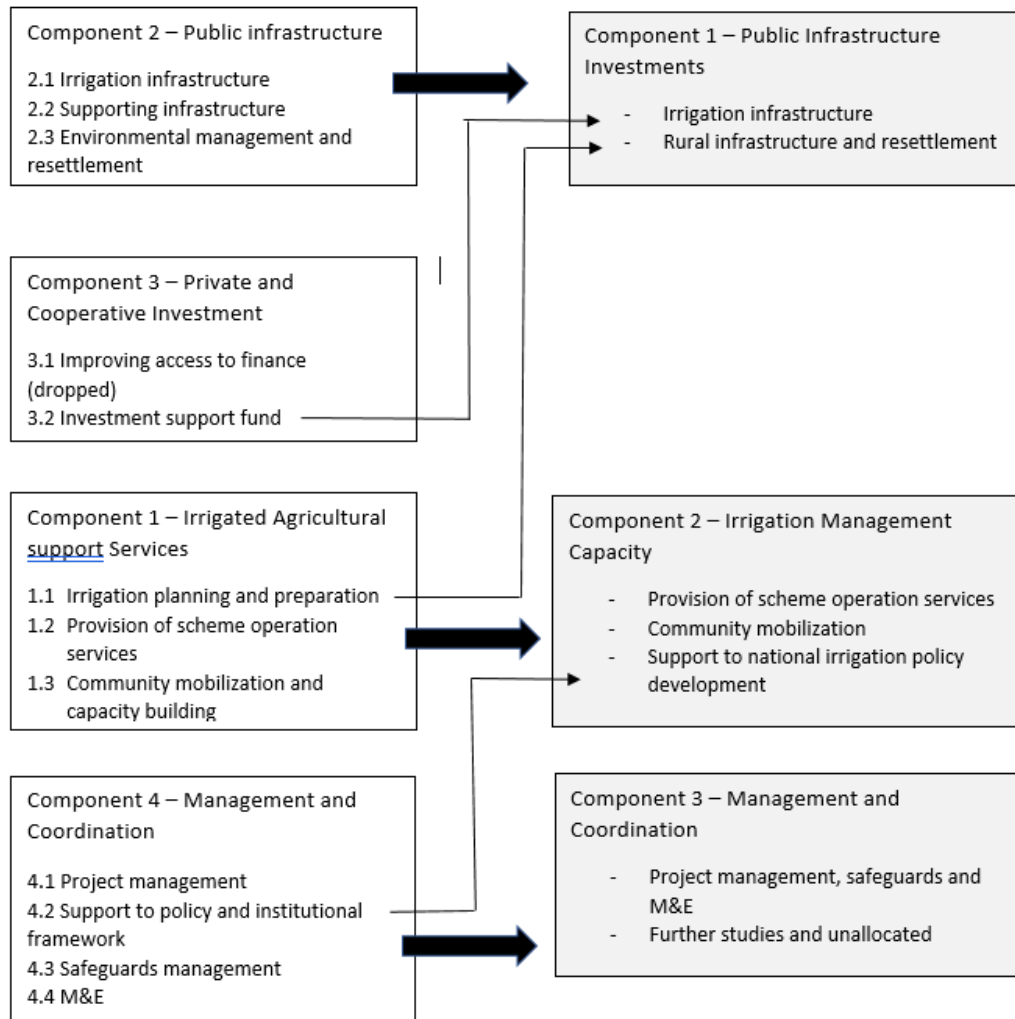
**31. New components.** Following the discussion on the Theory of Change, activities and results have been grouped in three components: Public Infrastructure Investment; Development of irrigation management capacity; Management and Coordination. The simplification is in line with the Zambia Country Partnership Framework 2018-2023. The current sub-components 1.1 Irrigation planning and preparation, 2.1 Irrigation Infrastructure, 2.2 Supporting Infrastructure, 2.3 Environmental Management and Resettlement, and 3.2 Investment Support Fund will be consolidated under the new component 1 “Public Infrastructure Investment”. Subcomponents 1.2 Provision of scheme operation and marketing services, 1.3 Community mobilization and capacity building, and 4.2 Support to Policy and Institutional Framework will be absorbed into the new Component 2 “Development of irrigation management capacity”. The current component 3.1 Access to long- and short-term financing will be dropped, and the current Component 3 will be dissolved. The current Component 4 will now become the new Component 3, where a sub-component 4.4 Studies has been added (see figure 4) to allow the Government of Zambia to prepare studies (after no objection) in support of future World Bank financed investment projects.

**Figure 4. Restructuring of project components and sub-components**



OLD components and sub-components

NEW components and sub-components



**Reallocation of funds (by sub-Component)**

32. Exchange losses (approximately US\$ 6m) and the increased cost of irrigation infrastructure (approximately US\$ 5.7 million) will be balanced by reallocating funds away from support infrastructure, irrigation scheme planning and preparation and improving access to financing. Because the irrigated area and the number of beneficiaries is lower than initially targeted, the development of irrigation management capacity can be completed at lower costs than initially expected, thereby freeing up resources to strengthen the Irrigation Support Fund. Table 1 provides the details of the reallocation.



Table 1 Proposed Reallocation of the IDA Credit 48740 (IDA) by components

		ORIGINAL ALLOCATION	Increase/ (Decrease)	Proposed Allocation
Original number	Original subcomponent name	Amount SDR	Amount SDR	Amount SDR
<b>New Component 1: Public Infrastructure Investment</b>				
2.1	Irrigation Infrastructure	36,024,894	5,757,052	41,781,946.00
	- Contingencies		2,305,574	2,305,574.00
2.2	Support Infrastructure	6,729,497	-2,046,723	4,682,774.00
2.3	Environmental Management and Resettlement	740,504	-537,055	203,449.00
1.1	Irrigation Scheme Planning and Preparation	4,962,679	-3,957,009	1,005,670.00
3.1	Improving access to long and short-term financing	1,805,792	-1,805,792	-
3.2	Investment Support Fund	11,445,341	-	-
	- Equipment for institutional sites		5,922,146	5,922,146.00
	- Equipment for Tier 2 farmers		6,411,148	6,411,148.00
	<b>Subtotal Public Infrastructure Investment</b>	<b>61,708,707</b>	<b>604,000</b>	<b>62,312,707.00</b>
<b>New Component 2: Development of irrigation management capacity</b>				
1.2	Provision of Scheme Operation and marketing services	1,227,678	-77,124	1,150,554.00
1.3	Community Mobilization and Capacity Building	5,696,688	-4,748,386	948,302.00
	- Establishment and Capacity Development of CLTs and WUAs		294,077	294,077.00
	- Training events (Training of trainers and farmers)		335,191	335,191.00
	- Community Facilitation by service provider		204,355	204,355.00
	- Establishment of CPPP & institutional support to CLTs		418,989	418,989.00
4.2	Support to national irrigation policy development		14,704	14,704.00
	<b>Subtotal Development of irrigation management capacity</b>	<b>6,924,366</b>	<b>-3,558,195</b>	<b>3,366,172.00</b>





		<b>ORIGINAL ALLOCATION</b>	<b>Increase/ (Decrease)</b>	<b>Proposed Allocation</b>
<b>Original number</b>	<b>Original subcomponent name</b>	<b>Amount SDR</b>	<b>Amount SDR</b>	<b>Amount SDR</b>
<b>New Component 3: Management and Coordination</b>				
4.1, 4.3 and 4.4	Management and Coordination, M&E and safeguards management	6,066,927	1,360,216	7,427,143.00
New	Further studies and unallocated		1,593,978	1,593,978.00
	<b>Subtotal Management and Coordination</b>	<b>6,066,927</b>	<b>2,954,194</b>	<b>9,021,121.00</b>
<b>TOTAL PROJECT COSTS</b>		<b>74,700,000</b>		<b>74,700,000.00</b>

**33. Technical, Institutional and Fiduciary Risks.** The restructuring reduces the ambition levels, and more clearly distinguishes infrastructure and institutional development. The Restructuring Action Plan will further contribute to improved implementation by strengthening coordination, M&E, irrigation management expertise and attention to construction progress, land allocation, bidding for scheme operation and dam safety. As a result, for the following risk categories, the ratings can be downgraded: Technical Design of the Project; Institutional Capability; Environmental and social; Stakeholders. IDSP’s Financial Management has been consistently rated Satisfactory, The Audit Report for 2017, dated June 21, 2018, and prepared by the Auditor General was unqualified though it made comments on the slow progress of the project.

**B. Updated economic and financial analysis**

36. The increase in costs of public works since project approval meant that the irrigation development area had to be reduced from 10,000 ha to 8,535, including ISF sites of 2,254 ha of improved irrigated areas that were developed at significantly lower cost. Without the ISF sites, the irrigated area target would have been reduced by about 35%. The estimated number of smallholder beneficiaries has fallen from 70,000 to 26,000 due to larger average farm sizes, fewer persons per household than initially estimated, and the reduction in irrigated areas. Including contributions by the Government and local communities, investment costs amount to US\$ 206 million, and the investment costs per hectare are in the medium to high range for Sub Saharan Africa.

37. To understand the economic returns of the project under these changing conditions a new Economic and Financial Analysis (EFA) for IDSP was undertaken. The project economic rate of return at appraisal was estimated at 19 to 21% (EIRR). The revised EIRR is estimated at 16% with an economic net present value (ENPV) discounted at 5% per year of US\$ 173 million. The benefit cost ratio is 1.6 with a payback period of 14 years. The reduction in the EIRR is roughly proportional with the reduction in the area irrigated from 10,000 to 8,535 ha.

38. The overall financial rate of return (FIRR) is 10% with a benefit cost ratio of 1.2, a payback period of 16 years, and a net present value of US\$ 82 million. The net financial benefits of the project are lower than the economic benefits because costs and revenue are adjusted for taxes and subsidies. The FIRR for Lusitu and Musakashi is 12-13%, due to lower investment costs.



The 8% FIRR for the Mwomboshi site is caused by the costs for building the dam, and by the assumption that production in the scheme will focus on maize, wheat and soy which have relatively low returns per hectare.

39. The EFA finds that introducing other irrigation management options does not change the rate of return, as the costs of running the schemes remain similar regardless of who manages them (except for some minor changes in overhead costs). The impact of the project in terms of employment has also been estimated as part of the EFA. A significant number of jobs were created during construction of the irrigation schemes and relocation of houses. Estimates based on data by site and contractor add up to 1,666 Full Time Equivalent (FTE) jobs (roughly 330 FTE per year). The updated EFA is available on file.

**III. SUMMARY OF CHANGES**

	Changed	Not Changed
Project's Development Objectives	✓	
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Reallocation between Disbursement Categories	✓	
Disbursement Estimates	✓	
Legal Covenants	✓	
Implementation Schedule	✓	
Economic and Financial Analysis	✓	
Technical Analysis	✓	
Implementing Agency		✓
DDO Status		✓
Cancellations Proposed		✓
Disbursements Arrangements		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Other Change(s)		✓



Social Analysis		✓
Environmental Analysis		✓

**IV. DETAILED CHANGE(S)**

**PROJECT DEVELOPMENT OBJECTIVE**

**Current PDO**

The project development objective is to increase yields per hectare and volume of products marketed by smallholders benefitting from investments in irrigation in selected sites served by the project.

**Proposed New PDO**

To provide improved access to irrigation services in selected sites in the Recipient's territory

**COMPONENTS**

Current Component Name	Current Cost (US\$M)	Action	Proposed Component Name	Proposed Cost (US\$M)
Irrigated Agricultural Support Services	18.30	Revised	Combined with Public Infrastructure	0.00
Public Infrastructure	66.96	Revised	Public Infrastructure Investment	95.91
Private and Cooperative Investment	20.40	Revised	Development of Irrigation Management Capacity	5.19
Management and Coordination	9.34	Revised	Management and Coordination	13.90
<b>TOTAL</b>	<b>115.00</b>			<b>115.00</b>

**LOAN CLOSING DATE(S)**

Ln/Cr/Tf	Status	Original Closing	Revised Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IDA-48740	Effective	15-Dec-2018		30-Nov-2020	30-Mar-2021

**REALLOCATION BETWEEN DISBURSEMENT CATEGORIES**

Current Allocation	Actuals + Committed	Proposed Allocation	Financing % (Type Total)
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			Current	Proposed
IDA-48740-001   Currency: XDR				
iLap Category Sequence No: 1	Current Expenditure Category: Gds,Cons excldng Prt 2C(ii) of proj up to Dec 10 2018			
16,630,000.00	7,619,988.88	7,619,992.63	100.00	100.00
iLap Category Sequence No: 2	Current Expenditure Category: Works for Part 2 of the project up to Dec 10 2018			
38,120,000.00	28,084,725.04	28,085,219.61	100.00	100.00
iLap Category Sequence No: 3	Current Expenditure Category: Training			
5,980,000.00	1,504,051.02	1,696,466.00	100.00	100.00
iLap Category Sequence No: 4	Current Expenditure Category: Gds,Wks,Cons undr prt 3b of project up to Dec 10 2018			
10,040,000.00	7,053,412.13	7,053,479.67	100.00	100.00
iLap Category Sequence No: 5	Current Expenditure Category: Operating Costs			
2,960,000.00	3,085,625.96	5,125,717.00	100.00	100.00
iLap Category Sequence No: 6	Current Expenditure Category: Refund of PPA			
970,000.00	503,310.45	503,310.45		
iLap Category Sequence No: 7	Current Expenditure Category: Gds,Cons excldng Prt 2C(ii) of proj after Dec 10 2018			
0.00	0.00	439,721.37		100
iLap Category Sequence No: 8	Current Expenditure Category: Works for Part 2 of the project after Dec 10 2018			
0.00	0.00	17,302,300.39		100
iLap Category Sequence No: 9	Current Expenditure Category: Gds,Wks,Cons undr prt 3b of project after Dec 10 2018			
0.00	0.00	5,279,815.33		100



iLap Category Sequence No: 10	Current Expenditure Category: Unallocated		
0.00	0.00	1,593,977.55	100
<b>Total</b>	<b>74,700,000.00</b>	<b>47,851,113.48</b>	<b>74,700,000.00</b>

**DISBURSEMENT ESTIMATES**

Change in Disbursement Estimates

Yes

Year	Current	Proposed
2011	0.00	0.00
2012	2,750,000.00	2,890,639.58
2013	13,000,000.00	4,152,919.04
2014	21,000,000.00	7,107,636.98
2015	24,250,000.00	4,651,325.00
2016	22,000,000.00	10,063,657.50
2017	17,000,000.00	19,560,203.40
2018	15,000,000.00	23,657,741.40
2019	0.00	25,000,000.00

**LEGAL COVENANTS**

Loan/Credit/TF	Description	Status	Action
IDA-48740	Finance Agreement :Schedule 2, Section 1 D, 2.1 (a) and (b): due by final bidding for civil works   Description :Prior to start of final bidding for civil works Recipient shall: (a) carry out relevant site-specific environmental impact assessment, and prepare EMP, RAP and/or Dam safety plans and submit   Due Date :16-Dec-2014	After delay complied with	No Change



IDA-48740	Finance Agreement :Schedule 2, Section 1 D, paragraph 6   Description :Recipient shall furnish to IDA for review, operational procedures with respect to dams constructed or targeted under the Project, including retention of written instructions etc   Due Date :15-Aug-2014	Not complied with	No Change
IDA-48740	Finance Agreement :Disbursement condition: Schedule 2, Section IV B, 1 (b)   Description :No withdrawal shall be made unless the ISF Fund Manager has been appointed and the Recipient has executed the ISF Subgrant Agreement   Due Date :13-Jun-2014	Complied with	No Change
IDA-48740	Finance Agreement :Retroactive Financing: Schedule 2, Section IV B, 1 (a)   Description :No withdrawal shall be made for payments made prior to date of Agreement, except that withdrawals up to an aggregate amount not to exceed \$1,500,000 equivalent may be made for payments [see PAD]   Due Date :15-Feb-2012	Complied with	No Change
IDA-48740	Public-Private Partnership Unit: To ensure proper technical implementation of Parts 1(a), 1(b), 1(c), 1(d), 2(a) and 2(b) of the Project, the Recipient shall maintain, throughout Project implementation, the PPP Unit, to be responsible for advising the National Coordinator on technical matters relating partnership arrangements under 1(a), 1(b), 1(c), 1(d), 2(a) and 2(b) of the Project."	Not yet due	New
IDA-48740	Transaction Adviser: To ensure proper implementation of Parts 2(a) and 2(b) of the Project, the Recipient shall hire and thereafter maintain, throughout Project implementation, a transaction adviser, with qualifications, experience and terms of reference satisfactory to the Association, to be responsible for advising the Recipient, local stakeholders and the private sector	Not yet due	New



IDA-48740	Site Committees: To ensure proper implementation of Parts 1(a), 2(a) and 2(b) of the Project, the Recipient shall ensure that site committees are established, upon identification of the irrigation site, and maintained, during the planning and preparation phase of the irrigation schemes at each respective irrigation site, comprised of key stakeholders and potential investors	Not yet due	New
IDA-48740	Unless otherwise agreed, by March 1, 2019, the Recipient shall hire, and thereafter maintain throughout Project implementation, one (1) full-time Project Coordinator, one (1) monitoring and evaluation specialist and one (1) irrigation management specialist, with qualifications and experience, and under terms of reference, satisfactory to the Association	Not yet due	New
IDA-48740	By January 31, 2019, the Recipient shall submit a revised Resettlement Action Plan for the Musakashi irrigation scheme under terms and conditions satisfactory to the Association, which reflects, inter alia, all the required design changes in such scheme	Not yet due	New
IDA-48740	Unless otherwise agreed, by January 31, 2019, the Recipient shall furnish to the Association an implementation action plan, satisfactory to the Association, which shall set out, the work activities to be executed throughout the period of extension of the Closing Date; and (b) proceed thereafter to implement the action plan	Not yet due	New









Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
<b>Action: This indicator is New</b>												
Value of diverse agricultural products marketed (K/year) in target sites (Amount(USD))		0.00										195.00
<b>Action: This indicator has been Marked for Deletion</b>												
Yields of major irrigated crops in the target sites (Number)		54.40						51.90	22.00	22.00		60.30
<b>Action: This indicator has been Marked for Deletion</b>												
Wheat yield (t/ha) (Number)		2.40						4.40	3.40	3.00		5.30
<b>Action: This indicator has been Marked for Deletion</b>												
Banana yield (t/ha) (Number)		14.00						10.00	9.50	10.00		32.00





Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets									End Target	
			1	2	3	4	5	6	7	8	9		
<b>Public Infrastructure Investment (Action: This Component is New)</b>													
Roads rehabilitated, Rural (Kilometers)		0.00								0.00	0.00	0.00	116.00
<i>Action: This indicator has been Revised</i>													
Mwomboshi dam completed and handed over to government (Yes/No)		No											Yes
<i>Action: This indicator is New</i>													
Area provided with new irrigation and drainage services (Number)		0.00			10,000.00	8,000.00	6,000.00	3,000.00	800.00	0.00	0.00		10,000.00
<i>Action: This indicator has been Marked for Deletion</i>													
Area covered (by prefeasibility studies and feasibility studies) [Ha] (Number)		2,700.00			45,000.00	45,000.00	26,000.00	26,000.00	26,000.00	22,000.00	11,700.00		26,647.00







Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
Land Trust (Percentage)												
<b>Action: This indicator is New</b>												
Updated National Irrigation Plan and Irrigation Strategy submitted for approval (Text)		Irrigation Policy and Strategy 2004										Policy and Strategy reviewed
<b>Action: This indicator has been Revised</b>												
<b>Management and coordination (Action: This Component is New)</b>												
Number of progress reports delivered on time (Number)		0.00										16.00
<b>Action: This indicator has been Revised</b>												
Proportion of grant recipients that have successfully implemented their proposals (Percentage)		0.00										80.00
<b>Action: This indicator has been Marked for Deletion</b>												



Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
Volume of finance provided to farmers (disaggregated by gender) (Amount(USD))		0.00										0.00
<b>Action: This indicator has been Marked for Deletion</b>												
Direct project beneficiaries (Number)		7,225.00	0.00	300.00	70,000.00	1,000.00	30,000.00	10,000.00	1,000.00	0.00	0.00	70,000.00
<b>Action: This indicator has been Marked for Deletion</b>												
Female beneficiaries (Percentage)		0.00	0.00	5.00	30.00	30.00	25.00	25.00	20.00	0.00	0.00	30,000.00
<b>Action: This indicator has been Marked for Deletion</b>												
Technologies demonstrated by the project in the command areas (Number)		9.00		2.00	16.00	13.00	13.00	11.00	8.00	4.00	2.00	16.00





Indicator Name	DLI	Baseline	Intermediate Targets									End Target
			1	2	3	4	5	6	7	8	9	
<i>Action: This indicator has been Marked for Deletion</i>												
Gross margin from agricultural and livestock production Tiers 1 to 3 (Amount(USD))		0.50										7.00
<i>Action: This indicator has been Marked for Deletion</i>												
Volume of Bank Support: Enabling Environment - SME (Amount(USD))		0.00										1,473,684.00
<i>Action: This indicator has been Marked for Deletion</i>												



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