



# Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 04-Dec-2019 | Report No: PIDC26485



**BASIC INFORMATION**

**A. Basic Project Data**

Country Kazakhstan	Project ID P170187	Parent Project ID (if any)	Project Name North Aral Sea Development and Revitalization Project (P170187)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date Dec 07, 2020	Estimated Board Date Mar 01, 2021	Practice Area (Lead) Water
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance	Implementing Agency Ministry of Ecology, Geology and Natural Resources (Committee of Water Resources)	

**Proposed Development Objective(s)**

The Project Development Objective (PDO) is to improve water resources management in NAS-Syr Darya basin and promote sustainable natural resources based economic activities in Kyzylorda region.

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

**SUMMARY**

<b>Total Project Cost</b>	190.00
<b>Total Financing</b>	190.00
<b>of which IBRD/IDA</b>	161.50
<b>Financing Gap</b>	0.00

**DETAILS**

**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	161.50
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**Non-World Bank Group Financing**

Counterpart Funding	28.50
Borrower/Recipient	28.50



Environmental and Social Risk Classification

High

Concept Review Decision

Track II-The review did authorize the preparation to continue

Other Decision (as needed)

## B. Introduction and Context

### A. Country Context

- 1. Kazakhstan suffered a major economic downturn in 2015-16, coincident with a precipitous fall in global oil prices, deep recession in Russia and slowdown of the Chinese economy.** Annual GDP growth slowed to just above 1 percent in each of 2015 and 2016, from an average of about 6 percent between 2010 and 2014. A major devaluation of the Kazakhstan Tenge helped stabilize the economy but also lowered incomes and increased poverty. The economic downturn spilled over to the financial sector in 2017, requiring significant intervention. Also, credit to the economy has been stagnant since 2015, reflecting long-standing legacy issues in the banking sector which have not been addressed adequately.
- 2. Significant government interventions were able to ward off a full-blown economic crisis and maintain social stability.** The government stepped in and provided substantial support to systemically important domestic firms to maintain employment and income of most vulnerable people. Since then the state's footprint in the economy has expanded, hindering a genuine private sector growth. The long-term growth rate has started to slow down. Although real GDP growth recovered to over 4 percent in 2017 and 2018 - due to rising oil prices and production from a new Kashagan oil field, in the medium-term the economy risks being trapped in 3.5 – 4.5 percent p.a. growth environment. This is well below the economy's past growth performance and government's long-term growth target. The "lower for longer" prospect would risk delaying the country's long-term aspiration to be among the most developed economies.
- 3. Kazakhstan has achieved large reductions in poverty over the past two decades.** The poverty rate, measured in internationally comparable terms (US\$5.5-a-day in 2011 purchasing power parity terms, a definition recently introduced by the World Bank for middle-income countries like Kazakhstan), fell from about 36 percent of the population in 2006 to 6 percent in 2013, driven primarily by rising income from wage employment. Growth over the decade to 2015 was pro-poor with the poorest 40 percent of the population benefiting more from consumption growth than people in the top income quintiles.
- 4. Nevertheless, the progress achieved in poverty reduction remains fragile and has fluctuated recently.** The share of the population in poverty doubled from 5.8 percent in 2013 to a peak of 12.2 percent in 2016, corresponding to an increase of about 1.2 million people. The economic downturn in 2015 was particularly hard on the most vulnerable households. Consumption fell for the bottom 40 percent by more than the top 60 percent, leading to slightly worse inequality in 2015 and 2016. The recent increase in poverty highlights both the risks of a growth strategy that relies too strongly on oil exports and the extent to which a lack of economic diversification leaves all



regions vulnerable, regardless of their economic structure. Poverty reduction resumed in 2017, falling to around 8.5 percent due to renewed economic growth.

5. **The main challenge from inclusion perspective are the persistent regional and rural-urban disparities.** Both non-monetary and monetary measures of poverty are higher in rural areas and specific regions, where access to basic services is substantially lower. Predominantly rural regions have lower educational attainment, lower average incomes, poorer access to clean water and sanitation, substandard heating, poor local roads, and higher poverty rates. These regions also tended to suffer larger increases in poverty in 2015-16. In rural areas, the poverty rate rose from about 9 percent in 2013 to 17 percent in 2016, corresponding to an increase of about 646,000 more poor people.
6. **The most vulnerable regions in Kazakhstan, such as Kyzylorda, experienced more than tripling in poverty rates between 2013 and 2016.** The main economic activities of Kyzylorda region include agriculture, mining (oil), and urban-based businesses. At least 794,000 people inhabit this area and they are primarily engaged in agriculture, the vital role of which in delivering growth and reducing rural poverty has recently been underlined by the Kazakhstan Government. Main agricultural activities include irrigated rice production, cattle growing, and fisheries. Together with forestry and woodlots, tourism and recreational activities they form the foundation for potential economic growth of the region.
7. **The Government has identified regional development and urbanization as a key policy to pursue in the coming decades.** This was demonstrated through the Kazakhstan Strategic Plan 2025 listing “Strong Regions and Urbanization” as one of the key pillars of the Strategy. One of the main goals of the reform is to increase the country’s GDP through economic growth of the regions and effective use of local potential. The focus of the program is to increase competitiveness, urbanization and connectivity, as well as to improve basic standards of living in all the 14 regions of Kazakhstan. Focus on regional priorities is also reflected in the Kyzylorda Regional Development Program 2016-2020, which is closely linked country-wide program, currently under implementation. A new Kyzylorda Regional Development Strategy 2025 is being developed and expected to be finalized by end of 2019. The program will reflect a new approach to territorial development and aims at raising the quality of life in the cities and remote areas, as well as stimulating the development of the regional economy.
8. **The increasing vulnerability of Kazakhstan to climate change, combined with the depletion of fossil fuel resources and the future needs for growth impel diversification of the economy.** The average annual temperatures across the region have increased since the mid-20<sup>th</sup> century by 0.5°C in the south to 1.6°C in the north. In Central Asia, impacts range from melting glaciers in upland areas to droughts and floods in the lowlands. The increasing unpredictability of climate will impede prosperous development of different sectors of the economy in Kazakhstan and put at higher risk local populations. This is a critical aspect for Kyzylorda region which produces 90 percent of Kazakhstan’s rice, a water-intensive crop sensitive to temperature fluctuations. The challenge, therefore, is to enhance preparedness to deal with the impacts of climate change and other region-specific environmental vulnerabilities, especially those affecting the poor.

## B. Sectoral and Institutional Context

9. **The Aral Sea drains the water from a large, climatically diverse watershed and is a powerful reminder of the importance of sustainable water resources management.** The Aral Sea basin occupies parts of Afghanistan and Kazakhstan, and most of the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. The basin ranges from vast desert plains in the west, to the glacier-dominated Pamir and Tien Shan mountains in the east. The high mountain areas are humid and account for the high volume of runoff in the Amu Darya and Syr Darya which run



from the mountains through the desert to the Aral Sea. The Syr Darya rises in two catchments in the Tian Shan Mountains in Kyrgyzstan and eastern Uzbekistan—the Naryn River and the Kara Darya, which converge in the Uzbek part of the Fergana Valley, then flows for some 2,212 km west and north-west through Uzbekistan and southern Kazakhstan to the remains of the Aral Sea. The Syr Darya drains a catchment area of over 800,000 square kilometers, but not more than 200,000 km<sup>2</sup> contribute significant flow to the river. Under natural conditions, the Syr Darya is a summer flood river fed by the melting of mountain snow and glaciers in summertime. This has shaped the Syr Darya flood plain, lakes, and the size of the Aral Sea.

- 10. During the soviet period, the desire to significantly increase agriculture production in the lowlands of the basin, has led to the construction of large-scale storage and irrigation infrastructure and massive diversion of water away from its natural course.** Central Asia’s agricultural expansion and population growth since about 1960 resulted in increased diversion of water from the Aral Sea Basin rivers and the development of a massive agricultural complex in Central Asia, while at the same time degrading the ecosystem and environment of the region. Along its course, the Syr Darya irrigates the most productive agricultural region in Central Asia and supplies several towns with water. Massive expansion of irrigation canals to water cotton and rice fields in the middle and lower Syr Darya occurred during the Soviet period. The harnessing of the water resources of the Tian Shan mountain range during Soviet times through great storage schemes designed for irrigation in the Uzbek and Kazakh lowlands has altered the natural water flow. The annual flow is typically around 35–40 billion m<sup>3</sup>/year at the Toktogul Dam in Kyrgyzstan, 15–20 billion m<sup>3</sup>/year at the Shardara Dam in Kazakhstan (the Shardara reservoir is shared with Uzbekistan, with a total storage of 5.2 billion m<sup>3</sup>), then dwindling to as little as 3–4 billion m<sup>3</sup>/year at the NAS.
- 11. Increased diversion of water towards irrigation have led the level of the Aral Sea to decrease by more than 20 meters since 1950, causing the sea to separate into two water bodies, the Southern Aral Sea (SAS) and the Northern Aral Sea (NAS), and generating significant environmental and public health challenges.** The extensive development of irrigation since the 1950s is associated with severe environmental problems, most notably the desiccation of the Aral Sea, which has lost up to 90 percent of its pre-1960 volume. As a result of increased diversion and decreased inflows, the SAS has split into western and eastern basins, with the eastern part dry in most years. The uncovered dry areas are largely comprised of desertic, unpopulated sandy seabed, resulting in dust and salt storms and impact on human health and agricultural lands. The population living around the sea suffers acute health problems. Some of these are direct consequences of the sea’s recession (e.g. respiratory and digestive afflictions, and cancer from inhalation and ingestion of blowing salt and dust and poorer diets from the loss of Aral fish as a major food source). All these challenges are further aggravated by an aging infrastructure in the basin and its management is increasingly compromised by the fact that the monitoring capacity of crucial environmental variables is declining.
- 12. The Syr Darya basin complex water tradeoffs: the energy-poor yet water-rich upstream countries are keen on using water for hydropower production in the winter, while the downstream states consumptively utilize water in the summer irrigation season.** About 22 million people depend on irrigated agriculture for their livelihoods in the region, and 20 to 40 percent of the economic output of these countries is derived from agriculture, most of which is irrigated. During soviet times, the energy-rich downstream countries (Uzbekistan, Turkmenistan, and Kazakhstan) traded winter gas against the upstream countries (Kyrgyzstan and Tajikistan) summer irrigation water, thus allowing both sides to satisfy their respective energy and irrigation needs.
- 13. Following the demise of the Soviet Union, water sharing and management on the Syr Darya basin became more contentious despite the emergence of regional water management frameworks.** With the institutional breakdown of a unifying hand in river basin management, Kyrgyzstan, the upstream state that controls Toktogul,



the largest reservoir in the Syr Darya basin, opted for a hydropower regime, because of lack of other energy resources. Kyrgyzstan's hydropower is required most in winter. So great water masses are released downstream during a season when they are not needed for irrigation, which peaks in summer. Starting from 1992, the Interstate Commission for Water Coordination of Central Asia (ICWC) developed a common, but incomplete strategy for transboundary water management for the Aral Sea basin, determining water allocations and reservoir operations in the Amu Darya and Syr Darya basins. The International Fund for the Aral Sea (IFAS) was established in 1993 and an interstate council was created to coordinate and manage financial resources and programs in the field of ecological and socioeconomic development in the Aral Sea region. Declarations on water sharing were signed in 1995 (Nukus) and in 1997 (Almaty). In the Ashgabat (Turkmenistan) declaration of April 1999, the five heads of states again expressed their concern on the quality of life in the Aral Sea region. They acknowledged the need for an integrated and joint regional strategy based on an ecosystem approach and integrated water management. IFAS is coordinating and managing financial resources and programs in the field of ecological and socioeconomic development in the Aral Sea region.

- 14. The NAS-Syr Darya Basin is at the heart of the development of Kazakhstan's Kyzylorda region, one of the country's poorest administrative regions.** The Kyzylorda region, with the population of 794,000, is on the third place among the poorest regions in the country. While the region's industry structure is dominated by mining sector with a focus on oil production, 13.5% of region area is occupied by agricultural land - of which 70% pastures, 6.5% sown area, 23.5% land for private farming. Agriculture is one of the major water users, especially for rice production, yet, environmental flows to protect the river, the delta and lakes ecosystem, is by far the largest use of water. On average, the water consumption of agriculture sector in Kyzylorda region is around 3.5-4 km<sup>3</sup> a year or almost 1/3 of the annual River flow. Estimates suggest that adoption of modern agricultural techniques and water efficient technologies such as an alternate wetting and drying (AWD) and/or system rice intensification (SRI) could increase the region's crop yields by over 20 percent by 2030, while simultaneously reducing water use in the range of 20-30 percent. While rainfed crop production will face significant yield risks, conjunctive surface-groundwater management and modernization of irrigation holds opportunities for productivity increase, private sector involvement, and climate resilience. Through strategic alignment of national policies, regulations and, coordination and strengthening of key Kyzylorda regional sector institutions, it is possible to enhance productive and resilient use of water resources.
- 15. Kazakhstan's long-term economic development, including its water, food, and energy security, could depend to great extent on how effectively it manages its water resources, especially under increased pressures from climate variability, economic growth, and population expansion.** Economic losses related to water risks are estimated to amount to US\$ 6-7 billion a year by 2030, while the cost of transition to a water resource efficient economy remains smaller at about US\$ 0.5-1 billion a year (OECD Study on Water 2015). On the one hand, continuing population growth is expected to significantly increase demand for water services by 2050. On the other, based on the analysis of Kazakhstan Water Resources Committee (CWR) of the Ministry of Ecology, Geology and Natural Resources (MEGNR) the climate change is expected to make Kazakhstan "drier" on average and will lead to a decrease of surface water levels.
- 16. In the absence of a strong basin-wide framework for action, Kazakhstan has taken unilateral but successful measures towards the partial recovery of NAS in Kyzylorda region through a series of connected and well-planned infrastructure investments financed by the Bank's SYNAS project.** The World Bank supported the Syr Darya Control and Northern Aral Sea (SYNAS) Phase I project (US\$85 million, 2001–2010), which implemented a targeted set of investments along the Syr Darya, notably by building an earthen dike, the Kok-Aral dike, to restore the NAS. The SYNAS project increased NAS volume by 68 percent (as the Kok-Aral dike raised NAS from 38 m to



42 m +Baltic Sea Level [BSL]), reduced its salinity by 50 percent, increased fish production per year by more than three times, reduced the distance from NAS to Aralsk, former port city and harbor on the cost Aral Sea, from 75 km to around 20 km, improved flora and fauna, and public health, contributed to doubling the number of residential houses in project adjacent areas, improved the safety of Shardara dam, and reduced water losses along lower Syr Darya.

- 17. However, major parts of the basin and delta are still disconnected from the hydrological system and losing their ecological function of spawning areas for many fish species, and the wetland hayfields no longer produce hay and sustain wildlife.** In this regard, the future of the region is threatened by a diversity of problems that require a complex and holistic issue-solving approach. Poor and decreasing soil fertility, salinization, still limited economic development, salt winds from the dry seabed, overgrazing and desertification result in a fragile ecosystem. Climate change is expected to affect the timing of the discharge from snow- and glacier-melt, which may further complicate the water balance. Declining water resources and high vulnerability to climate change will impose significant costs in a “business as usual” mode. Most notably, it will restrict the potential for agricultural development and undermine the economic viability of some rural areas.
- 18. The Kazakh government is reforming its policies and institutions in its water resources sector.** This has recently led to significant reorganization by the creation of the MEGNR to enhance the sector’s performance. CWR is the highest national authority within this Ministry, charged with development, monitoring, operation and maintenance of water resource infrastructure and bulk water distribution. Tasks on water resources management and development are assigned by territory and divided by the regional water management organizations – Kazvodkhozes. The basin authority for NAS-Syr Darya basin is called “Aral-Syrdarya Basin Inspection” and is responsible for the implementation of overall basin policy. It is also the licensing agency for the bulk water users. Groundwater and soil monitoring in the irrigated areas is assigned to the CWR’s regional “Hydro-Amelioration Expedition”.
- 19. Decentralization has resulted in the transfer of more power to regions, also in respect to managing their water resources.** For Kyzylorda region, it is important to establish a multi-sectoral platform that can draw together multiple stakeholder representatives from different sectors to make decisions. Such a platform can harness the benefits of collaboration in tackling planning problems that span more than one sectoral jurisdiction and therefore require a coordinated response in policy formulation and implementation. This will require close cooperation and planning among the Regional Administration and national institutions such as MEGNR; CWR, including the regional Hydro-Amelioration Expedition; Fishery and Forestry Committee; Kazhydromet; the Ministry of Agriculture; and the Committee of Tourism Industry of the Ministry of Culture and Sport.
- 20. There is also a strong need for the implementation of principles of integrated water resources management to ensure the participation of all stakeholders in the management of water resources in the Kazakhstan part of the basin as well as to further the goals of basin-wide management and transboundary initiatives.** Even in the absence of a robust integrated water management framework in the overall NAS-Syr Darya basin, it is critical to support ongoing institutional strengthening activities at the regional level, including strengthening of technical and management capacities, infrastructure and information exchange. There are hydrologically important areas of the basin that are poorly monitored due to the inadequate monitoring network. Many monitoring stations are poorly equipped, some have not been operational for quite substantial periods of their history, and others are not equipped with modern instruments that ensure more precise data collection and continuous and timely transmission of data. It would also be important to provide options for decision-support to large, typically non-technical user bases, making sure data is collected through user-friendly interfaces, with simple and clear outputs.





### C. Relationship to CPF

**21. The proposed project is fully aligned with and directly contributes to the draft CPF supporting the CPF Focus Area 1: Promoting Inclusive Growth and Focus Area 3: Securing Sustainable, Resilient and Low Carbon Growth.**

Within the Focus Area 1, the project is aligned with the objectives two - promoting market-led agriculture growth and three - strengthen connectivity infrastructure for regional services delivery for regional integration (promoting inclusivity i.e. support bottom 40%). Within the Focus Area 3, the project is aligned with the objective two: preserving and restoring natural capital, with the project's objective for further restoration of the critical ecosystem, promotion of green development and support to the rural livelihoods through strengthening regional water and environmental planning, management and coordination. The project targets one of the most impoverished regions and will support planning for regional development at both central and oblast levels in an inclusive manner with multi-stakeholder involvement. The planning would support data driven decision-making on a wide range of issues relating to environmental watershed/groundwater usage, environment, fisheries, agriculture, and eco-tourism and support services. The World Bank Group's Twin Goals of ending extreme poverty and boosting shared prosperity are front and center in the project design. The project brings a strong focus on an economically suffering region and is directed to Kazakhstan's most vulnerable area. By focusing on integrated water resources management (IWRM) and targeting activities at the watershed/basin level, the project intends to increase the beneficiary communities' resilience to climate change-related droughts and floods.

## PROPOSED PDO/RESULTS

### A. Proposed Project Development Objective(s)

- 22.** The Project Development Objective (PDO) is to improve water resources management in NAS-Syr Darya basin and, the planning and development of natural resources based economic activities in Kyzylorda region.
- 23.** Improvement of water resources management will include the increased NAS storage capacity and reduced salinity level, restoration of wetlands below the Kok-Aral dike and, the development of a platform in Kazakhstan NAS- Syr Darya Basin for data collection and analysis on water balance, allocations and management. The planning and development of natural resources based economic activities will involve the sectors of fisheries, irrigated agriculture, livestock, and tourism in Kyzylorda region.

### B. Key Results

1. Cubic meters of water of additional NAS storage capacity;
2. Reduced NAS salinity level (% samples that meet the environmentally admissible range);
3. Area under improved sustainable land and water management practices;
4. Information platform (in NAS Syr Darya basin) is operational and used for decision making;
5. Jobs created due to the development of fisheries and afforestation activities and promotion of sustainable eco-tourism in the region.
6. Jobs (for women) created due to the development of fisheries and afforestation activities and promotion of sustainable eco-tourism in the region.

## PROJECT CONTEXT





## A. Concept

### 1. Description

- 24.** The project will improve climate resilience in Kyzylorda region by providing sustainable water and natural resources based economic development opportunities to its inhabitants. Project activities would facilitate economic diversification and regional prioritization, further restore the critical ecosystem around the NAS, promote green economy development and support rural livelihoods and small and medium enterprise (SME) development. The project reinforces the positive experience of reversing the decline of the NAS. By supporting sustainable management through water use efficiency and climate-smart farm practices, the project will help build Kazakhstan's regional development example and contribute to addressing a global environmental crisis.
- 25.** The project consists of three components: (i) improving water infrastructure and hydrological regime in the NAS-Syr Darya basin and setting essential foundations for both environmental restoration and socio-economic development in the region, (ii) supporting sustainable economic, social and environmental activities in Kyzylorda region through a set of catalytic investments, and (iii) improving the information base and IWRM, regional planning and, the project management.

#### **Component 1: Improving water infrastructure and hydrological regime in NAS-Syr Darya basin (US\$120 million)**

- 26.** The objective of this component will be to improve water resources infrastructure for both environmental restoration and broad-based economic and social development of the NAS-Syr Darya basin, and to support modernization of its management. The component comprises most of the project construction interventions.

**1.1. Improvements in NAS storage capacity and salinity level:** A two-level sea system will be created by raising the level of water in the Gulf of Saryshaganak. It would be accomplished by placing a new dike at the Gulf's mouth where it is connected to the main part of the NAS and diverting part of the flow of the Syr Darya northward via a canal while maintaining the regulated water level in the Gulf at around 46 BSL reference point. This is expected to bring the water edge closer to Aralsk city and will contribute to the development of fisheries and improvement of climate conditions in the area. The envisaged water levels would also require dredging a canal to realize a navigable access to Aralsk harbour for ships up to a draft of 2 m. The design will pay particular attention to the climate resilience measures to risks.

**1.2. Stabilization of lower NAS wetlands and environmental value creation:** This subcomponent will seek to reduce the direct impact of salt and dust blown from the dry sea-bed on livelihoods, agriculture areas and ecosystems. The proposed set of investments will aim at creating an artificial delta of the Syr Darya by constructing branch canals and a wetland system downstream of Kok-Aral dike. A fish ladder will be constructed, allowing fish to migrate back to the NAS. A green belt of about 70 km length and 200-1000 m width will be set up along the east coast of the NAS and settlements. Water will also be supplied through a collector and drainage network from the left-bank of Kazalinsk irrigation area. The afforestation in the network of canals will help to fix the soils and establishing a natural cover, harboring additional wildlife species.

#### **Component 2: Supporting sustainable economic, social, and environmental activities in Kyzylorda region (US\$ 60 million)**



27. The objective of this component will be to maximize sustainable economic, social, and environmental development utilizing restored natural resources. This component reflects the holistic approach in support of Kyzylorda regional economy. The Component will also support water saving technologies to ensure that the overall impact of the Project on water balance is positive. The component is aligned with the government's national framework to reduce climate risks and improve resilience, by enhancing multi-sectoral coordination, supporting the development and dissemination of best practices across areas, and enabling opportunities for climate resilient jobs. It includes a set of catalytic investments targeting economic, social and environmental activities in the following areas:

**2.1 Fisheries:** This subcomponent will support investments in hatcheries, habitat creation, lake resources management, monitoring health of fish population, restocking signature species, brine shrimp (*Artemia salina*) farming in saline areas, fish processing, value chain support, and maximization of private investment, including fish farming. Support to hatcheries development will be of critical importance to speed up the restoration of the fish population and high-value farming species, unlocking current constraints for aquaculture development (i.e. lack of fingerlings of large variety to meet the private sector demand) in the NAS and delta lakes.

**2.2 Tourism:** The NAS area is becoming more and more attractive as a tourist destination. The project plans to support i, investments, construction of ethno-village and hiking trails, improved regional promotion and connectivity. Construction and equipment of a visitor center, coordinating and facilitating research and scientific applied studies will be undertaken as well as small-scale infrastructure investments and support to local communities and tourism entrepreneurs. Sustainable hunting industry can also be supported, including breeding of wild animals, establishment of Safari Parks, farming of quails and pheasants.

**2.3 Green-belt and afforestation:** The project will support territorial investments including the plantation of Saxaul (*Haloxylon ammodendron*) and Tugay vegetation (a mixture of species, usually dominated by poplars, especially *Populus euphratica*). The project will support the establishment of shelterbelts for canals and service roads for protection purposes in the region, which will reduce roads and canals erosion (i.e. wind, rain, snow) while creating green corridors, shelter for wildlife and (sanitary) woodlots collection areas for local population. This sub-component will also be complemented by GEF financed Kazakhstan Landscape Restoration Project (P171577), that is proposing farmer-led dryland agroforestry and landscape restoration, including the afforestation of areas around the dry NAS seabed within the Kyzylorda region.

**2.4 Crops:** Irrigated agriculture is one of the main water consumers in the basin and, hence, it is expected that this sub-component will lead to considerable reduction of water consumption. It will be achieved by increasing productivity of rice farmers, while reducing the environmental footprint of the prevailing production practices. The project will support an integrated package of investments and technical assistance to help farmers adopt AWD/SRI technology on a wide scale. This will contribute to rice farmer's resilience to climate change—exacerbated by water shortages. Where feasible, a shift away from rice production to less water-thirsty crops will be promoted. The project will promote multi-purpose use of groundwater building on positive results from implemented pilots in the Kyzylorda region, such as the oasis irrigation system. Such systems would improve the efficiency of irrigated agriculture in the region and enhance the condition of existing lands, improve the living standards and social environment for the population.

**2.5 Livestock:** Regarding livestock, the project will promote climate-smart pasture management and animal husbandry, linking the project activities with the National Livestock Development Program, which is being



supported by the proposed IBRD-financed Sustainable Livestock Development Program for Results (P170365), and, therefore will enhance the agricultural sector's (and farmers') resilience to climate change-related droughts. The project will also support investments in sustainable hay harvesting, ground water irrigation for remote pastures to reduce livestock pressures, development of irrigated fodder for winter feed.

**Component 3: Improving the information base and water resources management, regional planning and, the project management (US\$ 10 million)**

**28.** The objective of this component will be to ensure that a broad-based development program supports smart multi-purpose data and information gathering, management and institutional improvements and physical investments in the NAS-Syr Darya basin and Kyzylorda region. It will also support the implementation of principles of IWRM in the Kazakhstan part of the basin as well as plugging in the gap for basin-wide management and transboundary initiatives.

**3.1. Supporting data for decision making:** The component will include the development of a platform in Kazakhstan NAS- Syr Darya Basin for clear analysis and informed dialogue on water balance, allocations and management, as well as operational scenarios with no appreciable harm to riparian countries. The platform through national sector and basin organizations will support the collection and dissemination of data (in-situ, earth observation, surveys), the development of modeling tools and decision support framework, and knowledge products. This will also enable the Government to enhance climate risk information (collect and aggregate data) to guide climate-resilient and risk-informed planning and ensure that information on climate and disaster risks and subsequent actions are available to respective sectors.

**3.2. Multi-Stakeholder planning:** This activity will support Kyzylorda regional planning activities through the establishment of a multi-sectoral platform (an institutionalized body) drawing together multiple stakeholder representatives from different sectors and basin organizations for analysis, consultation and planning. They are convened to harness the benefits of collaboration in tackling planning problems that span more than one sectoral jurisdiction and therefore require a coordinated response in programs and its implementation. Project activities with intersectoral dimensions will be supported by this planning framework.

**3.3. Project Management, Monitoring and Evaluation:** This activity will support the project management and implementation arrangements and results-based monitoring and evaluation program.

**29. The Project will provide climate change co-benefits derived from:** (a) adaptation - by i) incorporating climate-related information into hydro-meteorological forecasting; ii) assessing total water availability; iii) promoting and strengthening innovative water resource management practices to increase resilience to climate change-exacerbated droughts and floods; iv) improving dam operation and planning, groundwater monitoring, conservation, and loss reduction measures; as well as v) expanding the use of protected agriculture and drought/heat resistant measures to reduce the drought and flood risk and (b) mitigation - by promoting water use efficiency and demand management for irrigation, such as climate smart agriculture practices, and through the afforestation activities. Also, the entire design of new water infrastructure (component 1) will be developed with climate resilience in mind.

**30. Social Inclusion and Citizen Engagement (CE):** The project will explore mechanisms through multi-stakeholder planning for increasing the level of CE, inclusion, and ownership among beneficiary communities in particular with regards to Component 2 activities. A detailed CE approach will be proposed, which will include: (a) meaningful



consultation and feedback mechanisms, such as focus groups, satisfaction surveys and grievance redress mechanisms; (b) participatory mechanisms, such as community scorecards, participatory planning and monitoring; (c) citizen-led mechanisms, such as community management or user management committees, basin level organizations. A grievance redressal mechanism (GRM) will be elaborated during the preparation phase of the project.

**31. Gender.** During preparation a gender assessment as part of social assessment will be carried out to identify gaps and constraints. A gender strategy with an action plan will be prepared. The gender assessment will also include a gender-based violence risk assessment. The action plan will include measures to ensure that the specific needs, concerns, and aspirations of women in the project area are considered and addressed, and to enable their effective participation in the project. The project will include indicators in results framework to monitor the outcomes from the proposed actions.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

#### Summary of Screening of Environmental and Social Risks and Impacts

The project is expected to contribute in environmental and social benefits to the North Aral Sea (NAS) by restoring critical ecosystem and supporting rural livelihoods.

Modification in water flow regime (both quantity and quality) may affect large area. The project could also result in adverse environmental impacts due to its construction activities and operation, being undertaken in an area with complex hydro-ecological systems. The modified flow regimes during project operation and scale of construction particularly dike, canals, collector drain may result in adverse impacts on protected areas, biodiversity, and human health. Possible downstream impacts due to diversion of part Syrdarya flows towards Aralsk could result in change in salinity levels in the delta compounded with potential climatic variability, impacts on the Tugay forests in the Syrdarya floodplain and will require in-depth analysis.

For investments under component 1, where prefeasibility and feasibility level studies are already available under SYNAS-2 including an EIA, the project will update the existing study and prepare an ESIA covering issues under the Bank’s new ESF. For targeted investments under component 2, location and scale of these interventions are unknown and will be defined or incorporated into the final project design during the implementation. The client will therefore prepare an environmental and social management framework (ESMF) for these investments. Following preparation of ESMF at project appraisal, during the project implementation, the project will prepare ESMPs for all investments under project component 2. Both ESIA and ESMF reports will be prepared, consulted and disclosed prior to project appraisal. As part of the ESIA study, the project will also prepare a biodiversity management plan to manage issues related with biodiversity protection and management.

Social risk is rated as High and related mainly to resettlement, access restrictions, labor management, and exclusion. The risk will be reassessed at the appraisal stage once activities and impacts are better defined. The construction of a new dike, canals and creating a wetland system (component 1) will unlikely require land acquisition or physical resettlement. Although raised water will flood the desiccated seabed there is a risk that in some areas which are located in the



immediate floodplain may exist houses, structures or economic activity. The social context in the area to be affected is characterized by the poor and fragile livelihood of local communities. Under component 2, there is a possibility of restriction on access to productive lands and ecosystem services such as the use of resources including communal property and natural resources such as aquatic resources, non-timber forest products, freshwater, plants, hunting, grazing and cropping areas. The Borrower will assess the potential social impacts on the livelihoods of the local population in particular vulnerable and disadvantaged groups as a result of changes in land-use regimes and in access to ecosystem services, identify measures to mitigate adverse risks and impacts and enhance potential livelihood gains. Towards addressing these social risks, in addition to ESIA and ESMF, the following instruments will be prepared by appraisal: Stakeholder Engagement Plan and Framework (SEP and SEF), Resettlement Action Plan (RAP), Process Framework (PF), and Labor Management Procedures (LMP).

**Note** To view the Environmental and Social Risks and Impacts, please refer to the Concept Stage ESRS Document.

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