



# Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: April 17, 2020 | Report No: PIDISDSA28676



**BASIC INFORMATION**

**A. Basic Project Data**

Country Zambia	Project ID P172140	Project Name Irrigation Development Support Project - Additional Financing	Parent Project ID (if any) P102459
Parent Project Name Irrigation Development and Support Project	Region AFRICA	Estimated Appraisal Date 12-Mar-2020	Estimated Board Date 06-May-2020
Practice Area (Lead) Agriculture and Food	Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance	Implementing Agency Ministry of Agriculture

Proposed Development Objective(s) Parent

The project development objective is to provide improved access to irrigation services in selected sites in the Recipient's territory

Components

- Combined with Public Infrastructure
- Public Infrastructure Investment
- Development of Irrigation Management Capacity
- Management and Coordination

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Project Cost</b>	30.00
<b>Total Financing</b>	30.00
<b>of which IBRD/IDA</b>	30.00
<b>Financing Gap</b>	0.00

**DETAILS**

**World Bank Group Financing**

International Development Association (IDA)	30.00
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IDA Credit	30.00
Environmental Assessment Category	
A-Full Assessment	
Have the Safeguards oversight and clearance function been transferred to the Practice Manager?' No	
Decision	

Other Decision (as needed)

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## B. Introduction and Context

### Country Context

1. **The Zambian national poverty rate remains high with high inequality between rural and urban areas.** While gross domestic product (GDP) growth raised average per capita income from US\$2,378 in 2004 to US\$3,627 in 2015, Zambia still faces high levels of poverty and inequality, with 54.4 percent of Zambians living below the national poverty line<sup>1</sup>. While poverty in urban areas fell slightly from 25.7 to 23.4 percent over this period, rural poverty rose from 73.6 to 76.7 percent<sup>2</sup>. Furthermore, climate-related risks exacerbate poverty by reducing the rate at which households escape poverty and moving those who are not poor into poverty<sup>3</sup>. Taking action toward reducing rural poverty and increasing income levels of the poorest in Zambia is therefore an urgent priority.

### Sectoral and Institutional Context

2. **Agriculture is the backbone of the economy of Zambia, although its contribution to the GDP is down to around 3 percent, the sector continues to be the largest employer in the country.** Agriculture offers working opportunities for around 55 percent of the labor force and represents a major source of income for many households. Maize is the largest crop grown and is the main staple, occupying around 65 percent of cropped land. Other crops grown includes; soybean, sorghum, vegetable and cotton. Generally, the sector is characterized by being mainly rain-fed with less than 10 percent of the cultivated lands being irrigated, leading to an overall low productivity rate per unit of land – improving access to irrigation will help enhance agriculture productivity.

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<sup>1</sup> At the national poverty line of ZMK 214 per adult equivalent per month.

<sup>2</sup> World Bank. 2018. [Zambia Systematic Country Diagnostic. Report Number 124032.](#)

<sup>3</sup> World Bank. 2015. [Climate Change and Poverty.](#) Climate Change and Poverty Conference



3. **Water resources are abundant in Zambia, where water resources per capita per year are estimated at 8700m<sup>3</sup> (above Sub-Saharan average 7000m<sup>3</sup> and global average 8210 m<sup>3</sup>).** The country's water resources are exposed to seasonal and spatial variability, often resulting in floods and droughts. Estimates indicate that this hydrological variability cost US\$13.8 billion over the period of 1997 to 2007, with a 0.4 percent loss of total growth annually, and a one percent loss of agricultural growth annually (World Bank, 2009). Compounding the hydrological variability, Zambia's water resources are under increasing pressure from mining and pollution, especially in the Kafue basin. Zambia is strategically located in the head waters of major international rivers such as the Congo and Zambezi. Despite increasing pressures in some basins, its water resources remain largely untapped. The World Bank's 2009 Country Water Resources Assistance Strategy (CWRAS), which informed the preparation of this project, assessed that the installed hydropower capacity was only at 27 percent of the potential (6000MW), irrigation was underdeveloped with less than 5 percent of arable land under irrigation, and water supply and sanitation access was low with only 37 percent coverage in rural areas.

### C. Proposed Development Objective(s)

#### Original PDO

4. 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.

#### Current PDO

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

#### Key Results

- Area provided with new/improved irrigation or drainage services (CRI, Hectare(ha))
- Area provided with new irrigation or drainage services (CRI, Hectare(ha))
- Area provided with improved irrigation or drainage services (CRI, Hectare(ha))
- Farmers reached with agricultural assets or services (CRI, Number)
- Farmers reached with agricultural assets or services - Female (CRI, Number)
- Direct project beneficiaries (Number)
- of which female (%) (Number)

### D. Project Description

6. The detailed activities and proposed allocation of funds under the additional financing are the following:
- (a) The completion of ongoing works under the Irrigation Development and Support Project (IDSP, P102459) and cost replenishment (US\$15 million):**
- i) The project has experienced significant exchange rate losses. At project approval on April 2011, the loan amount was SDR 74.7 million, equivalent to US\$115 million at an exchange rate of SDR 1 equal to US\$1.54. By end of November 2019, the exchange rate dropped to SDR 1 equal to US\$1.38, which has resulted in a loss of more than US\$10.5 million. This has limited the project's ability to complete planned activities. Obtaining this funding will



support all project components.

- ii) The actual cost of the infrastructure works also exceeded the initial estimates. Additional funding is needed to complete the irrigation infrastructure and ensure that all infrastructure is operational and providing irrigation services and support to target beneficiaries. This does not include adding any new activities.
- iii) Additionally, the Government of the Republic of Zambia (GRZ) requested the World Bank to utilize IDA funding to address the deficit in cost associated with the cash compensation section of the resettlement plan of about US\$2 million. Due to fiscal constraints GRZ has faced delays in release of counterpart funds, and cash compensation for economic losses of Project Affected People due to not cultivating lands during the 2018/2019 season as a result of project activities, was not processed. .
- iv) Lastly, funds from IDSP have been redirected to fund activities under Phase 1 of the remedial dam safety works of the now closed Water resources Development Project (WRDP, P114949). These funds have been diverted from existing IDSP commitments and need to be replenished in order to complete ongoing works and other commitments. Phase 1 includes: (i) minimize risks posed by the ten dams by financing non-structural interventions (i.e. surveillance and emergency preparedness for communities) and very limited structural interventions, and (ii) update designs, preparation of the Environmental and Social Audit (ESA), site-specific Environmental and Social Management Plans (ESMPs), and if necessary, updated Abbreviated Resettlement Plans (ARAPs) for the ten dams, as to guide the subsequent remedial works to be implemented under Phase 2.

**(b) The implementation of Phase 2 of the remedial works for the ten WRDP dams (US\$15 million).** On October 10, 2019, the World Bank received a letter from GRZ seeking support in taking remedial actions to ensure the safety of ten dams that were constructed / rehabilitated under WRDP which closed in November 2018. GRZ requested that the remedial measures be implemented through IDSP. The letter requested that the activities be implemented through a two-phase approach, and by hiring the United Nations Office for Project Services (UNOPS) to support the implementation of both phases through a delivery of output contract. Accordingly, IDSP was restructured in January 2020 to allow the implementation of the first phase of the proposed remedial plan. The activities proposed under this AF cover the second phase, and it is assessed that two full dry seasons will be required for their implementation. It is planned that based on the approval and effectiveness of this AF, implementation of phase 2 will start at the end of the rainy season in July/August 2020. The remedial works and their implementation are expected to cost US\$15 million. These will include:

- i) Civil works to ensure sound structural and hydraulic performance of the dams and the safety of the downstream communities;
- ii) Implementation of Environmental and Social Management Plans (ESMP) for each dam including social and environmental measures as identified in the Environmental and Social Audit (ESA) and subsequent biodiversity and ecological flow assessments;
- iii) Supervision of the works and safeguards measures;
- iv) Establishment of operation and maintenance arrangements with the local dam committees comprising people from the beneficiary communities and the MWDSEP.



- v) surveillance will continue during the implementation of Phase 2;
- v) Hand-over to dam committees, which consists of beneficiaries.

## **E. Implementation**

### Institutional and Implementation Arrangements

7. **The institutional arrangements for the IDSP activities will remain the same as of the parent project.**
  
8. **For the ten WRDP dams, all remedial measures will be implemented by the Ministry of Agriculture through the IDSP PIU and a Delivery of Outputs agreement with the UNOPS.** UNOPS will work closely with IDSP PIU and it will supervise the implementation of all remedial measures including the social and environmental instruments. UNOPS will assist GRZ in transferring the infrastructure to the beneficiary communities and build their capacity with O&M. The dam remedial works consist of strengthening and stabilizing existing dam embankments and completing and reinforcing existing spillways to ensure dam safety. The remedial measures will also include site remediation as identified by the Environment and Social Audit.

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**F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)**

9. This AF to the Irrigation Development Support Project (IDSP) will support among other activities,

- 1) Implementation of existing activities from components 1 and 2 of the parent project which includes the construction of one large dam at Mwomboshi and three irrigation schemes at Mwomboshi, Musakashi and Lusitu to support agriculture development in rural communities of Zambia. Currently the Mwomboshi dam (27.5 m high dam with a total crest length of 1,683 m), Mushakashi and Lusitu Irrigation Schemes are under construction. Also, the purchase of seeds and fertilizers for communities affected by drought.
- 2) Implementation of remedial works in ten earth dams located in six provinces of Zambia (Luapula, Copperbelt, North-Western, Western, Eastern, and Southern) and in different districts and river basins. The dams named as Chibalashi, Katembula, Kanyika, Kawiko, Nachibanga, Nabowa, Chikowa, Ndoni, Ngolongozya, Makaba were built under the closed Water Resources Development Project (WRDP, P114949). The dams were constructed to provide water storage mainly for irrigation use, and in some instances for water supply and livestock. At the WRDP closure, these ten dams had outstanding safeguards and dam safety issues which are proposed to be resolved in the implementation of this AF.

10. All Zambia is part of the Zambesi or the Congo river basins which are among the most important river basins for flora and fauna biodiversity in Africa, in fact, the origin and radiation of many plants' species are found in these basins. However, deforestation, agricultural expansion, charcoal production, mining, dams, fires and other changes in land use have contributed to extensive environmental and land degradation. The project areas are dominated by natural habitats with patches of natural vegetation and small rural villages with subsistence agriculture. The benefits of the planned irrigation schemes are expected to support agriculture (wheat, soy, vegetables) that will bring economic benefits, but it will also lead to more land use changes. No protected areas have been recorded within or near the project areas of the ten dams to be remediated or the current dams and irrigation systems under construction by IDSP.

**G. Environmental and Social Safeguards Specialists on the Team**

- Ruth Tiffer-Sotomayor, Senior Environmental Specialist
- Nicholas Stephen Zmijewski, Environmental Specialist
- Felix Ukeh, Environmental Specialist Consultant
- Njavwa Namposya Chilufya, Social Development Specialist

**SAFEGUARD POLICIES THAT MIGHT APPLY**

Safeguard Policies	Triggered?	Explanation (Optional)
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Environmental Assessment OP/BP 4.01	Yes	<p><i>Parent project.</i> The PIU needs to improve current supervision of works, perform training and improve enforcement on the contractors of the agreed ESIA/ESMP. Also, contractors and supervisors need to improve current ESH practices which present additional risks to workers and communities. The PIU will enhance the supervision to ensure that the contractors comply with the environmental requirements at the three sites.</p> <p><i>Legacy dams.</i> For scoping of the remediation of the ten dams, an Environmental and Social Audit (ESA) has been prepared following the OP 4.01. Environmental and Social specialists and a dedicated budget for supervision, monitoring and training are included in the Environmental and Social Audit. The audit defines an ecological screening of the terrestrial and aquatic biodiversity which will be reported as a screening report. The screening report will determine whether a detailed Biodiversity and ecological flow assessment is needed. Once the designs and remediation measures are agreed and finalized the project will prepare a specific ESMP for each dam following the measures described in the Environmental and Social Audit. The results of the complemented assessments (if any) will be reported and described in specific biodiversity action plan(s) (BAP) for the specific individual dam(s).</p>
Performance Standards for Private Sector Activities OP/BP 4.03	No	
Natural Habitats OP/BP 4.04	Yes	<p>The parent project and the remediation of the ten dams will affect natural habitats.</p> <p><i>Parent project.</i> The project has mandatory actions agreed for the subprojects to reduce impact in natural habitats during construction of civil works and irrigation schemes. The PIU and the supervision consulting firm will enhance their supervision of implementation of environmental measures and restoration actions; and they will coordinate with the contractors on training.</p> <p><i>Legacy dams.</i> The ESMPs for each dam will include measures to mitigate current impacts and liabilities natural habitats (riverbanks, wetlands, upstream</p>





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		areas), land, soil of the existing dams' areas. Each dam will be screened to identify critical habitats and impacts in aquatic and terrestrial biodiversity and availability of ecological flows. A screening report will recommend if necessary, a Biodiversity Action plan and structural and operational measures to improve ecological flow downstream of the dams. Compensation measures for cumulative impacts will be also included in the ESMP.
Forests OP/BP 4.36	Yes	<p><i>Parent project.</i> The parent project has caused impact to some forest areas and potentially during the operation and expansion of the agriculture areas, tree loss could occur. The project will be required to set up a restoration plan with native species.</p> <p><i>Legacy dams.</i> Restoration measures will be included in the ESMP of each dam to reduce reservoir slope erosion and increase conservation of downstream wetlands and riparian areas.</p>
Pest Management OP 4.09	Yes	<p><i>Parent project.</i> The parent project has prepared an integrated pest management plan (IPM) because of the agriculture activities that will be supported with the irrigation areas. The PIU environmental staff will support a training program to ensure the application of the IPM and ensure the project does not support toxic agrochemicals included in the WHO List 1a, 1b and 2b.</p> <p><i>Legacy dams.</i> Under the WRDP an integrated Pest Management Plan (IPM) was prepared. The ESMP for each dam will review the IPMs and assess the risks/impacts and include additional measures to these plans to improve environmental conditions of degraded areas and training for pest management.</p>
Physical Cultural Resources OP/BP 4.11	Yes	Both the parent project and the remediation activities of the ten dams will include soil excavations and intervention of rivers and streams which can have cultural and spiritual values. The ESMP for the parent project's activities and for each legacy dam will include chance finding procedures and tangible cultural resources rescue plans.
Indigenous Peoples OP/BP 4.10	No	
Involuntary Resettlement OP/BP 4.12	Yes	Parent project: three RAPs were prepared and publicly disclosed in 2016. A total of 1,572 PAPs



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were identified. To date, 418 households (Mwomboshi 211, Musakashi 103 and Lusitu 104) have been relocated to new housing units, whilst 660 households (Lusitu 190; Musakashi 120; Mwomboshi 350) are awaiting compensation for economic losses. As part of the AF, the Government has requested to use of \$2million IDA funds for payment of outstanding compensation. The RVP has approved the request of using IDA funds for this purpose. It is expected that once the AF is effective, processing of payments will be prioritized by GRZ.

Legacy dams: six ARAPs were prepared and disclosed under the closed WRDP. Cash compensations were paid to all affected persons at these six sites. However, land-for-land compensation is yet to be completed. Consultations with affected communities and area traditional chiefs will be continued to secure alternative land and complete the compensation process. This process will be led by IDSP with support from the engineer seconded to the PIU from the Ministry of Water Development Sanitation and Environmental Protection (MWDSEP) who provides institutional memory for this activity.

*Parent project.* all three dams financed by IDSP have provisions for proper instrumentation and dam safety. The project will continue supervising the construction of the dams with the support of an independent panel of experts, the project will also train the operators for ensuring dam safety and prepared the emergency preparedness plan and an operational and maintenance plan.

Safety of Dams OP/BP 4.37

Yes

*Legacy dams.* Dam classification. All ten of the dams were initially classified as 'small' in the WRDP ISDS (February, 2013). This classification was not revisited during the detailed designs and construction phase of the dams. COWI (2019) continued to classify the dams as small, based primarily on ICOLD criteria, in their flood hydrology reports. The most recent preliminary review by UNOPS (2019), based on the World Bank OP 4.37 policy, suggests that five of the



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dams should be reclassified as large dams, taking into consideration the as-built dam heights, the catchment size and characteristics, foundation stability and other issues associated with the integrity of the embankments. These large dams are Katambula, Chilabashi, Makaba, Nabowa and Ngolongozya. Dam classification will be reviewed and agreed with the World Bank and once UNOPS completes their sites investigation. Dam safety instruments. Dam safety plans will be prepared for all dams following the concept of proportionality; for small dams the O&M plan may be limited to a few pages to define roles and responsibilities to carry out regular maintenance (grass cutting, slope protection, outlet works maintenance) and regular inspections to detect any potential deficiency. The dam safety panel of experts working for IDSP will also support the remediation of these ten dams. This has been confirmed by the IDSP.

Projects on International Waterways OP/BP 7.50

Yes

Notifications were sent under IDSP and WRDP to the riparian countries in 2011 and 2013 respectively. For this AF, exception to notification was obtained by RVP given that the remedial measures will be implemented on existing infrastructure and will not adversely change the quality or quantity of water flows to the other riparians.

Projects in Disputed Areas OP/BP 7.60

No

## KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

### A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

#### Environmental performance of current parent project.

11. The current rating of the parent project is MS. The project is currently undergoing the following construction works: (1) Mwomboshi Dam and Irrigation Scheme, (2) Mushakashi Irrigation Scheme, and (3) Lusitu Irrigation Scheme. Impacts occurred at these construction sites include: i) unsecure movement of materials, ii) lack of barricade and control access to construction sites where children and locals walked freely exposed to risks to falls or accidents;



ii) poor safety road signs iii) lack of water for drinking and spraying to reduce construction and road dust which is exposing to local communities and workers to fine particulate pollutants, iv) poor application of PPE; v) erosion of river banks; vi) lack of proper management of wastes, vii) lack of proper secure work at heights, among others. Enhancements, including provision of 5,000 tanks for drinking water and regular spraying, have been brought to mitigate these impacts; and, mitigating measures will continue to be implemented through the AF as to bring all sites into full compliance.

12. Supervision of current construction must be improved by the project to ensure proper application of the measures as recommended by the ESIAs/ESMPs, including restoration of cleared vegetation, cleaning, appropriate waste disposal and backfilling of ditches and excavation areas as soon as possible to prevent community members from injuries, among others. The supervision of the sites by qualified environmental safeguard specialists will be intensified to support the implementation of site-specific ESMPs/ESIAs, including compliance with the environmental obligations of the contractors. In the AF, the PIU will be requested to strengthen the site presence of environmental and social specialists. Since the new activities of the AF will increase the load of work and introduce new risks, it is important to improve environmental performance of the IDSP to prevent claims from the communities and potential issues at the sites.

13. The project safeguard team shall also ensure that groundwater analysis is carried out in the Lusitu project area to determine if the project has induced any impact on the groundwater, as some communities have complained of boreholes contamination. The PIU will also conduct groundwater awareness campaign in the area to address the health impact of ingesting contaminated groundwater to the affected communities.

14. The existing GRM of the IDSP project will be strengthened with the AF since it has not been operationalized yet. IDSP will build on existing community structures to ensure complaints arising during dam rehabilitation are registered and resolved. The Grievance mechanism will also need to be in place and communicate to the affected communities.

**Social performance under the parent project.**

15. Local communities experienced impacts ranging from loss of land, loss of crops and loss of access to agricultural land, within the IDSP footprint. The Resettlement Action Plans (RAPs) for the following sub-project sites under IDSP; 1.) Lusitu 2.) Musakashi 3.) Mwomboshi were approved and disclosed in 2016 on the Ministry of Agriculture website. A total of 1,572 Project Affected Persons (PAPs) were identified as being eligible for physical displacement, economic losses and in-kind compensation resulting from project implementation. As at December 2019, 421 households had been relocated into new housing units (Mwomboshi 211, Musakashi 103 and Lusitu 104). However, payment of compensation for economic losses incurred due to non-cultivation during the 2018/2019 and 2019/2020 cropping season is still outstanding. Therefore, as per government request IDA resources under this AF will be used to finance these compensations.

**Legacy dams**

16. The project will support the remediation of ten dams construction of which was supported by WRDP. At the time of closure of WRDP, several environmental and social legacies and issues of non-compliance with the Environmental and Social Safeguards policies (including dam safety) were identified. It was later agreed with GRZ that the remediation of these dams following the environmental and social safeguards policies will be implemented through the IDSP (parent project) and this AF through a two-phase approach.



17. During the implementation of the WRDP, GRZ prepared a local instrument named “Environmental Management Briefs” and a comprehensive “Environmental Management Plan” for eight dams (Chikowa, Nabowa, Kawikco, Kanyika, Nachibanga, Ndoni, Ngolongozya, and Makaba) which were approved by the Zambia Environmental Management Authority (ZEMA), but not cleared by the Bank. These instruments were not fully implemented in the construction or subsequent operation of the dams.

**Environmental impacts of the ten dams:**

18. The construction of the dams have caused direct, indirect and cumulative impacts in terrestrial and aquatic ecosystems (rivers and wetlands) and environmental degradation (soil erosion, vegetation loss, pollution issues) around the dams construction area, downstream areas and borrow areas. Also, the contractors left construction debris, waste and unrestored affected areas (small camps, accommodations, storage areas, etc).

19. An Environmental and Social Audit (ESA) has been prepared and completed to comply with the OP 4.01. This Environmental and Social audit identifies: i) the potential impacts that the remediation works could generate, ii) the current environmental and social legacy issues of the 10 dams, iii) defines actions and measures to consider for the ESMP for the 10 dams for mitigate, restore and compensate all the above impacts. The audit will be complemented by an additional ecological screening of the terrestrial and aquatic biodiversity which will be reported as a screening report. The screening report will determine whether any additional detailed assessment is needed. Once the designs and remediation measures are agreed and finalized the project will prepare a specific ESMP for each dam following the measures described in the Environmental and Social Audit. The results of the complementing assessments (if any) will be reported and described in specific biodiversity action plan (s) (BAP) for the specific individual dam(s) as described in the ESA.

**Social Impacts of the ten dams:**

20. Abbreviated Resettlement Action Plans (ARAPs) for six dams (Chibalashi, Chikowa, Kanyika, Katembula, Makaba and Nabowa) were prepared and approved by the World Bank. Cash compensations for affected people were completed as of March 2019, however, the process of land-for-land compensations is still ongoing. This requires the involvement of the local chiefs to identify and assign new plots to the PAPs. The Ministry of Water Development Sanitation and Environmental Protection (MWDSEP) has been leading consultations with local chiefs to secure alternative land for affected farmers. Under the AF, IDSP supported by MWDSEP staff seconded to the PIU will monitor implementation of the land for land compensation to ensure full compliance with approved ARAPs.

**Proposed activities to be implemented:**

21. This AF will (i) cost replenish and support the completion of ongoing works under IDSP and (ii) finance the implementation of Phase 2 of the remedial action plan for the ten WRDP dams. The main activities to be financed under Phase 2 are:

- Civil works to ensure sound structural and hydraulic performance of the dams and the safety of the downstream communities;
- Implementation of Environmental and Social Management Plans (ESMP) for each dam including social and environmental measures as identified in the Environmental and Social Audit (ESA) and subsequent biodiversity and ecological flow assessments;
- Supervision of the works and safeguards measures;



- Establishment of operation and maintenance arrangements with the local dam committees comprising people from the beneficiary communities and the MWDSEP. surveillance will continue during the implementation of Phase 2;
- Hand-over to dam committees, which consists of beneficiaries.

*Institutional Arrangements.*

22. For the completion of ongoing works under IDSP, there is no change in the implementaiton arrangements. The current Project Implementation Unit (PIU) housed in the Ministry of Agriculture, has been strenghtened with additional capacity to manage and oversee project implementation of both, activties under IDSP and the remediation of the ten dams.

23. For the implementation of Phase 2 for the ten dams, UNOPS will be responsible in coordination with the Government of Zambia (Ministry of Agriculture) to prepare: i) the designs for the remedial works, ii) the Environmental and Social Management Plan (ESMP) for each dam and the Biodiversity and Flow management plans as required under the ESA, iii) Emergency preparedness Plans (EPP), among others instruments required per the safeguard polices triggered. The ESMPs will include all measures described in the Enviromental and Social Audit which was prepared, consulted and disclosed before appraisal of this AF to ensure all current liabilities, impacts and risks are effectively remediated and mitigated during the implementation of the AF. The enviromental and social assessment will be done according to World Bank Safeguards Policies and will include also measures to mitigate cumulative impacts caused by these dams on the environment and/or people. The Government of the Republic of Zambia through their contract with UNOPS will be responsible to implement all safeguards plans and agreements for environmental and social management as described in this ISDS.

24. UNOPS will support the GRZ on the development and implementation of surveillance plans and EPPs for the ten dams, acoording to the OP 4.37. The EPPs will make recommendation to ensure safety of the dams during the rainy season, such as keeping the reservoir level low to create storage capacity during flood events, community awareness on dam safety and community participation in preparing the EPPs. These actions will be undertaken in line with approved Environmental and Social Management Plans (ESMPs) that will include training of the local leaders who will manage and operate the dams to ensure safety and ecological flows and implemented within existing project footprints. The project will also ensure to obtain the necessary environmental licenses needed to initiate the remediation works.

25. The estimated timeline and proposed plan for the preparation of the safeguards instruments is presented below.

Instruments	Dams	Timeline
ESMP	All	July 15, 2020
Stakeholder Engagement Plan	All	June 15, 2020
Biodiversity action plan (for screened sites not requiring detailed assessment)	All	June 30, 2020

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<b>Biodiversity and ecological management plan (for screen sites requiring detailed assessment)</b>	Preliminary <sup>4</sup> : Katembula, Chibalashi, Makaba, Nabowa	July 30, 2020
<b>Dam safety plan</b>	These will be defined based on the results of the ongoing field works by UNOPS	June 20, 2020

**2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area.**

26. **Environmental Impact** will be associated to a) the investments of the current parent project which includes construction of dams and irrigation schemes and b) the remediation works of the ten WRDP dams.

**A. Parent project**

27. Under the project, the construction of the dam and three irrigation schemes will permanently affect rivers and streams, hydrological regimes and transform lotic ecosystems into lentic areas. These reservoirs can also become sources of water borne diseases due to the presence of lentic waters. All sub-projects have prepared ESIAS/ESMPs and based in the current project performance, the PIU needs to strengthen its implementation and monitoring.

**B. Legacy dams**

28. As the remedial works will take place largely within the existing footprint of the dams, long term environmental impacts will include the conversion of river lotic ecosystems into regulated lentic impoundments; also the flooding of natural habitats or its conversion in borrow pits, quarries, camp areas, spoil areas, waste disposal sites, others. A long term impacts might be related to increasing water borne diseases due to the presence of lentic waters (malaria, dengue, Tse-Tse, others). On the positive side, some areas that suffer from droughts, these reservoirs will provide water not only to people but also attract several aquatic habitat dependent species (birds, macroinvertebrates, amphibians, among others).

29. The GRZ with the support of UNOPS, will prepare ESMPs and and update ARAPs (where necessary) under this AF which will be consulted, disclosed and fully implemented to address all direct, indirect and cumulative impacts derived from the AF activities and from the remediation plans for the dams.

**3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.**

30. The AF will finance completion of works under the parent project and the remedial measure on ten existigng dams. Hence, no alternatives have been considered in this AF.

31. The remediation works planned at each of the ten existing dams, it is not expected to include additional land of the current dam footprint to reduce risks associated with resettlements and environmental impacts. However, some areas for temporary access, borrow material, construction of housing for workers and storage areas will be

<sup>4</sup> Each dam will be visited and screened according to the screening study Terms of Reference and checklist. Where determined by the screening study additional investigation and actual biological sampling and field data will be collected as a basis for defining mitigation and monitoring requirements in the Biodiversity Action Plan.

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needed and at this moment their location are not known, but these will be assessed in the ESIA's.

**4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.**

32. The Ministry of Agriculture have been implementing the IDSP since 2012 through a Project Implementation Unit (PIU) which has since built experience in implementing World Bank financed projects and safeguards instruments. The PIU has currently only one full time Safeguard Specialist which covers both environmental and social aspects of the project and this professional is in charged with the responsibility of supervision the application and compliance of the approved safeguard instruments (ESMF), the ESIA's/ESMP and RAPs for the project activities. At the regional level, community liaison officers working closely with IDSP have been participating to ensure safeguard compliance but they need further training and enhanced support from the PIU.

33. Moving forward with the AF, the IDSPPIU will enhance the supervision of existing and new project activities; the consultant engineering firm will be present at each construction site with environmental/health and safety professionals and the contractors will be given service orders to comply with the agreed ESMP for the works.

34. Furthermore, for the ten legacy dams, the IDSP PIU will coordinate with the UNOPS for the implementation of the remedial measures on the dams. UNOPS will deploy full-time one social and one environmental safeguard specialist to support and oversee the implementation of the measures identified in the ESMPs and the ongoing implementation of ARAPs (land-for-land compensation) in the project areas.

35. The Environmental and Social Audit requires the preparation of an ESMP for each dam and i) the inclusion of measures and actions for the prevention, mitigation, remediation of direct, indirect and cumulative impacts caused by the legacies connected to each dam and the new potential impacts by the proposed remediation works, ii) capacity building in environmental management of dams, iii) assessment and preparation of biodiversity and ecological flow plans, iv) a budget for the costing of prevention, mitigation and compensation measures and hiring of environmental and social specialists to support the project supervision and monitoring, the hiring of biodiversity experts for the BAP, iv) a monitoring and evaluation system for safeguard impacts and measures related to safeguard policies, among others. Environmental and social staff will be covered under UNOPS contract. Budget for remediation of the existing legacies (construction debris, hazardous wastes, completion of broken bridges) will be covered by the contractors' contract.

**5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.**

36. GRZ through the IDSP PIU have coordinated the consultation of the Environmental and Social Audit before appraisal, prepared for the assessment of risks and impacts of the proposed new activities to be supported with the AF. A summary of the Environmental and Social Audit was translated into local language and made available to the communities and districts before consultations. IDSP PIU performed consultations with relevant stakeholders at the national and local level, including representatives of: Ministry of Water Development, Sanitation and Environmental Protection (MWDSEP) and District officials from water (DWO), Zambia Environmental Management Authority (ZEMA), Ministry of Agriculture and District Irrigation Officers, Ministry of Land, Affected communities and dam committees at each site, district and provincial officers.

37. The results of the consultations have been included in the Environmental and Social Audit report. There are

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several measures and actions requested by the communities, local leaders and officials from the districts consulted among these: i) provide training for the proper operation of the dams, ii) clean up the areas and complete small works to reduce risk to communities (crossing paths along channels, dams, etc). These measures and actions have been included in the ESA and they will be included in the ESMP and remediation plans for the dams in order to avoid, mitigate, remediate and compensate current risks and impacts present in each of the legacy dam.

**B. Disclosure Requirements (N.B. The sections below appear only if corresponding safeguard policy is triggered)**

38. The Environmental and Social Audit (ESA) has been completed and consulted and disclosed at the local level between March 23-28, 2020. The final ESA will be disclosed in the Ministry of Agriculture IDSP project site and the World Bank website.

**C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting) (N.B. The sections below appear only if corresponding safeguard policy is triggered)**

**The World Bank Policy on Disclosure of Information**

Have relevant safeguard policies documents been sent to the World Bank's Infoshop?

Yes, April 17, 2020.

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes, consultation with local stakeholders were held in four dam sites Ngolongozya, Makaba, Katembula, Chibalashi. The Environmental and Social Audit summary was translated into local language and disclosed at these four project sites between Mach 23-28, 2020. Consultations were affected due to the COVID19 pandemic and insecurity issues in the rural areas. Final ESA was disclosed on the IDSP project webpage of the Ministry of Agriculture website on April 17, 2020.

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### All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Yes

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

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