



**United Nations Development Programme
Democratic People's Republic of Korea (DPRK)
Project Document**

Project Title: Strengthening Ecosystem Resilience and Community Adaptive Capacity in Climate Affected River Basins in DPRK (SERCARB)

Expected CP Outcome(s): CPD Outcome 4: Improved national capacities and awareness for environmental protection and waste management.
CPD Outcome 5: Improved national capacities in disaster management.
CPD Outcome 6: Strengthened enabling environment for use of conventional energy, and accessibility of alternative energy sources, and strategies in adaptation and mitigation to climate change.

Expected Output(s): Output 1: Community capacities for participatory hazard mapping and disaster risk reduction strengthened.
Output 2: Weather monitoring and early warning systems (EWS) improved in pilot watersheds.
Output 3: Improved forest management to reduce flood risk, landslides and erosion in pilot watersheds.
Output 4: Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes.
Output 5: Multi-stakeholder coordination and project management.

Executing Entity: UNDP
Implementing Agency: UNDP

Ecosystem management, climate change adaptation and disaster risk reduction issues are strongly interlinked in DPRK. Addressing environmental sustainability in the DPRK context requires a strong focus on the impact of climate change and the interplay between environmental degradation and extreme weather events. The project aims to minimize the negative impacts of climate change and environmental degradation on the livelihood of local community and improve community capacity and awareness for environment protection, sustainable management and utilization of natural resources as well as disaster risk management and climate change adaptation. This project is consistent with the support of human development objectives.

Programme Period: Jun 2013-Dec 2016
Key Result Area: Socio Economic Development

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• UNDP: US\$ 2,200,000
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I. Situation Analysis

The D.P.R. of Korea (DPRK) has a total terrestrial area of 123,188 km², located on the coast of the Pacific, in the northern half of the Korean peninsula. Topographically DPRK is interspersed with high rugged mountain ranges, which cover approximately 80% of the country. The topographical elevation lowers from the northeast to the southwest, with the bulk of low flood plains located along the western coast. Most of the mountain ranges in DPRK are covered by forestlands comprising typical temperate mountainous forest ecosystems.

Due to DPRK's geographical position at the apex of the Korean peninsula and the Northeast Asian landmass, high levels of ecosystem and biological diversity have developed in a relatively small area. The fauna and flora show characteristics of both the northern temperate areas and southern temperate and sub-tropical areas, which has produced high levels of endemism (particularly amongst the plants). A total of 8,785 plant and 1,431 vertebrate species have been described, including 416 bird species. However, a number of these species are classified as threatened or rare, including 158 higher plant species and 157 vertebrate species.

The climate in DPRK is continental in nature with four distinct seasons and is affected by both continental and oceanic influences. The annual average precipitation in the country is 976 mm with 60% of precipitation occurring between June and September. However, the precipitation varies unevenly both temporally and spatially.¹

DPRK suffers from a range of natural disasters.² Weather extremes such as torrential rains, typhoons, flooding and storm surges are frequent, and lead to soil erosion and sedimentation, landslides, droughts and dust and sand storms. Frost, forest fire and hail are reported to be of medium frequency, while earthquakes and air pollution are a relatively limited concern. Agriculture is however severely affected by the frequent weather extremes.³

The collapse of the socialist market system caused severe economic dislocation in the 1990s and, coupled with a series of natural disasters, significantly increased the rate of forest loss and forest degradation in the country. Forests were harvested for fuel-wood and construction materials, and extensive forest areas were converted to agriculture for food production. Deforestation and forest conversion (particularly of slopes and mountainsides) has contributed to an increase in floods, landslides and slope failures. A number of significant flood events have occurred in recent years, resulting in widespread economic loss (particularly to agriculture and ecosystem), damage to infrastructure and loss of life and livelihoods. For example, DPRK suffered human and material

¹ Data and analysis on climate change and climate variability in DPRK is limited. Government counterparts have confirmed that observed trends in annual mean temperature and precipitation patterns are consistent with the wider climate trends observed in the region. Although rigorous analysis of climate patterns is not available, the frequency of drought and flood events is sufficient to justify the developmental benefits of the proposed intervention, whether or not these are caused by longer-term anthropogenic climate change.

² An overall national disaster risk profile has not yet been developed in DPRK. The selection of priority risk areas was made based on experience of disaster risk characteristics and frequency in various parts of the country.

³ World Meteorological Organization, "Report of the Fact-finding Mission to The State Hydrometeorological Administration (SHMA), Democratic People's Republic of Korea 26 June 2011."

losses caused by typhoon and torrential rains from late June to mid-July 2011. In some areas of North and South Hwanghae, Kangwon and South Hamgyong provinces and Kaesong City, 100-500 mm torrential rains came down from 26-28 July 2011. It rained 564 mm, 469 mm, 339 mm and 337 mm in South Hwanghae Province's Chongdan, Pongchon and Kangryong counties and Haeju City respectively. Particularly, rainfall in South Hwanghae Province's Chongdan is estimated to be more than 50 percent of total annual precipitation in DPRK. The windstorms and flood left dozens of people dead, wounded and missing during late June to mid-July 2011. Over 2,900 houses were wrecked throughout the country, 2,200 houses in South Hwanghae Province alone. Nearly 60,000 hectares of farmland were submerged, buried or washed away, resulting in decreased grain output of the country. An estimated 170 industrial facilities and public buildings collapsed and landslides and broken revetments severed roads and bridges. In 2005 heavy rain and windstorms caused significant flood damage in Dokchon and Bukchang Counties, and in July of the following year a downpour of up to 320 mm within a few hours left huge areas of agricultural land inundated and housing and infrastructure destroyed. In 2010 floods causing widespread damage to housing and agriculture struck rural areas such as Chongdan and Ongjin Counties.⁴

Environmental management in DPRK is the responsibility of the Ministry of Land and Environment Protection (MoLEP). The Ministry's mandate arises from the various environmental laws and regulations that it administers, in particular the Law on Land and Environment Protection Control (1998). MoLEP manages the system of national parks and nature reserves, undertakes forestry management and reforestation, and coordinate post-disaster rehabilitation work under the direction of the National Flood and Drought Disaster Rehabilitation Committee.

MoLEP faces a number of barriers and constraints in discharging its wide range of duties. Foremost amongst these is inadequate technical capacities, particularly at provincial and local levels. MoLEP has a cadre of dedicated and capable staff, however equipment and financial resources are constrained. Technical and professional staff also lack exposure to the most current approaches, techniques and systems for integrated forest and watershed management, disaster risk reduction and ecosystem management. In particular, MoLEP staff have limited exposure to emerging approaches such as ecosystem-based climate change adaptation (EBA) and ecosystem-based climate mitigation (EBM).

MoLEP's technical capacity is largely concentrated at the central level. Technical capacities at the provincial, county and field level are weak, which hinders the development of community- and local-level ecosystem management and disaster planning.

Weather forecasting and meteorological disaster early warning systems are the responsibility of the State Hydro-Meteorological Administration (SHMA). SHMA is the focal agency for meteorology, hydrology and oceanography. It maintains an operational hydro-meteorological observation network for meteorology, climate forecasting and monitoring of water levels in rivers, lakes, reservoirs and coastlines. SHMA is responsible for providing services such as weather and flood forecasts, agricultural outlooks, climatic predictions and environmental monitoring.

The climate and disaster risk forecasting capacity in DPRK is hampered by limitations in data communications and data processing capacity. Real-time transmission of weather data from hydro-

⁴ Source: Ministry of Land and Environment Protection.

meteorological stations is often constrained by an inadequate telecommunications network in rural areas. Since all of SHMA's analytical and modeling capacity is currently located at the central level, the inability to transmit real-time weather data from field sites, and to disseminate weather forecasts and disaster warnings to local and county communities in a timely manner is a significant constraint.

II. Strategy

(i) Strategy

The situation analysis conducted during project formulation clearly demonstrates that ecosystem management, climate change adaptation and disaster risk reduction issues are strongly interlinked in DPRK. Addressing environmental sustainability in the DPRK context requires a strong focus on the impact of climate change and the interplay between environmental degradation and extreme weather events. The project strategy has therefore been designed to focus on ecosystem-based adaptation strategies such as sustainable watershed forest management, as well as sustainable land management in agriculture to reduce soil erosion and runoff and to improve water retention, promote sustainable natural resource management and livelihoods.

UNDP's strategy for ecosystem-based adaptation⁵ has the objective to *maintain and enhance the beneficial services provided by natural ecosystems in order to secure livelihoods, food, water and health, reduce vulnerability to climate change, store carbon and avoid emissions from land use change and forestry*. The project strategy has been designed in accordance with this overall goal, with specific interventions in line with the Country Programme Document Outcomes. The project has been designed around five project-level outputs. These are:

- Output 1: Community capacities for participatory hazard mapping and disaster reduction strengthened.
- Output 2: Weather monitoring and early warning systems (EWS) improved in pilot watersheds.
- Output 3: Improved forest management to reduce flood risk, landslides and erosion in pilot watersheds.
- Output 4: Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes.
- Output 5: Multi-stakeholder coordination and project management.

It is noted that climatic conditions and anthropogenic factors mutually reinforce the chronic vulnerability of livelihoods; and lack of local capacities/capabilities and access to productive assets and opportunities make peoples' livelihoods increasingly vulnerable.⁶ Successful local adaptation to climate variability and change requires support to household coping strategies through multiple pathways and interrelated short- and long-term measures. UNDP in DPRK continuously strives to

⁵ <http://www.undp.org/biodiversity/mitigation.shtml>

⁶ FAO, *Livelihood Adaptation to Climate Variability and Change...*, 2006.

promote some such adaptation measures through Agricultural and Socio-Economic Development interventions. With a view to leveraging synergies, the UNDP CO management will thus promote collaboration in overlapping areas with the Socio-Economic Development project and with the UNDP existing projects in energy and agriculture sectors. The specific activities and areas for collaboration will be finalized during project inception phase.

Each of these outputs is described below:

Output 1: Community capacities for participatory hazard mapping and disaster reduction strengthened.⁷

The overall aim of this output is to develop a pilot methodology for participatory hazard mapping and disaster reduction planning at local community levels in DPRK.⁸ During the Inception Phase this output will evaluate community-based hazard mapping and disaster reduction planning approaches in use around the world and identify the most suitable approaches that can be tailored to the climatic, ecological, and governance context in DPRK. The identification and evaluation of potential methodologies will leverage UNDP's global network to focus on approaches being implemented in countries with similar contexts, such as China, Mongolia, Vietnam and the Central Asian States.

Based on these best-practice examples, a DPRK-specific pilot methodology will be developed, and tested in a pilot site with at least two watershed systems during the Piloting Phase of the project. The methodology will be elaborated into relevant training modules, toolkits and decision-support processes, and implemented on a trial basis in the pilot site in collaboration with the appropriate local stakeholders. Basic tools and equipment will be provided where necessary to ensure that local community counterparts have the resources required to undertake such planning exercises with minimal external support, and to implement these plans using locally available tools, resources and capacities.

As part of the piloting process, a capacity assessment framework will be developed and implemented in the pilot site, to monitor improvement in the local communities' capacity to anticipate, monitor and respond to hazards and disasters. The results generated by this framework will be used to refine the tools and methodologies where required.

During the Implementation Phase, the methodology that has been developed will be applied in at least one additional site with at least two watersheds, to ensure that the approaches that have been developed are generalizable across DPRK in different local contexts. The capacity assessment framework will also be applied to track improvements in local capacity and other project impacts. During the final stages of this output the methodology, tools and approaches will be documented, and training to replicate this system elsewhere will be organized.

Indicative activities under this output include:

⁷ The project is designed to develop flood hazard maps with conventional approaches, not using GIS.

⁸ The focus on community-level capacity building is consistent with UNDP DPRK's programme focus in the current country programme.

- Development of participatory hazard mapping methodology, tailored to local context and language.⁹
- Development of participatory disaster reduction planning methodology, tailored to local context and language.
- Field assessment of potential project sites (in collaboration with MoLEP and SHMA) to identify and delineate project site areas.
- Community engagement, introductory workshops and awareness-raising¹⁰
- Development and application of training programmes for hazard mapping and disaster reduction planning at local levels.
- Development of capacity assessment framework, with baselines and indicators of progress.
- Participatory planning and review meetings with local stakeholders Strengthening of local level disaster risk reduction and mitigation structures (committees or task force)
- Pilot implementation of hazard maps, including evacuation drills and simulations.
- Initial implementation of disaster reduction plans, including pilot risk reduction activities such as strengthening of embankments, clearing of watercourses, etc.

Output 2: Weather monitoring and early warning systems (EWS) improved in pilot watersheds.

This output aims to strengthen weather monitoring and early warning systems in pilot watersheds, to provide the data and information required for an effective disaster reduction system. The output will build on the existing network of hydro-meteorological monitoring stations and provide the additional systems required to generate basic local weather and agro-meteorological forecasts. The system will also include a locally based early warning system for flood warnings, with improvements in automated weather systems and data communications required to furnish warnings to Ri and County officials in flood-prone downstream areas within the pilot site.

The upgraded weather monitoring and early warning system will be complemented by required training programme for local technical staff on how to interpret and act on weather forecasts, warnings and longer-term climate data, and to integrate information from these systems into local development and resource planning, farming cycles and disaster response plans.

Needs assessments, systems design and procurement activities will be undertaken during the Inception Phase of the project.

A national-level EWS system is already in place; however, local-level capacities are lacking. The development of a local-level EWS in the pilot sites is meant to strengthen community capacities to identify and respond to local flood risks in a timely manner. The local EWS system will be

⁹ Hazard mapping is generally seen as the first step in the development of disaster risk and response plans. This mapping is being undertaken at the community level consistent with the project's community capacity enhancement focus.

¹⁰ There is prior evidence of positive impact of Awareness Centre-type activity. Swiss Development Cooperation Agency and other European Union Program Support units supported Community Awareness Center in N. Hwanghae Province project site in 2007, in which forest rangers, sloping land user groups and other concerned people gathered regularly to exchange views, best practices etc. There are cross-county visits organized during which the awareness centres are well utilised. There is evidence that such awareness centres have fostered community ownership, increased awareness and social capital.

maintained by local staff trained and supported by SHMA, as part of the overall national EWS system.

Systems and equipment to be used will be designed to be as simple and robust as possible in order to ensure that these can be operated and maintained at the local level. At the same time, these systems will be designed to be compatible with the existing nation-wide hydrometeorological monitoring network operated by SHMA. Upgrading activities and training programmes will be implemented in the first pilot site during the Piloting Phase, and lessons from this pilot will be assessed and refinements undertaken before additional upgrading work carried out in other sites during the Implementation Phase.

Indicative activities under this output include:

- Field surveys of proposed pilot EWS sites, including meteorological, data communication and data analysis needs assessment.
- Procurement of appropriate equipment.
- Installation of equipment and training of designated local staff.
- Training for local hydro-meteorological staff (county level) in data collection and analysis and preparation of forecast reports for local Communities
- Training for local communities of local weather forecasts and seasonal data in agricultural and development planning, including e.g. planting and harvest timing, drought and water resource management, etc.
- Establishment and implementation of county-level weather monitoring and early warning systems, including support to improve accuracy, timeliness and quality of data and analysis generated.

Output 3: Improved forest management to reduce flood risk, landslides and erosion in pilot watersheds.

Deforestation is not only one of the main drivers of ecosystem loss in DPRK, but it is also a major contributing factor to floods, landslides, slope failure and other disaster risks. Forest loss and forest conversion are driven by two main factors; demand for fuelwood (for heating, household and industrial use) and conversion of forest areas for agricultural production, including on steep slopes and in water catchments.

Addressing these underlying drivers on a catchment-wide or County wide level would require large investments in alternative energy technologies and agricultural intensification and diversification, which are beyond the capacity of this pilot initiative. The project will therefore focus on improving forest management¹¹ in specific priority sites within the pilot site catchments, to reduce direct impacts such as flash floods, landslides and slope failure affecting downstream housing, farms or infrastructure.

¹¹ All forests in DPRK are state-owned, and are generally managed by county-level Forest Management Boards. Management of individual forest plots is often delegated to community organization such as cooperative farms or sloping land user groups.

The project will strengthen local-level capacity to map watersheds and identify high-priority risk areas. The project will train local partners to identify areas requiring urgent remedial work, and to determine the most appropriate form of rehabilitation, e.g. reforestation, replanting ground cover, terracing, slope stabilization with reinforcement or gabion baskets, controlled removal of rock and soil or combinations thereof.

Local partners such as Ri-managers and lowest-level technical staff from the relevant ministries dispatched to the village will undertake these remedial and rehabilitation works.

Moving beyond the initial risk reduction efforts, the project will also work with local partners to strengthen their capacity to manage watersheds, to plan fuelwood harvesting and agricultural expansion in ways that minimize forest loss and disaster risks, and to develop and implement action plans for watershed management and rehabilitation, including medium-term reforestation plans. Taking place within a larger national reforestation programme, targeted training and pilot demonstration activities will be supported by the project at county levels, including the establishment of nurseries, provision of basic tools and growing material and planning support where required. During the Inception Stage of the project, initial local community engagement and mobilization will be undertaken, together with the development of initial watershed maps and identification of risk areas. Rehabilitation of critical risk areas may also be undertaken during the latter stage of this Phase, however the bulk of rehabilitation and reforestation activities for the first site will be undertaken during the Piloting Phase. Based on the lessons learned there, similar activities will be carried out at the subsequent pilot site(s) during the Implementation Phase.

Indicative activities under this output include (all indicative activities will be reviewed during project initiation, and baselines established):

- Data collection and field surveys to develop initial watershed maps.
- Priority sites for flood, landslide and erosion risk identified, and response plans developed.
- Slope strengthening, terracing and replanting activities planned and implemented to address high-risk sites.
- Training programmes for local organisations on watershed management and action planning.
- Development of draft county action plans and draft watershed management plans

Output 4: Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes.

The rapid expansion of agricultural production areas in DPRK in the last twenty years has resulted in many hill slopes and river valleys being converted to crop production, with limited efforts at terracing or establishment of buffer zones along river courses. This has resulted in soil erosion, siltation of river systems and loss of forest areas. This output will identify areas within the pilot sites where unsustainable utilization of sloping lands for agriculture has resulted in the greatest environmental damage, and will pilot models to reduce sloping land conversion, and encourage rehabilitation and sustainable management while demonstrating more sustainable alternative livelihood approaches.

As the project seeks to promote ecosystem management, it necessarily calls for measures to mitigate the vulnerability of the peoples who depend on the natural environment for their livelihoods. Thus, efforts will be made to ensure pro-poor, greener growth through creation of small-scale economic opportunities and income generating activities for the beneficiary community. This will support and catalyze ecosystem management.

The project will work with ongoing UNDP agricultural projects that are being implemented in collaboration with FAO to identify target areas, and mobilize local households through the formation of Sloping Land User Groups (SLUGs). These Groups will focus on the participation of women and farming households working on marginal lands. Women will be a special focus in this component, given the extensive use of marginal sloping lands for household food production and hence to food security issues. The SLUGs will prioritize the participation of women and their role in the governance and decision-making structures. Working through these Groups, the project will conduct participatory assessments of energy and resource use, agricultural practices and livelihood patterns to identify the main drivers of unsustainable agricultural practices. A range of alternatives will be piloted, including livelihood and income-generation options, alternative crops and renewable and energy-efficient systems for cooking, heating and community needs.

The Sloping Land User Groups will be provided with training support to develop participatory livelihood assessments for their members, and to help member households select suitable alternatives to reduce over-utilization of sloping lands for crop production.

The weakening of existing income sources is directly linked to forest and land over-exploitation and hence there is clear need for revitalizing these income sources (as also validated by work of EU agencies in other watershed areas of the country). These income-generating resources include green house, noodle making machine, bean curd, milk, honey making, artificial meat processing and oil pressing machines. These are therefore to be provided to sloping land users as alternative income generating activities to decrease the pressure of deforestation and sloping land exploitation.

At the farming commune, capacity development will be undertaken to enhance agricultural mapping and zoning capacities, land-use management and rehabilitation planning and associated technical skills. Working with these local partners the project will demonstrate the development and application of pilot agricultural land use maps and sustainable land use and land rehabilitation strategies for degraded slope areas.

Initial community engagement and mobilization activities will be undertaken in the Inception Phase as soon as the initial site area is agreed. Community mobilization and the formation of local Sloping Land User Groups will be the primary focus during this Phase, together with initial training in land-use mapping and zonation where required. Piloting of alternative livelihood options and support to the Sloping Land User Groups will continue throughout the Piloting and Implementation Phases, as the development and successful demonstration of alternative livelihood approaches requires considerable time and attention. Activities will also commence in the second pilot site(s) as soon as these are identified, and are expected to continue until the completion of the project.

Indicative activities under this output include:

- Initial assessments of project site areas to identify potential locations for pilot activities, including consultations with county, ri and commune officials.
- Establishment of local project coordination groups (Sloping Land User Groups) in pilot sites.
- Initial training and capacity building for local partners on participatory livelihood assessment (including gender and beneficiary assessments), energy needs assessment, field mapping of critical slopes, alternative livelihood development processes and other relevant skills.
- Participatory assessments undertaken with local partners, and initial needs discussed with county and provincial Peoples' Committees.
- Technical assessment of energy needs and potential alternatives in collaboration with SRED project.
- Development of local agricultural maps to identify critical slopes, and establish agreement on sustainable management approaches (replanting, terracing, protection and rehabilitation zones, etc.)
- Implementation of management and rehabilitation plans for sloping lands in collaboration with SLUGs.
- Pilot implementation of alternative livelihood activities, participatory impact assessment, revision and refinement as required.
- Follow-up evaluation, training and refinement of livelihood and energy access initiatives as required.

Output 5: Multi-stakeholder coordination and project management.

This output addresses crosscutting project requirements, including:

- Overall project management, monitoring, reporting, and evaluations;
- Coordination amongst relevant stakeholders, and;
- Site-level project coordination with local counterparts, including the operation of site teams or project site offices.

The process of identifying, assessing and selecting pilot sites for the project will also be undertaken under this output. One initial project site will be confirmed during the Project Inception stage. At least one additional site (or more, depending on assessed needs and funding availability) will also be selected during the Piloting Phase, for activities to be undertaken during the Implementation Phase. The site selection process and criteria are described in further detail in section (iv) below.

Indicative activities under this output include:

- Project inception activities: recruitment of project staff, establishment of Project Management Unit, initial procurement and set-up, development of detailed workplans and project operational procedures.
- Development of project coordination mechanisms, , and establishment of site-level coordination mechanisms as required.
- Priority training programmes implemented to address critical programme or operational capacity needs.
- Identification and delineation of project sites, including field visits, and technical evaluation of site requirements as needed.

- Development and implementation of capacity frameworks for the project, each RP and each site, to track capacity improvements and to identify priority areas for capacity building during project implementation.
- Routine project monitoring and field visits undertaken according to UNDP requirements.
- Project reporting (financial, operational and substantive) undertaken as per the Project M&E plan and financial oversight requirements.
- Project final evaluations conducted as per UNDP requirements.

(ii) Entry point and institutional linkages

The project has been designed to address the identified needs on the ground, by developing and demonstrating sustainable approaches at the local level, and building environmental management and disaster risk reduction capacities at the local levels. The design builds upon the institutional mandates and technical capacities of the partner agencies (MoLEP and SHMA) and will leverage the technical capacities, resources and local-level institutional structures of these agencies. However, the resources that will be provided, and the solutions that will be devised, will focus on local needs and local systems, consistent with UNDP's mandate and focus in DPRK.

(iii) Implementation strategy

Due to the exploratory and pilot nature of activities, overall, the project will be sequential and iterative; with each project phase interacting with the other in feedback loops, based on which UNDP management will decide on progress, direction and course correction.

The implementation strategy proposed for this project is expected to have the following characteristics:

1. Structured components within a coherent framework: The project has been designed to take an integrated approach to addressing environment and disaster risk issues in target watersheds. Within this integrated approach, specific components have been defined which will be implemented by UNDP in cooperation with relevant stakeholders. Coordination amongst these outputs will be accomplished at the site level through the planning processes of Output 1, and at the operational and project management level through the coordination structures under Output 5.
2. Phasing: Implementation of the project has been designed around three broad and overlapping Phases. The Inception Phase will focus on establishment of project structures and coordination mechanisms, and the development of planning systems and methodologies. The Piloting Phase will focus on establishing and implementing pilot demonstration activities at the first site, and preparatory work (including site assessment) for the second (replication) site. Finally, the Implementation Phase will focus on refining and systematizing the approach and methodologies, and replicating these at the second pilot site. This process of replication will serve to show that the approach and methodologies being developed are scalable and replicable within existing capacities and institutional structures, and will lay the ground for further replication and scale-up in the future.

3. Rigorous Monitoring and Evaluation, and annual technical supervision: The project has been designed to have a strong Monitoring and Evaluation framework, building on the lessons and approaches developed by UNDP DPRK in the implementation of other previous initiatives. In addition to routine project monitoring, the project will also have annual technical supervision missions by external experts (sourced from within the global UNDP network, e.g. UNDP technical advisors, counterpart specialists from other Country Offices or specialists working under similar UNDP projects in other countries). These annual technical supervision missions will help to ensure that the project benefits from the best available expertise and comparative experience available within UNDP, and also assist the Project Management team and the UNDP Country Office in ensuring that project implementation is as efficient and effective as possible. Full access to the project sites is essential for the effective conduct of M&E functions. In this regards, the Government of DPRK will provide full access to the project sites. Leveraging South-South Cooperation: The project will leverage experience from across the UNDP network to facilitate south-south exchanges and forge partnerships with counterpart institutions in other countries with similar environmental challenges and governance systems. Regional neighbors such as China, Vietnam and Mongolia are facing similar environmental and climate impact challenges, and have been developing systems and solutions that may be applicable in DPRK. There are examples of innovative low-tech approaches for flood early warning in the Mekong River Basin, the Aguán River in northeastern Honduras, and in other developing countries. Similarly, the approaches being developed under this project may provide useful lessons for other countries facing these challenges. These south-south exchanges will be facilitated through UNDP's global network, using the expertise available in the UNDP South-South Cooperation programme.
4. Ensuring Gender Equity and the participation of women: The project will have a focus on gender equity issues across all its components, including in the governance and coordination structures being established. Priority will be given to the participation of women, particularly in livelihood and income generation activities at the site level. In addition, Mid-Term and Final Evaluation exercises will utilize a 'gender lens'; recommendations will be incorporated to further enhance the interests and participation of women.
5. Pilot Demonstrations and Replication of Successes: The project is built on a pilot demonstration and replication approach. The systems and processes for addressing environment and disaster risk issues at the local watershed level will be developed at a pilot site. Although a large amount of prior experience and technical expertise is available within UNDP, it is important to ensure that these approaches are tailored to the specific socio-economic and governance characteristics of DPRK, and hence a pilot site will be used to develop, refine and document approaches that work in the local context. These approaches will then be replicated in one or more replication sites, to test their applicability in other locations and to ensure that sufficient capacities are available to scale up the model across the country.

(iv) Pilot demonstration sites

Pilot demonstration activities will be undertaken at a minimum of two sites. Activities will be initiated at the first pilot site during the inception phase of the project, and as approaches and

models are developed there, detailed site assessments will be undertaken to agree on a second site where replication activities will take place. Each site will consist of a watershed system, ideally with two or more local catchments containing a mix of forest and agricultural landscapes. Key criteria used to select the pilot sites include:

1. Agro-ecological characteristics: Sites will contain a suitable mix of forest and agricultural landscapes, typically with forested upland areas, mixed forest and agricultural activity on lower slopes and large-scale agriculture and population centers (villages, farming communes etc.) in the floodplain. This mix of land-uses is characteristic of most rural watersheds in DPRK, and therefore models developed in sites such as this are most suitable for replication elsewhere. Site selection will consider factors such as the ecology (including ecological significance), topology, hydrology, forest cover and agricultural composition.
2. Risks and vulnerability: Selected sites will demonstrate a mix of environmental and climate risk factors, including deforestation threats, evidence of climate-induced flood hazards (floods, slope failure, debris flow, siltation and sedimentation) and unsustainable agricultural practices (encroachment on to hillsides, farming on steep slopes, overharvesting of fuelwood and NTFPs, etc.). In order to address these factors, data to be collected and assessed would include local meteorological records and records of extreme weather events (floods, droughts, forest fires, dust and sandstorms, etc), forest cover records to assess trends in deforestation, trend data in agricultural production and productivity, etc.
3. Beneficiaries: A key criteria for site selection will be the number of potential beneficiaries to be targeted, and the projected improvement in livelihoods, access to/potential for energy and other development indicators that the pilot activities can generate. To the extent possible beneficiary assessment will include gender-disaggregated data, as well as identification of marginal households or households at greatest risk of climate-induced hazards. Other beneficiary data to be collected may include energy use patterns and access to energy sources, household incomes and food budgets, health data (looking particularly at injuries and deaths related to extreme weather events), etc. UNDP DPRK CO will be constantly on the lookout for opportunities for cross-fertilization and inter-linking with cognate projects (ongoing or pipeline) such as Sustainable Rural Energy Development project or Socio-Economic Development project, respectively.
4. Accessibility and operational feasibility: Given the logistical difficulties in accessing more remote provinces, and the need for close monitoring and supervision by UNDP and the Project Management Unit, the accessibility of the site will be a critical factor in site selection. This includes both physical accessibility (e.g. proximity to Pyongyang, ability to reach the site year-round, availability of local infrastructure and facilities to support project activities), and government clearances for full access by UNDP staff and international experts. Priority will be given to sites where UNDP has other planned or on-going activities, in order to multiply the impact of UNDP support, and to enhance efficiencies in terms of monitoring, site management and liaison with local stakeholders and partners.

Site assessment will be conducted and the final selection of sites will be subject to clearance by UNDP.

Initial Site: Lower Chongchon River Basin

An initial project site has been selected on the basis of analysis and consultations conducted during the formulation process. This site is located in the lower part of the Chongchon River basin, and includes Pakchon County (including the Taeryong River catchment) and the upper valleys of Kaechon City. The site consists of steep hill slopes in the upper catchments, which are forested in the upper elevations but subjected to significant degradation and agricultural conversion in the lower reaches. The floodplain is intensively farmed, and is one of the primary agricultural production centers in DPRK. Farming is largely non-mechanized, and consists of a mix of larger-scale communal fields and smaller household plots growing a variety of crops for personal subsistence.

The total site area is approximately 5,000 sq. km, with a population estimated at 500 thousand. The main forms of employment and income generation are farming and coal mining. Coal mining is widespread in the upper valleys to the north-west of Kaechon City, and this contributes to deforestation both for mines themselves as well as to provide timber and fuelwood for mining operations.

The total forest area is 6496 hectares, of which approximately 1000 hectares are degraded. There are no naturally protected forest reserves and protected areas in the site due to the rigid topographical condition in high altitude areas. Plantation forests cover approximately 1,500 ha. Forest fires are a recurring threat, with an average of 3-4 fires occurring per year. Fires are mainly human-induced, thought largely accidental rather than deliberate. Encroachment into forest reserves is a frequent occurrence, mainly for fruit, plant and firewood collection.

Agriculture covers approximately 680 hectares and cultivated area on sloping land 116 hectares, with the main crops consisting of rice and maize. There are approximately 900 farming households in the area. Seventy percent of their harvest is consumed by the family and 30% for external use. Approximately 7 m³ of fuel wood is consumed by household per year but in case of coal, it is around 3-4 tons per year.¹²

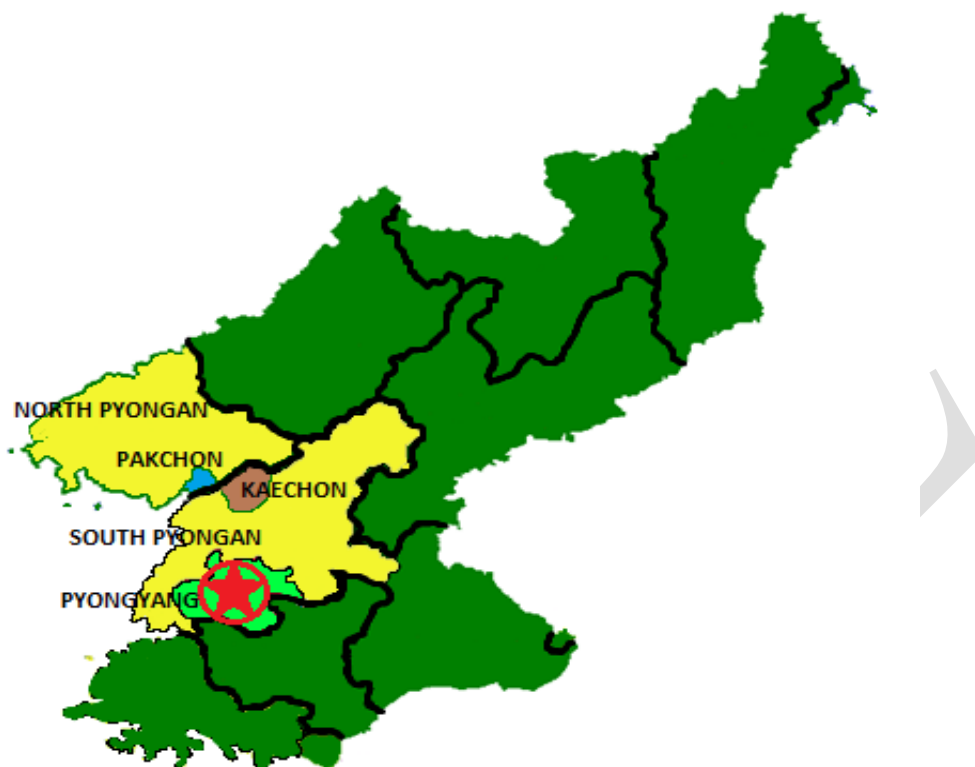
The four flood events (e.g. August 4 2002, August 15 2007, July 22 2010 and September 5 2010) in Pakchon and five floods (e.g. August 4 2002, September 21 2007, August 2 2008, July 18 2009 and July 22 2010) in Kaechon caused damage—including the loss of human lives, submerged croplands, broken embankments, collapsed houses, public buildings, roads and railways—from 2001 to 2011.

These flood events have been exacerbated by the deforestation of upstream water catchments, which has increased the speed and intensity of floods, and increased the debris and sediment load in floodwaters, which causes greater damage to river channels, housing and infrastructure (e.g. bridges and dams).

Meteorological monitoring capacities in the site area are currently limited, with old/outdated manual observation equipment and intermitted communication by cable-phone. Three agro-meteorological stations are in operation, at Kaechon, Unjon and Taechon. Hydro-meteorological monitoring is carried out at Pakchon, located at Taeryong river, one of the branches of Chongchon River, and at four other points in the Taeryong river catchment. Some initial hazard mapping has

¹² Data source: MoLEP

been undertaken by SHMA for the Chongchon river basin, however this is still incomplete particularly for the upper catchment areas.



Map of proposed project sites

A second site has also been identified based on desk analysis, in the upper watershed of the Taedong river in Taehung, Nyongwon and Tokchon counties. This site and other potential replication sites will be assessed in detail during the inception phase of the project, before a final selection is made. The final site selection will need to be reviewed and cleared by UNDP HQ.

Exit Strategy:

To reinforce sustainability of the project at its conclusion, the project will have an in-built sustainability strategy, involving continual skill and knowledge transfer at the local level during project implementation, which will be regularly updated.

The project’s emphasis on piloting, refining methodology and replication will serve to show that the approach and methodologies being developed are scalable and replicable within existing capacities and institutional structures, and will lay the ground for further replication and scale-up in the future.

The project will throughout the life of the project identify relevant stakeholders and individuals and put in place and describe a system to ensure that practices are adopted, that improvements in local capacity and project impacts are tracked and that knowledge products and services are effectively disseminated and shared, and that lessons can be carried into a potential scale up of the project

III. Results and Resources Framework

<p>Outcomes as stated in the Country Programme Document, with indicators, baseline and targets:</p> <p>CPD Outcome 4: Improved national capacities and awareness for environmental protection and waste management Indicator 1: Hectares of forest area under sustainable management by local committees in watersheds at risk of extreme weather events. Baseline: None supported by the project Target: At least 5,000 ha of forest area under sustainable management in local communities supported by the project.</p> <p>CPD Outcome 5: Improved national capacities in disaster management Indicator 1: Number of households with improved capacity to anticipate, plan for and respond to weather-related natural disasters Baseline: None supported by the project Target: At least 1,000 households in two counties with improved capacities.</p> <p>CPD Outcome 6: Strengthened enabling environment for use of conventional energy, and accessibility of alternative energy sources, and strategies in adaptation and mitigation to climate change (secondary project objective) Indicator: Number of households provided with improved access to energy and energy efficient heating and lighting as part of alternative livelihood programmes. Baseline: None supported by the project. Target: At least 500 households with access to improved energy supply or energy efficient heating and lighting through project support.</p>				
Partnership Strategy: UNDP will directly execute and implement the project. UNDP will coordinate with other relevant partners.				
Project title and ID (ATLAS Award ID): Strengthening Ecosystem Resilience and Community Adaptive Capacity in Climate-Affected River Basins in DPRK (SERCARB)				
INTENDED OUTPUTS	OUTPUT TARGETS FOR (YEARS)	INDICATIVE ACTIVITIES	RESPON-SIBLE PARTIES	INDICATIVE BUDGET
<p>Output 1: Community capacities for participatory hazard mapping and disaster reduction strengthened.</p> <p>Indicators: 1. Number of community (county or ri-level) hazard maps and disaster reduction plans completed with UNDP support.</p>	<p>2013: Community entry and initiation activities completed. Participatory hazard mapping training module designed and localized. Pilot hazard mapping activities commenced in at least two locations in one project site.</p> <p>2014: Localized disaster reduction planning methodology developed, and project staff trained. Initial hazard mapping completed in at least two locations, and disaster</p>	<ul style="list-style-type: none"> Community engagement, introductory workshops and awareness-raising Development of participatory hazard mapping methodology, tailored to local context and language. Development of participatory disaster reduction planning methodology, tailored to local context and language. Field assessment of potential project sites Development and application of training programmes for hazard mapping and disaster reduction planning at local levels. Development of capacity assessment 	UNDP	Budget: \$230,000

<p>Baseline: 1. None</p>	<p>reduction planning commenced. Additional project site identified, and community entry and hazard mapping activities commenced.</p> <p>2015: Follow-up training and refinement of methodologies undertaken.</p> <p>2016: By end-project, community hazard maps and disaster reduction plans have been completed in at least four locations in two sites, and the plans are being implemented by local committees.</p>	<p>framework, with baselines and indicators of progress.</p> <ul style="list-style-type: none"> • Participatory planning and review meetings with county and ri managers in project sites. • Pilot implementation of hazard maps, including evacuation drills and simulations. • Initial implementation of disaster reduction plans, including pilot risk reduction activities such as strengthening of embankments, clearing of watercourses, etc. • Set-up/strengthen local level disaster risk reduction and mitigation structures 		
<p>Output 2: Weather monitoring and early warning systems (EWS) improved in pilot watersheds.</p> <p>Indicators: Quantity and timeliness of local weather information provided to ri- and county-level Peoples' Committees in target sites.</p> <p>Baseline: Locally specific weather data is not routinely available. No county-level early warning system available.</p>	<p>2013: Needs assessment for hydro-meteorological and agro-meteorological monitoring system completed. Pilot EWS installed in at least four locations, and training initiated for local community users.</p> <p>2014: Systems and capacities in place for county-level collection and analysis of meteorological data from pilot EWS.</p> <p>2015: Data and reports from pilot EWS locations being incorporated into county- and ri-level agricultural planning and river basin management by Ri managers and lowest technical staff from the relevant ministries dispatched to the villages.</p> <p>2016: County and ri-level Peoples</p>	<ul style="list-style-type: none"> • Field surveys of proposed pilot EWS sites, including meteorological, data communication and data analysis needs assessment. • Procurement of appropriate equipment for pilot EWS sites. • Installation of equipment and training of designated local staff. • Training for local lowest level technical staff from the relevant ministries dispatched to the villages in data collection and analysis and preparation of forecast reports for local Peoples' Committees and communes. • Training for Ri managers and lowest-level technical staff from the relevant ministries dispatched to the villages in use of local weather forecasts and seasonal data in agricultural and development planning, including e.g. planting and harvest timing, drought and water resource management, etc. • Establishment and implementation of county- 	<p>UNDP</p>	<p>Budget: \$280,000</p>

	Committees in pilot locations have demonstrated capacity to monitor and analyse local weather information, and incorporate these into agricultural, water management and disaster early warning processes.	level weather monitoring and early warning system, including monitoring of accuracy, timeliness and quality of data and analysis generated.		
<p>Output 3: Improved forest management to reduce flood risk, landslides and erosion in pilot watersheds.</p> <p>Indicators: Percentage of watershed area in pilot sites with evidence of deforestation, degradation and slope instability.</p> <p>Baseline: Estimate 35-45%, to be confirmed during detailed site assessment in year 1.</p>	<p>2013: Field surveys of pilot watersheds completed, and priority rehabilitation sites identified.</p> <p>2014: Priority rehabilitation, slope stabilization and reforestation activities undertaken in collaboration with local communities.</p> <p>2015: Management plans and county action plans for pilot watersheds completed and under implementation.</p> <p>2016: Rehabilitation activities undertaken in all priority risk sites, and overall watershed area subject to deforestation, degradation or slope instability reduced by 20%.</p>	<ul style="list-style-type: none"> Data collection and field surveys to develop initial watershed maps. Priority sites for flood, landslide and erosion risk identified, and response plans developed. Slope strengthening, terracing and replanting activities planned and implemented with local Peoples' Committees to address high-risk sites. Training programmes for Ri managers and lowest level technical from the relevant ministries to the villages on watershed management and action planning. Development of draft county action plans and draft watershed management plans with technical support from MoLEP. Action plans implemented by county Peoples' Committees. Follow-up evaluations, impact assessment. 	UNDP	Budget: \$270,000
<p>Output 4: Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes.</p> <p>Indicators:</p> <ol style="list-style-type: none"> Area of agricultural land brought under sustainable management as a result of project activities Number of beneficiary 	<p>2013: Pilot site areas (sloping lands at risk of degradation and soil erosion) identified, and Sloping Land User Groups established. Initial site and needs assessments undertaken.</p> <p>2014: Participatory livelihood assessments undertaken with target beneficiary groups (SLUGs) and alternative livelihood and energy access plans developed.</p>	<ul style="list-style-type: none"> Initial assessments of project site areas to identify potential locations for pilot activities, including consultations with county, ri and commune officials. Establishment of local project coordination and implementation groups (Sloping Land User Groups) in pilot sites. Initial training and capacity building for local community on participatory livelihood assessment (including beneficiary assessment), energy needs assessment, field mapping of 	UNDP	Budget: \$263,000

<p>households with access to sustainable energy sources and livelihood opportunities in project sites.</p> <p>Baseline: 1. None 2. None</p>	<p>2015: Alternative livelihood and energy access plans under implementation with at least 500 beneficiary households.</p> <p>2016: Sustainable management of sloping agricultural lands demonstrated in at least four ri in two counties, resulting in improved livelihoods and energy access for at least 450 households.</p>	<p>critical slopes, alternative livelihood development process and other relevant skills.</p> <ul style="list-style-type: none"> • Participatory assessments undertaken with local partners, and initial needs discussed with county and provincial Peoples’ Committees. • Technical assessment of energy needs and potential alternatives in collaboration with SRED project. • Development of local agricultural maps to identify critical slopes, and establish agreement on sustainable management approaches (replanting, terracing, protection and rehabilitation zones, etc.) • Implementation of management and rehabilitation plans for sloping lands in collaboration with SLUGs. • Pilot implementation of alternative livelihood activities (small employment and incomes schemes), participatory impact assessment, revision and refinement as required. • Follow-up evaluation, training and refinement of livelihood and energy access initiatives as required. 		
<p>Output 5: Multistakeholder coordination and project management.</p> <p>Indicators: Timeliness of project implementation and delivery. Capacities of responsible parties and local project partners.</p>	<p>2013: Project management structures in place. Initial capacity assessments for local partners undertaken and initial training plans developed.</p> <p>2014: Project delivery rate meets or exceeds CO average. Initial training activities completed. Detailed site-specific capacity assessments conducted and training plans developed.</p>	<ul style="list-style-type: none"> • Project inception activities: recruitment of project staff, establishment of Project Management Unit, initial procurement and set-up, development of detailed workplans and project operational procedures. • Development of project coordination mechanisms, and establishment of site-level coordination mechanisms as required. • Priority training programmes implemented to address immediate capacity needs. • Identification and delineation of project sites, including field visits, consultations with local 	UNDP	Budget: \$1,157,000

<p>Baseline: Average delivery rate in 2011 is XX%</p> <p>Baseline capacity assessments for RPs and LPs to be developed during project inception stage.</p>	<p>2015: Project delivery rate meets or exceeds CO average.</p> <p>2016: Project implementation completed on time and all key outputs delivered.</p> <p>Project evaluation show specific and quantifiable increase in RP and LP capacities against baseline and detailed targets established during project inception.</p>	<p>partners and technical evaluation of site requirements as needed.</p> <ul style="list-style-type: none"> • Development and implementation of capacity frameworks for the project, each RP and each site, to track capacity improvements and to identify priority areas for capacity building during project implementation. • Routine project monitoring and field visits undertaken according to UNDP requirements. • Project reporting (financial, operational and substantive) undertaken as per the Project M&E plan and financial oversight requirements. • Project mid-term and final evaluations conducted as per UNDP requirements. 		
<p>Total Funding under CPD (2011-2015):</p>				<p>\$2,200,000</p>

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V. Management Arrangements

Execution Arrangements

The project modality will be UNDP direct execution. The Project execution and implementation will be undertaken by UNDP in accordance with UNDP Programme and Operations Policies and Procedures (POPP). The overall decision making, including financial accountability will rest with UNDP. The project will be executed in coordination with relevant partners, including at the local level, with a view to ensuring that effective assistance flows directly to targeted beneficiaries.

A project Steering Committee (PSC) will be established to guide and advise the implementation of the project. The Steering Committee will be chaired by UNDP (Resident Representative as Chair of the PSC with representatives of the relevant stakeholders. The Chair (UNDP) has ultimate decision making power in all aspects of project development and implementation. The Steering Committee will meet regularly, at minimum twice a year, and on a need basis.

Project Personnel

To ensure smooth implementation of all activities and help achieve the objectives and results set by the project, the UNDP/DPRK Country Office will recruit an international resident Project Manager, a National Training Coordinator, a National Administrative Assistant and Driver¹³ under the project. The PM will be supported by an M&E Specialist, Procurement Analyst (both internationals; to maximize cost-effectiveness, it is being proposed that both positions will be cost-shared with other DEX projects, and being budgeted as such).

The Terms of Reference of the above personnel are in Annex 2.

VI. Monitoring and Evaluation

The review, reporting and evaluation plans will strictly follow the UNDP guidelines as elaborated in the “Programme Operations Policies and Procedures” (POPP).

The project’s implementation arrangement will have a clear delineation of roles and responsibilities among the different stakeholders and partners.

The Government of DPRK will provide UNDP full access to the project site as this is essential for the effective M&E.

Regular reports will be produced and submitted according to UNDP M&E policies and procedures. The project will be monitored through the following:

¹³ Driver will drive existing vehicle under other UNDP project, on cost-recovery basis.

Within the annual cycle

- Quarterly Progress Reports, which will detail the accomplishments, lessons learned/problems faced during the execution of the activities and the planned activities for the next quarter. This will be prepared by the Project Manager with the support of the Project personnel.
- As required under the DPRK ICF, quarterly project monitoring report by International staff will be prepared detailing progress, problems and opportunities. This report will also verify location, maintenance and use of project physical assets.
- An Issue Log shall be activated in Atlas and updated by the Project Manager to facilitate tracking and resolution of potential problems or requests for change.
- A risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Project Progress Reports (PPR) shall be submitted by the Project Manager using the standard report format available in the Executive Snapshot.
- A project Lesson-learned log shall be activated and regularly updated to ensure on-going learning and adaptation within the organization, and to facilitate the preparation of the Lessons-learned Report at the end of the project
- A Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events

Annually

- **Annual Review Report.** An Annual Review Report shall be prepared by the Project Manager and submitted to UNDP. As minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the QPR covering the whole year with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined annual targets at the output level.
- **Annual Project Review.** Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year, this review will be a final assessment. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.

Other Reports

- **Terminal Report,** which will be prepared at the final month of Project implementation. The Terminal Report will present the accomplishments of the Project against targets and key performance indicators, lessons learned and problems faced during the execution of the activities, and recommendations for follow up or future programmes. The Terminal Report will also contain the financial report of the Project. This will be prepared by the Project Manager with the support of the Project personnel.
- **Other reports and deliverables.** During the implementation period, international and local experts will be hired to conduct technical assistance for activities such as feasibility studies, surveys and assessments, etc. The reports that will be prepared by the experts in these assignments will be submitted to the Project Manager and approved by UNDP.

‘Dual-use’ concerns of equipment and assets: (i) The project management under UNDP CO oversight will prevent ‘dual use’ of project equipment and assets; (ii) UNDP will verify delivery of all equipment to project sites and will ensure that international personnel conduct an annual physical verification of project equipment against inventories; iii) over and above this, UNDP will enlist the services of a technical consultant to verify compliance of usage of project equipment in accordance with UNDP rules.

The following table shows the M&E plan of the Project.

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Table 4: Monitoring and Evaluation Plan

M&E Activities	Frequency /Timing	Aspects to be Monitored & Evaluated and Output of the M&E Activity	In-charge of Activity	Approval
Detailed Quarterly Work plan	Every beginning of Quarter	Plan of Detailed activities, schedule, milestones, deliverables, manpower inputs for the next quarter	Project Manager, (PM)	UNDP
Annual Work plan and budget	Beginning of each year	Plan of Detailed activities, budget, milestones, deliverables, manpower inputs for the next year	PM	UNDP
Quarterly Progress Report	Quarterly	Report on Quarterly accomplishments, lessons learned/problems faced during the execution of the activities and the planned activities for the next quarter	PM	UNDP
Quarterly M&E Report	Quarterly	Report by International staff on project achievements and verification of the number, location, maintenance and use of physical assets	SPA (M&E)	UNDP
Annual Progress Report	End of Year 1	Report of First year accomplishments; Expenses for the year completed; update of Project work plan; lessons learned, recommendations and suggestions for re-orientation of activities (if necessary)	PM	UNDP
Terminal Report	End of Project (after 2 years)	Report on Project accomplishments; Project expenses and financial report; Records and evidences of all outputs; Lessons learned and recommendations for future actions	PM	UNDP
Mission reports	After each mission	Reports on Relevant aspects of the mission (according to defined template)	Individual experts or officials on missions	N/A
Other reports and deliverables	After each TA or subcontract	Reports and deliverables vis-à-vis the TOR of the TA. These reports will also include reports by CO staff field visits.	Individual experts	N/A
Monitoring of demonstration projects	After commissioning of the plants	Reports on progress; problems and opportunities; verify location, use, maintenance and security of equipment installed through site visits; Verifiable delivery of products and services to target beneficiaries. UNDP CO's quarterly M&E reports should be part of this	Persons and officials on M&E visits;	UNDP

M&E Activities	Frequency /Timing	Aspects to be Monitored & Evaluated and Output of the M&E Activity	In-charge of Activity	Approval
Financial recording & reporting	Throughout the Project; continuous	Monitoring and control of project expenditures; financial management & reporting; Project resource data tracking inputted in and regularly accessed from, the Atlas system	PM	UNDP

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VII. Legal Context

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of DPRK and the United Nations Development Programme, signed on 8th November 1979 (SBAA).

In addition to the SBAA, the terms of the “Memorandum of Understanding between the Democratic People’s Republic of Korea and the United Nations Development Programme regarding Financial, Human Resources and Programme Issues relating to the UNDP DPRK Programme” of 27th February 2009 shall apply to this project.

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VIII. Work plan and Budget

TOTAL PROJECT WORK PLAN AND BUDGET												
	United Nations Development Programme, DPRK											
	Year: 2012 -2015 Project Number: Project Title:											
Project ID	Components	Key Activities	Resp. Partner	Fund	Donor	Budget Description	Amount in US\$					
							Year 1	Year 2	Year 3	Year 4	Total	
	Output1: Community capacities for participatory hazard mapping and disaster reduction strengthened	Community engagement, introductory workshops and awareness-raising Development of participatory hazard mapping and disaster reduction planning Identification of potential project	UNDP	04000	UNDP	75700	Inception workshop	5,000				5,000
				04000	UNDP	72100	Publication of awareness materials			10,000		10,000
				04000	UNDP	72100	Site survey for hazard mapping	15,000	5,000			20,000
				04000	UNDP	72100	Development of hazard mapping & disaster reduction planning methodology	10,000				10,000
				04000	UNDP	75700	Study tour to Asian countries (community level beneficiaries)		46,460			46,460
				04000	UNDP	72200	Equipments for mapping	30,000				30,000
				04000	UNDP	75700	In-country consultation and workshops			5,000		5,000
				04000	UNDP	72100	Publication of manual for hazard mapping & disaster reduction planning			20,000		20,000
				04000	UNDP	72100	Assessment report	20,000				20,000

		sites										
		Training programmes for hazard mapping and disaster reduction planning at local (ri- and county Peoples' Committee) levels		04000	UNDP	75700	In-country training for hazard mapping		5,000	5,000		10,000
		Initial implementation of disaster reduction plans, including pilot risk reduction activities such as strengthening of embankments, clearing of watercourses, etc		04000	UNDP	72300	Construction materials			30,000		30,000
		Sub - Total						80,000	61,460	75,000	0	216,460
	Output 2: Weather monitoring and early warning systems (EWS) improved in pilot watersheds	Establishment and implementation of county-level weather monitoring and early warning system	UNDP	04000	UNDP	72100	Needs assessment, system design for data collection & analysis	20,000				20,000
				04000	UNDP	72200	Equipments and ancillaries	180,000				180,000
				04000	UNDP	75700	Training for hydro-meteorological staffs in data collection, analysis and preparation of forecast reports		40,000	5,000	5,000	50,000
				04000	UNDP	75700	Training for community leaders in use of local weather forecasts and seasonal data in agricultural and development planning			5,000	5,000	10,000
		Sub - Total						200,000	40,000	10,000	10,000	260,000

Output 3: Improved forest management to reduce flood risk, landslides and erosion in pilot watersheds	Development of initial watershed maps	UNDP	04000	UNDP	72100	Field survey for data collection and identification of risk area	15,000				15,000
	Rehabilitation, slope stabilization and reforestation activities in priority risk sites		04000	UNDP	72200	Equipments and materials for forest rehabilitation, erosion control		65,000	65,000		130,000
	Development of watershed management plan and action plan		04000	UNDP	72100	Review current management practice and develop options	15,000				15,000
			04000	UNDP	75700	Study tour on watershed management (TOT, community level beneficiaries)		30,000			30,000
			04000	UNDP	75700	In-country training on watershed management		5,000	5,000	5,000	15,000
			04000	UNDP	72100	Develop and printing awareness materials			5,000	10,000	15,000
			04000	UNDP	72100	Produce management plan and action plan				10,000	10,000
	Sub - Total						30,000	100,000	75,000	25,000	230,000
Output 4: Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes	Pilot site areas (sloping lands at risk of degradation and soil erosion) identified	UNDP	04000	UNDP	72100	Field survey for data collection and identification of risk area	15,000				15,000
	Sloping Land User Groups established and initial site and needs assessments undertaken		04000	UNDP	72100	Needs assessment	10,000				10,000

		Training and capacity-building on participatory livelihood assessment, energy needs assessment, field mapping of critical slopes, alternative livelihood development process and other relevant skills		04000	UNDP	75700	In-country trainings		5,000	5,000	5,000	15,000
		Sustainable management of sloping agricultural lands demonstrated resulting in improved livelihoods and energy access		04000	UNDP	72100	Development of agricultural maps			5,000	5,000	10,000
				04000	UNDP	72100	Identification of alternative livelihood activities and energy resources (link with existing rural projects to be established during inception phase)		10,000			10,000
				04000	UNDP	72200	Equipments and materials			180,000		180,000
				04000	UNDP	72100	Develop and printing SLM booklets				10,000	10,000
		Sub - Total						25,000	15,000	190,000	20,000	250,000
	Output 5: Multi-stakeholder coordination and project management	Establishment of project coordination mechanism	UNDP	04000	UNDP	71200	Int'l project manager	216,600	216,600	216,600	216,600	866,400
				04000	UNDP	71600	International travel (int'l staff)	6,000	6,000	6,000	6,000	24,000
				04000	UNDP	71600	Monitoring & Evaluation Specialist (c/s)	13,442	13,442	13,442	13,442	53,768
				04000	UNDP	71600	Procurement Analyst (c/s)	11,909	11,909	11,909	11,909	47,636
				04000	UNDP	71300	National training coordinator	3,000	3,000	3,000	3,000	12,000
				04000	UNDP	71300	Administrative assistant	8,400	8,400	8,400	8,400	33,600
				04000	UNDP	71300	Finance Associate (G6; 0.5 c/s)	3,534	3,534	3,534	3,534	14,136
				04000	UNDP	72200	Office equipments	70,000				70,000
				04000	UNDP	72400	Communication	3,000	3,000	3,000	3,000	12,000

				04000	UNDP	71300	1 Driver (to drive UNDP CO vehicles for project; vehicle will be used on cost-recovery basis)	7,000	7,000	7,000	7,000	28,000
				04000	UNDP	74500	Operation and maintenance	10,000	10,000	10,000	10,000	40,000
				04000	UNDP	71600	Monitoring & local travel	3,000	3,000	3,000	3,000	12,000
				04000	UNDP	74100	Final evaluation				30,000	30,000
		Sub - Total						355,885	285,885	285,885	315,885	1,243,540
		Total										2,200,000



ANNUAL WORK PLAN AND BUDGET
United Nations Development Programme, DPRK

Year: 2013-14
Project Number:

	Project Title:	Strengthening Ecosystem Resilience and Community Adaptive Capacity in Climate Affected River Basin in DPRK (SERCARB)										
Project ID	Components	Key Activities	Timeframe				Resp. Partner	Planned Budget				
			Q2	Q3	Q4	Q1		Fund	Donor	Budget Description	Amount US\$	
	Output1: Community capacities for	Community engagement, introductory workshops and awareness-raising		x			UNDP	04000	UNDP	75700	Inception workshop	5,000

participatory hazard mapping and disaster reduction strengthened	Development of participatory hazard mapping and disaster reduction planning	x	x	x	x	04000	UNDP	72100	Development of hazard mapping & disaster reduction planning methodology	10,000	
		x	x	x	x	04000	UNDP	72100	Site survey for hazard mapping	15,000	
			x			04000	UNDP	72200	Equipments for mapping	30,000	
	Identification of potential project sites	x				04000	UNDP	72100	Assessment report	20,000	
	Sub - Total									80,000	
Output 2: Weather monitoring and early warning systems (EWS) improved in pilot watersheds	Establishment and implementation of county-level weather monitoring and early warning system	x	x			UNDP	04000	UNDP	72100	Needs assessment, system design for data collection & analysis	20,000
					x		04000	UNDP	72200	Equipments and ancillaries	180,000
	Sub - Total									200,000	
Output 3: Improved forest management to reduce flood risk, landslides and erosion in pilot watersheds	Development of initial watershed maps		x	x		UNDP	04000	UNDP	72100	Field survey for data collection and identification of risk area	15,000
	Development of watershed management plan and action plan		x				04000	UNDP	72100	Review current management practice and develop options	15,000
	Sub - Total									30,000	
Output 4: Sustainable utilization	Pilot site areas (sloping lands at risk of degradation and soil erosion) identified			x	x	UNDP	04000	UNDP	72100	Field survey for data collection and identification of risk area	15,000

	and rehabilitation of sloping lands in agricultural landscapes	Sloping Land User Groups established and initial site and needs assessments undertaken			X				04000	UNDP	72100	Needs assessment	10,000
		Sub - Total											25,000
	Output 5: Multi-stakeholder coordination and project management	Establishment of project coordination mechanism	X	X	X	X	UNDP	04000	UNDP	71200	International project manager	216,600	
X			X	X	X	04000		UNDP	71600	International travel (int'l staff)	6,000		
X			X	X	X	04000		UNDP	71300	National training coordinator	3,000		
X			X	X	X	04000		UNDP	71300	Administrative assistant	8,400		
X			X	X	X	04000		UNDP	71300	Monitoring & Evaluation Specialist (c/s)	13,442		
X			X	X	X	04000		UNDP	71300	Procurement Analyst (c/s)	11,909		
X			X	X	X	04000		UNDP	71300	Finance Associate (0.5 c/s)	3,534		
X			X	X	X	04000		UNDP	72200	Office equipment	70,000		
X			X	X	X	04000		UNDP	72400	Communications	3,000		
X			X	X	X	04000		UNDP	71300	1 Driver (to drive existing UNDP project vehicle; vehicle used on cost-recovery basis)	7,000		
X			X	X	X	04000		UNDP	74500	Operation and maintenance	10,000		
X			X	X	X	04000		UNDP	71600	Monitoring & local travel	3,000		
		Sub - Total										355,885	
		Total										690,885	

FEDERAL

Annex 1: Risk Analysis

#	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
1	International political environment	2011	Security/Political	International political environment leading to disruption in UN assistance P=3; I=3	Strict adherence to the Executive Board Decisions and relevant UN Resolutions to maintain integrity of programmes	UNDP	UNDP	N/A	N/A
2	Monitoring and access to project site	2011	Operational	Facilitation is required from national and county government for approvals, travel clearances ; lack of this could delay implementation and results reporting P = 2; I=3	NCC and UNDP working with county governments to ensure facilitation. Reliance on international and national staff members for monitoring	UNDP,	UNDP	N/A	N/A
3	Pilot demonstration activities	2011	Operational	Technical specification of equipment list makes procurement process complex, leading to delay in acquiring and installing equipment P=3; I=4	Adherence to procurement rules and processes; close collaboration with HQ.	UNDP,	UNDP	N/A	N/A
4	Extreme environmental phenomenon	June 2010	Environmental	Floods or other natural disaster could hamper implementation. P=3; I=4	UNDP will plan work with partners to avoid progress or monitoring being affected by extreme weather or natural	UNDP	UNDP	N/A	N/A

					calamity and contingency planning.				
5	Equipment usage for non-project applications	June 2010	Technical	improper, dual usage of equipment could threaten project credibility and viability of future activities P=3;I=3	UNDP will monitor regularly through strict monitoring plan, project visits and regular consultation with national counterpart and the beneficiaries	UNDP,	UNDP	N/A	N/A
6	Problems in translation	April 2012	Technical	Translation problems impact the validity of analyses and reports P=2; I=2	Translation is usually done by national UNDP staff; UNDP will work closely with these colleagues and provide them with relevant technical support (such as training and back translation support) where necessary to ensure acceptability of translation. UNDP will ensure that interviews, questionnaires and/or any kind of test to be used are pre-tested or piloted in the localities where they are to be administered.	UNDP	UNDP	N/A	N/A

Annex 2: TERMS OF REFERENCE



UNITED NATIONS DEVELOPMENT PROGRAMME JOB DESCRIPTION

I. Position Information

Job Code Title: **Project Manager**
Position Number:
Department:
Reports to: **Deputy Resident Representative**
Reports:
Position Status: *(Rotational/non-Rotational)*

Current Grade: **P4**
Approved Grade:
Position Classified by:
Classification Approved by:

II. Organizational Context

Background:

The UNDP Country Programme Document (CPD) for the Democratic People's Republic of Korea was approved by the Executive Board in February 2011. In the CPD, Climate Change & Environment is identified as one of the important components to restore the livelihoods of the people and for sustainable development. Under this component, the project on Strengthening Ecosystem Resilience and Community Adaptive Capacity in Climate Affected River Basins in DPR Korea (SERCARB) is proposed. The project is designed to focus on ecosystem-based adaptation strategies such as sustainable watershed and forest management, as well as sustainable land management in agriculture to reduce soil erosion and runoff and to improve water retention, to promote sustainable natural resource management and livelihoods. The project will achieve the following outputs;

- Strengthening community capacities for participatory hazard mapping and disaster reduction
- Improving weather monitoring and early warning systems (EWS) in pilot watersheds
- Improving forest management to reduce flood risk, landslides and erosion in pilot watersheds
- Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes
- Establishment of multi-stakeholder coordination and project management

A Project Manager (PM) is required to coordinate the management and implementation of the project.

Under the direct supervision of the Deputy Resident Representative of the UNDP DPRK and working closely with the CO M&E Advisor, the Project Manager will manage and coordinate the implementation of the SERCARB project. The incumbent will monitor and oversee the progress of project implementation in all aspects (operations and processes, including budget and financial management, work planning, procurement, recruitment, audit, monitoring, evaluation and reporting functions, as well as coordination with counterparts, partners and relevant stakeholders).

Highest standards of integrity, direction and commitment to UN/DP principles are essential as well as ability to meet deadlines and maintain high quality of outputs working under pressure.

III. Functions / Key Results Expected

Summary of key functions:

- Managing the day-to-day activities of the project
- With a view to ensuring that effective assistance flows directly to targeted beneficiaries, ensuring effective coordination and information sharing on project activities with relevant stakeholders, and within UNCT
- Provision of technical guidance to local communities on programmatic and project implementation issues
- Ensuring needs and capacity assessments are completed and technical assistance is provided effectively according to plan
- Overseeing that administrative and operational support is provided effectively according to plan

1. Managing the day-to-day activities of the project:

- Managing the implementation of project activities in line with UNDP Programme and Operations Policies and Procedures (POPP) based on annual Work Plan, including cost effective financial management and budget execution;
- With a view to ensuring that effective assistance flows directly to targeted beneficiaries, planning and coordinating implementation of project activities with counterparts, and monitoring progress against established quality criteria as well as the Project's Annual Work Plan (AWP), Quarterly Plans (if required) and Budget. This includes the establishment of an M&E framework and system, including the organization and conduct of regular field monitoring missions to target areas/sites;
- Initiate, follow-up on and finalize all required recruitment and procurement actions with operations units, for mobilizing goods and services as inputs to project implementation, including drafting terms of reference, requests for proposals and other required work specifications and related documentation;
- Organize and conduct or oversee field missions, workshops, training and/or study tours for relevant beneficiaries;
- Coordinate specific activities of the project, including leading the demonstration site assessment and selection process, to confirm the suitability of the first selected site and to identify a second replication site.
- Lead the implementation of activities under Output 1, including leading the community hazard mapping and disaster reduction planning activities at each project site. Coordinate activities under Output 2, and under Outputs 3 and 4.
- Monitor financial resources and accounting to ensure accuracy and reliability of financial

reports, including budget revisions (as required).

- Ensure a comprehensive Monitoring and Evaluation (M&E) plan and system is developed and implemented, and M&E reports are finalized and circulated in a timely manner;
- Monitor, update and submit project risks and issues log to the Project Steering Committee for consideration and decision on possible management and risk mitigation actions (if required), and ensure all project risks and issues are addressed or resolved effectively and in a timely manner;
- Finalize Project Progress, Financial and Annual Review Reports (progress against planned activities, update on Risks and Issues, expenditures) and submit these to the Project Steering Committee;
- Ensure that the Atlas Project Management module is updated on a quarterly basis;
- Effectively promote synergies with other UNDP projects in DPRK.

2. Ensuring effective coordination and information sharing on project activities with relevant stakeholders, and within UNCT, so that effective assistance flows directly to targeted beneficiaries

- Regular coordination meetings with stakeholders, including communication and information sharing with counterparts, partners and relevant stakeholders, on project implementation and ensure complementarities and synergies with other development projects;
- Ensure coordination and complementarities of the project with similar environment and livelihoods support projects implemented by other development partners. This includes effective liaison and coordination with other UN agencies and NGO livelihood actors and related programmes and projects, to share information, identify synergies and activities suitable for sustainable rural development;
- Organize and coordinate regular field missions to target sites;
- Establish joint information sharing and reporting platforms for effective communication;

3. Provision of technical guidance to counterparts and communities on programmatic and project implementation issues, with a view to ensuring that effective assistance flows directly to targeted beneficiaries:

- Advice and support counterparts and communities in decision making on project implementation;
- Ensure that project standards and policies are maintained, communicated appropriately to counterparts, partners and other stakeholders;
- Oversee the delivery rates of every output of the project and take necessary measures (if required).

4. Ensuring needs and capacity assessments are completed and provision of technical assistance to support counterparts and partners, with a view to ensuring that effective assistance flows directly to targeted beneficiaries:

- Oversee and coordinate provision of technical assistance to counterparts and relevant stakeholders to support an appropriate level of understanding of development requirements and identify other opportunities for programme development;
- Capacity and needs assessments of counterparts and implementing partners completed and that a capacity development strategy is developed and implemented;

- Appropriate training and related activities for counterparts are effectively implemented;

5. Oversee administrative and operational support is provided effectively to counterparts:

- Effective operational and logistical support to counterparts is in place;
- Any other duties as assigned by the Deputy Resident Representative

IV. Impact of Results

The key results will contribute in achieving the relevant intended outcomes of the country programme document for DPRK (2011-2015). The project will aim at promoting sustainable natural resource management and livelihoods in rural areas. In addition, the project will assist in accelerating progress towards the achievement of the MDGs and the outcomes will support the national efforts towards achieving MDGs 1, 7.

V. Competencies

Corporate Competencies:

- Demonstrate integrity by modelling the UN's values and ethical standards;
- Promote the vision, mission and strategic goals of UNDP;
- Display cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Treats all people fairly without favouritism.

Functional Competencies:

Knowledge Management and Learning

- Promote a knowledge sharing and learning culture in the office;
- In-depth knowledge on environment development issues;
- Ability to advocate and provide policy advice;
- Actively work towards continuing personal learning and development in one or more Practice Areas, act on learning plan and apply newly acquired skills.

Development and Operational Effectiveness

- Ability to lead strategic planning, results-based management and reporting;
- Ability to lead formulation, implementation, monitoring and evaluation of development programmes and projects, and mobilize resources;
- Good knowledge of the UNDP Programme and Operations Policies and Procedures, PRINCE2 and ATLAS Finance;
- Ability to lead implementation of new systems (business side), and affect staff behavioural/attitudinal change;
- Strong IT skills.

Management and Leadership

- Focus on impact and result for the client and responds positively to feedback;
- Lead teams effectively and show conflict resolution skills;
- Consistently approach work with energy and a positive, constructive attitude;
- Demonstrate strong oral and written communication skills;
- Builds strong relationships with clients and external actors;

- Remain calm, in control and good humoured even under pressure;
- Demonstrate openness to change and ability to manage complexities.

VI. Recruitment Qualifications

Education:	Master's Degree or equivalent in environment management, ecosystem conservation and land management, sustainable development, or related field
Experience:	<ul style="list-style-type: none"> • At least 10 years of specialized experience of appropriate scope and complexity in environment and sustainable development with a focus on conservation ecosystem, disaster management, climate change adaptation and mitigation • Experience in working with government and other national institutions and counterparts, UN agencies, international NGOs and other relevant stakeholders in a complex environment • Experience in hazard mapping and disaster reduction planning and related experience in the North East Asia region is preferable • Experience with UNDP Programme and Operations Policies and Procedures and PRINCE2 (project management), including experience with ATLAS Finance (resource management system) would be advantage • Excellent computer skills, particularly with Microsoft Office (Word, Excel, Outlook and PowerPoint)
Language Requirements:	<ul style="list-style-type: none"> • Fluency in English required; Korean language skills desirable • Knowledge of North-East Asia, Korean peninsula in particular, is an asset



UNITED NATIONS DEVELOPMENT PROGRAMME JOB DESCRIPTION

I. Position Information

Job Code Title: **National Training Coordinator**
 Position Number:
 Department: **UNDP DPR Korea**
 Reports to: **Project Manager**

Current Grade:
 Approved Grade:
 Position Classified by:
 Classification Approved by:

Reports: Position Status: <i>(Rotational/non-Rotational)</i>	
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II. Organizational Context

Background:

The UNDP Country Programme Document (CPD) for the Democratic People’s Republic of Korea was approved by the Executive Board in February 2011. In the CPD, Climate Change & Environment is identified as one of the important components to restore the livelihoods of the people and for sustainable development. Under this component, the project on Strengthening Ecosystem Resilience and Community Adaptive Capacity in Climate Affected River Basins in DPR Korea (SERCARB) is proposed. The project is designed to focus on ecosystem-based adaptation strategies such as sustainable watershed and forest management, as well as sustainable land management in agriculture to reduce soil erosion and runoff and to improve water retention, to promote sustainable natural resource management and livelihoods. The project will achieve the following outputs;

- Strengthening community capacities for participatory hazard mapping and disaster reduction
- Improving weather monitoring and early warning systems (EWS) in pilot watersheds
- Improving forest management to reduce flood risk, landslides and erosion in pilot watersheds
- Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes
- Establishment of multi-stakeholder coordination and project management

A National Training Coordinator (NTC) is required to coordinate the capacity development activities of the project.

Under the direct supervision of the Project Manager, the National Training Coordinator will support the knowledge management as well as technical aspects related to livelihood improvement. He/she is expected to report to UNDP Office three (3) days per week.

III. Functions / Key Results Expected

Summary of key functions:

- Support the Project Manager in project implementation
- Assist capacity development and training activities, with a view to ensuring that effective assistance flows directly to targeted beneficiaries
- Support preparation for possible scaling up activities

1. Support the Project Manager in the project implementation:

- Support the Project Manager in managing the implementation unit of the project and

supervising the delivery of sub-contracts and services for the accomplishment of project outputs;

- Assist the Project Manager in identification of appropriate techniques and equipment, and dissemination and exchange of knowledge, information, experiences and lessons learnt at the ri and county level;
- Identify and appraise the optimal intervention to meet the existing and potential rural development needs and services, including financial appraisal;
- Support activities related to the implementation of the pilot phase of the project as required;
- Support the recruitment and management of national project personnel involved in knowledge dissemination and training activities;
- Support the Project Manager to organize, conduct or oversee workshops, training and/or study tours for counterparts and other relevant stakeholders

2. Assist capacity development and training activities, with a view to ensuring that effective assistance flows directly to targeted beneficiaries:

- Collect information on national legislation concerning all aspects of environmental management and rural development in DPRK, including enforcement and recommendations on required changes
- Support and facilitate the organization of local training and workshops and other capacity development activities by formulating training courses, preparing programme and invitations, providing translation services when necessary, and conducting evaluation of training and capacity development activities implemented
- Assist the Project Manager in identifying participants to local and international training courses and other related activities and in assessing their qualification for such
- Support that project's knowledge management and learning standards and policies are maintained, communicated appropriately to counterparts, partners and other stakeholders
- Support capacity and needs assessments of counterparts and implementing partners completed and that a capacity development strategy is developed and implemented
- Support and ensure appropriate training and related activities for county and community leaders are effectively implemented

3. Support preparation for possible scaling up activities:

- Identify and record the barriers faced by beneficiaries and stakeholders in the pilot phase and document the best practices that could be used to draw lessons from for the scale-up and the replication at the national level;
-
- Support the Project Manager to formulate strategies and plans for scaling-up of ecosystem based adaptation at the national level, based on the lessons learnt during the project implementation

IV. Impact of Results

The key results will contribute in achieving the relevant intended outcomes of the country programme document for DPRK (2011-2015). The project will aim at promoting sustainable natural resource management and livelihoods in rural areas. Also, the project will assist in accelerating progress towards the achievement of the MDGs and the outcomes will support the national efforts towards achieving MDGs 1, 7

V. Competencies

Corporate Competencies:

- Demonstrate commitment to UNDP's mission, vision and values;
- Display cultural, gender, religion, race, nationality and age sensitivity and adaptability.

Functional Competencies:

Knowledge Management and Learning

- Share knowledge and experience;
- Actively work towards continuing personal learning and apply newly acquired skills.

Development and Operational Effectiveness

- Ability to perform a variety of standard tasks related to Results Management, including screening and collecting of project documentation, project data entering, preparation of revisions, filing, provision of information;
- Ability to provide input to business processes re-engineering, implementation of new system, including new IT based systems;
- Good knowledge of Results Management Guide and Toolkit;

Leadership and Self-Management

- Focus on result for the client and responds positively to feedback;
- Consistently approach work with energy and a positive, constructive attitude;
- Remain calm, in control and good humored even under pressure

VI. Recruitment Qualifications

Education:	University Degree in Economic Development, Environment Management, Rural Development Business or similar fields
Experience:	<ul style="list-style-type: none">• At least 5 years of relevant administrative or programme experience is required at the national or international level• Experience in the usage of computers and office software packages (MS Word, Excel, etc) and knowledge of spreadsheet and database packages• Experience in organizing seminars, workshops and/or study tours

	<ul style="list-style-type: none"> • Experience in working with UN or other international organizations is preferable
Language Requirements:	Fluency in written and spoken English. Experience in translating technical publication materials would be an advantage



I. Position Information	
Job Code Title: National Administrative Assistant Position Number: Department: UNDP DPR Korea Reports to: Project Manager Reports: Position Status: <i>(Rotational/non-Rotational)</i>	Current Grade: SC-SB 3 equivalent to G5 level Approved Grade: Position Classified by: Classification Approved by:

II. Organizational Context
<p>Background:</p> <p>The UNDP Country Programme Document (CPD) for the Democratic People’s Republic of Korea was approved by the Executive Board in February 2011. In the CPD, Climate Change & Environment is identified as one of the important components to restore the livelihoods of the people and for sustainable development. Under this component, the project on Strengthening Ecosystem Resilience and Community Adaptive Capacity in Climate Affected River Basins in DPR Korea (SERCARB) is proposed. The project is designed to focus on ecosystem-based adaptation strategies such as sustainable watershed and forest management, as well as sustainable land management in agriculture to reduce soil erosion and runoff and to improve water retention, to promote sustainable natural resource management and livelihoods. The project will achieve the following outputs;</p> <ul style="list-style-type: none"> • Strengthening community capacities for participatory hazard mapping and disaster reduction • Improving weather monitoring and early warning systems (EWS) in pilot watersheds • Improving forest management to reduce flood risk, landslides and erosion in pilot

watersheds

- Sustainable utilization and rehabilitation of sloping lands in agricultural landscapes
- Establishment of multi-stakeholder coordination and project management

A National Administrative Assistant (NAA) is required to assist the Project Manager for the management and implementation of the project.

Under the direct supervision of the Project Manager, the National Administrative Assistant will assist the Project Manager in regards to the project implementation.

III. Functions / Key Results Expected

Summary of key functions:

- Serve as assistant to the Project Manager and provide relevant support for the day-to-day management of the SED project
- Provision of logistical support to counterparts and communities on knowledge and learning issues

1. Serve as assistant to the Project Manager and provide relevant support for the day-to-day management of the project:

- Support the Project Manager to ensure efficient provision of administrative services for the accomplishment of project outputs and in the day-to-day management of project activities;
- Support the Project Manager to plan and coordinate implementation of project activities with government counterparts and monitor progress against established quality criteria as well as the Project's Annual Work Plan (AWP), Quarterly Plans (if required) and Budget
- Support the recruitment and management of national project personnel involved in knowledge dissemination and training activities;
- Support the Project Manager to organize and conduct or oversee field missions, workshops, training and/or study tours for counterparts and other relevant stakeholders in terms of logistics;
- Arrange appointments and meetings with national stakeholders for the Project Manager, acting as an interpreter when required and/or taking minutes;
- Support to the preparation, circulation, filing, archiving of the report on project implementation and monitoring;
- Support to efficient local procurement including proper management of project assets

2. Provision of logistical support to counterparts and communities on knowledge and learning issues:

- Collect information on national legislation concerning all aspects of environmental management and rural development in DPRK, including enforcement and recommendations on required changes;
- Support and facilitate the organization of local training and workshops, including the

provision of needed logistical services by assisting in identifying venues, procuring and putting all training materials in place, and preparing programme and invitations, etc.

- Support that project's knowledge management and learning standards and policies are maintained, communicated appropriately to counterparts, partners and other stakeholders;
- Oversee and coordinate provision of logistical assistance to counterparts and relevant stakeholders to support an appropriate level of understanding of development requirements and identify other opportunities for programme development;
- Support capacity and needs assessments of counterparts and implementing partners completed and that a capacity development strategy is developed and implemented;
- Support and ensure appropriate training and related activities for county and community leaders are effectively implemented

IV. Impact of Results

The key results will contribute in achieving the relevant intended outcomes of the country programme document for DPRK (2011-2015). The project will aim at promoting sustainable natural resource management and livelihoods in rural areas. Also, the project will assist in accelerating progress towards the achievement of the MDGs and the outcomes will support the national efforts towards achieving MDGs 1, 7

V. Competencies

Corporate Competencies:

- Demonstrate commitment to UNDP's mission, vision and values;
- Display cultural, gender, religion, race, nationality and age sensitivity and adaptability.

Functional Competencies:

Knowledge Management and Learning

- Share knowledge and experience;
- Actively work towards continuing personal learning and apply newly acquired skills.

Development and Operational Effectiveness

- Ability to perform a variety of standard tasks related to Results Management, including screening and collecting of project documentation, project data entering, preparation of revisions, filing, provision of information;
- Ability to provide input to business processes re-engineering, implementation of new system, including new IT based systems;
- Good knowledge of Results Management Guide and Toolkit;
- Proficiency in ATLAS Projects Module.

Leadership and Self-Management

- Focus on result for the client and responds positively to feedback;
- Consistently approach work with energy and a positive, constructive attitude;
- Remain calm, in control and good humored even under pressure

VI. Recruitment Qualifications	
Education:	Secondary Education preferably with specialized certification in Accounting and Finance. University Degree in Business or Public Administration, Economics and Social Sciences would be desirable, but it is not a requirement
Experience:	<ul style="list-style-type: none"> • 3 to 5 years of relevant administrative or programme experience is required at the national or international level • Experience in the usage of computers and office software packages (MS Word, Excel, etc) and knowledge of spreadsheet and database packages • Experience in handling of web based management systems • Experience in organizing seminars, workshops and/or study tours • Experience in working with UN or other international organizations is preferable
Language Requirements:	<ul style="list-style-type: none"> • Fluency in written and spoken English



I. Position Information	
Job Code Title:	Monitoring & Evaluation (M&E) Specialist
Pre-classified Grade:	ICS-10
Supervisor:	DRR (P&O) and matrix reporting line to RR, UNDP

II. Organizational Context
Under the overall guidance of the RR and direct supervision of the DRR (P&O), the M&E Specialist in UNDP DPRK ensures the effective implementation of the CO's M&E plan and activities, sets appropriate monitoring and evaluation requirements for UNDP DPRK projects and programme, assumes overall responsibility for M&E related data collection, collation, analysis

and reporting (internal and external), and makes consistent follow up on implementation of recommendations.

The M&E Specialist ensures that necessary oversight and M&E strategy for DPRK is implemented within the context of the proposed measures for resumption of UNDP programme of operations in DPRK as approved by the Executive Board. The M&E Specialist ensures that objective evaluations are designed and managed to assess the country programme and project relevance, effectiveness, efficiency, impact and sustainability of results; evaluations carried out in a credible and systematic manner; evaluation lessons and recommendations are used for programme and project design, contribute to implementation of UNSF priorities and results.

The M&E Specialist liaises closely with the Evaluation Office at Headquarters regarding evaluation approaches and methodologies, ensuring that UNDP DPRK meets the minimum requirements for monitoring and evaluation, including the conduct of mandatory project evaluations.

The M&E Specialist works closely with the Programme and Operations Teams in the CO, RC Office, Government officials, donors and other partners to ensure that thematic, programme and project oversight and evaluations are carried out according to schedules and that findings and recommendations are implemented and followed up.

III. Functions / Key Results Expected

Summary of Key Functions:

- ❑ Implementation of evaluation policies and strategies
- ❑ Management and implementation of the evaluation process
- ❑ Monitoring and evaluation support towards UNDP's coordination role in DPRK
- ❑ Knowledge building and knowledge sharing on monitoring and evaluation

1. Ensures the **implementation of evaluation policies and strategies**, focusing on achievement of the following results:

- ❑ Direct responsibility and accountability for: planning, management and oversight of thematic, country programme/project, and other types of evaluations conducted in the Country Office; and for implementing UNDP DPRK M&E commitments as required by UNDP corporate priorities and as reflected in the document DP/2009/8 approved by the Executive Board
- ❑ Establishing mechanisms to assure all mandatory decentralized M&E requirements are met, the intended results are produced, and to assure the funding of the plan
- ❑ Updating the M&E plan when appropriate
- ❑ Ensuring regular and timely submission of good quality M&E report
- ❑ Ensuring an annual or 'as needed' physical verification of project equipment against inventories
- ❑ Ensuring that CO reporting requirements relating to M&E are met
- ❑ Advice to the SM on the programme of work, including identification of topics, and projects/programme to be evaluated

- ❑ In close collaboration with the Programme Support Unit, continuously monitors utilization of resources to ensure that these are consistent with intended activities and supportive of CO goals
- ❑ Development of evaluation tools and processes, innovative approaches in evaluation that meet the requirements of UNDP DPRK
- ❑ Collaborate with HQ Evaluation Office and evaluation units in other Country Offices with a view of cross-pollinating and harmonizing evaluation approaches and agendas.
- ❑ Promotion of evaluation standards, quality assurance/control and capacity development in the Country Office
- ❑ Organization, coordination and leadership of evaluation missions for development projects, sectoral and thematic evaluations
- ❑ Organization and coordination of desk evaluations/studies on selected sectors/themes
- ❑ Provide advice to the team and stakeholders on strategies to improve M&E related components and activities
- ❑ Support the development of project proposals – particularly performance monitoring plans and M&E sections
- ❑ Any other functions/activities as requested by the Senior Management.

2. Ensures **effective management and implementation of the evaluation process** in the Country Office, focusing on achievement of the following results:

- ❑ Leads the development, testing/piloting and roll-out and hands-on implementation of M&E assignments, method and tools, as may be necessary based on special circumstances in DPRK
- ❑ Provides guidance on UNDP evaluation policies, procedures and practices to project managers, UNDP CO staff concerned with evaluation, consultants and others as required
- ❑ Provision of the technical advice at the design stage of programmes/projects for setting up a framework with defined indicators to facilitate the evaluation at the later stages
- ❑ Provision of evaluation feedback into policy/project/programme design, including comments on various documents
- ❑ Follow up on implementation of evaluation recommendations; ensuring the optimal use of evaluations by providing guidance in preparation of timely management response to all mandatory evaluations and by developing a communication plan
- ❑ Organizes, designs, plans and carries out the collection, evaluation, analysis, compilation and dissemination of statistical data as required in the performance of monitoring and evaluation by selecting methods suitable to the special circumstances in DPRK of data collection and for checking collected data
- ❑ Leads the assessment of indicators and systems to measure development results and impact of UNDP DPRK activities and processes
- ❑ Plans and conducts data compilation and analysis together with other assessment methods to improve evaluability of programme and projects and evidence based reporting.

3. Ensuring **effective monitoring and evaluation support towards enhancing the effectiveness of UNDP's coordination role in DPRK**, focusing on achievement of the following results:

- ❑ Supports UNDP and RC office in the coordination of monitoring of the UN Strategic Framework (UNSF)

- ❑ Assists in the finalization of UNDP component/participation in the UNSF M&E calendar
- ❑ Facilitates the functioning of the M&E working group including representatives of all agencies/data theme group, to ensure common understanding and coherent implementation of the M&E system
- ❑ Supports on behalf of UNDP the review and finalization the UNSF Results M&E Matrices including assisting results theme groups to refine and improve or develop performance indicators, set baselines and targets at output and outcome level
- ❑ Supports capacity development of national M&E systems
- ❑ From the perspective of UNDP, assesses the relevance, strategic focus, and implementation progress of the UN system in DPRK, to track the results of working closer together – in terms of efficiency gains and enhanced development impact
- ❑ Assists Senior Management to conceptualize and consolidate progress reports
- ❑ Assists in the timely preparation and dissemination of results-oriented reports, as well as briefing documents and other publications relating to UN collaborative implementation in the country

4. **Champions CO knowledge building and knowledge sharing in the area of monitoring and evaluation**, focusing on achievement of the following results:

- ❑ Compiles and disseminates information extracted from all available information management systems in DPRK to Senior Management and other stakeholders as needed
- ❑ Identifies and formulates evaluation findings, lessons learned and recommendations to be integrated into broader knowledge management efforts
- ❑ Identifies and formulates lessons learned from evaluations and studies to be integrated into broader knowledge management
- ❑ Ensure effective implementation of the Evaluation Knowledge Management and Learning Strategy for the CO
- ❑ Collaboration and coordination with other UN agencies, government agencies, NGOs, and other organizations on monitoring and evaluation issues
- ❑ Organization and conduct of results-oriented monitoring and evaluation trainings in the Country Office and as requested
- ❑ Organizes knowledge sharing events and presentations, maintaining communications on knowledge sharing within UNDP DPRK, and across the UN Senior Management
- ❑ Participation in evaluation community remaining abreast of latest development and professional norms, standards, tools and methodologies and disseminating knowledge on KM tools and systems.
- ❑ Any other responsibilities as requested by the Management.

IV. Impact of Results

The key results have an impact on the effective implementation of UNDP DPRK's portfolio of projects, on the overall effectiveness and success of UNDP's interventions and activities in achieving the country's development and the MDGs. Effective implementation of evaluation policies and strategies, as well as efficient management of the evaluation process, enhance the organization's capacity and credibility to provide leadership and high-quality technical advice on the formulation of innovative programme strategies and projects which address specific needs of the country in the UNDP Practice Areas.

V. Competencies and Critical Success Factors

Functional Competencies:

Advocacy/Advancing A Policy-Oriented Agenda

Level 2: Analysis and creation of messages and strategies

- Uses the opportunity to bring forward and disseminate materials for advocacy work

Results-Based Programme and Project Development and Management

Level 1.2: Contributes into results through primary research and analysis

- Assesses project performance to identify success factors and incorporates best practices into project work
- Researches linkages across programme and project activities to identify critical points of integration
- Monitors specific stages of projects/programme implementation

Building Strategic Partnerships

Level 2: Identifying and building partnerships

- Identifies needs and interventions for capacity building of counterparts, clients and potential partners
- Displays initiative, sets challenging outputs for him/herself and willingly accepts new work assignments
- Takes responsibility for achieving agreed outputs within set deadlines and strives until successful outputs are achieved

Innovation and Marketing New Approaches

Level 2: Developing new approaches

- Looks at experience critically, drawing lessons, and building them into the design of new approaches
- Identifies new approaches and promotes their use in other situations
- Documents successes and uses them to project a positive image
- Creates an environment that fosters innovation and innovative thinking
- Makes the case for innovative ideas from the team with own supervisor

Promoting Organizational Learning and Knowledge Sharing

Level 2: Developing tools and mechanisms

- Makes the case for innovative ideas documenting successes and building them into the design of new approaches
- Identifies new approaches and strategies that promote the use of tools and mechanisms

Job Knowledge/Technical Expertise

Level 2: In-depth knowledge of the subject matter

- Understands more advanced aspects of primary area of specialization as well as the fundamental concepts of related disciplines
- Serves as internal consultant in the area of expertise and shares knowledge with staff
- Keeps abreast of new developments in area of professional discipline and job knowledge and seeks to develop him/herself professionally
- Demonstrates comprehensive knowledge of information technology and applies it in work assignments
- Demonstrates comprehensive understanding and knowledge of the current guidelines and project management tools and utilizes these regularly in work assignments

Global Leadership and Advocacy for UNDP's Goals

Level 2: Analysis and creation of messages and strategies

- Uses the opportunity to bring forward and disseminate materials for global advocacy work and adapts it for use at country level*

Client Orientation

Level 2: Contributing to positive outcomes for the client

- Anticipates client needs
- Works towards creating an enabling environment for a smooth relationship between the clients and service provider
- Demonstrates understanding of client's perspective

Core Competencies:

- Promoting ethics and integrity, creating organizational precedents
- Building support and political acumen
- Building staff competence, creating an environment of creativity and innovation
- Building and promoting effective teams
- Creating and promoting enabling environment for open communication
- Creating an emotionally intelligent organization
- Leveraging conflict in the interests of UNDP & setting standards
- Sharing knowledge across the organization and building a culture of knowledge sharing and learning.
- Promoting learning and knowledge management/sharing is the responsibility of each staff member.
- Fair and transparent decision making; calculated risk-taking

Prince 2 training and certification desirable

VI. Recruitment Qualifications	
Education:	A master's degree or equivalent in International Relations, Political Science, Economics or related field, and strong data analysis training.

<p>Experience:</p>	<p>5 years of operational M&E experience at the national and international level in international development issues required, in the field (particularly in special operations countries) and HQ, including in applied research and impact evaluation.</p> <p>Expertise in results measurement methodologies applied to interventions in command-type economies. This should include familiarity with cutting-edge M&E methods, designing results frameworks and evaluating development results, including experience in practical implementation of impact evaluations, experimental and quasi-experimental evaluations, particularly in public and private enterprises.</p> <p>Demonstrated experience in applying qualitative/participatory research methods; linking planning to M&E; results based approaches.</p> <p>Experience in the usage of computers and office software packages, experience in handling of web based management systems; proficiency in using statistical analysis software, such as SPSS, STATA, Excel); qualitative data analysis software (such as QSR) will be an asset.</p> <p>Report writing and presentation skills; experienced in: rendering M&E results using different media; C4D/E approaches.</p>
<p>Language Requirements:</p>	<p>Fluency in English; knowledge of Korean will be considered an asset.</p>
<p>UNDP is committed to achieving workforce diversity in terms of gender, nationality and culture. Individuals from minority groups, indigenous groups and persons with disabilities are equally encouraged to apply. All applications will be treated with the strictest confidence.</p>	

<p>VII. Signatures- Job Description Certification</p>		
<p>Incumbent <i>(if applicable)</i></p>		
<p>Name</p>	<p>Signature</p>	<p>Date</p>
<p>Supervisor</p>		
<p>Name</p>	<p>Signature</p>	<p>Date</p>
<p>Chief Division/Section</p>		
<p>Name</p>	<p>Signature</p>	<p>Date</p>



UNITED NATIONS DEVELOPMENT PROGRAMME GENERIC JOB DESCRIPTION

I. Position Information

Job Code Title: **Procurement Analyst**
Pre-classified Grade: P2 (ICS 9)
Supervisor: Operations Manager
Source of Funds: *Project funded*

II. Organizational Context

In close collaboration with relevant projects managers and the direct supervision of the Operations Manager, the Procurement Analyst supervises the CO Procurement Unit, responsible for effective delivery of procurement services in order to obtain the best value for money in UNDP DPRK and its projects.

He/she analyzes and interprets the financial rules and regulations and provides solutions to a wide spectrum of complex issues related to procurement. The Procurement Analyst promotes a collaborative, client-focused, quality and results-oriented approach in the Unit. The Procurement Analyst works in close collaboration with the Operations, Programme Support, Programme and project teams in the CO, UNDP HQs staff and Government officials to successfully deliver procurement services. The Procurement Analyst is expected to work with relative independence, be responsibly innovative and creative in finding solutions to procurement challenges faced by the Country Office.

The Procurement Analyst is expected to play a leading role in the UN Common Procurement Task Force for enhancing UN common procurement activities.

III. Functions / Key Results Expected

Summary of key functions:

- Implementation of operational strategies
- Management of procurement processes
- Implementation of sourcing strategy and e-procurement tools
- Facilitation of knowledge building and knowledge sharing

Manages and guides procurement processes for CO, DEX projects, Common Services and at the request of other Agencies focusing on achievement of the following results:

- Timely and duly preparation of procurement plans for the office and projects and monitoring of their implementation.
- Implementation of proper monitoring and control of procurement processes including organization of RFQ, ITB or RFP, receipt of quotations, bids or proposals, their evaluation, negotiation of certain conditions of contracts in full compliance with UNDP rules and regulation.
- Review and certification of submissions to the Contract, Asset and Procurement Committee (CAP)

and Advisory Committee on Procurement (ACP).

- Management of procurement contracts.
- Implementation of the corporate and UNDP DPRK Specific Internal Control Framework.
- Timely corrective actions on POs with budget check errors and other problems.
- Preparation of cost-recovery bills in Atlas for procurement services provided by UNDP to other Agencies.
- Implementation of harmonized procurement services, analysis of requirements and elaboration of proposals on common services expansion in the UN House, introduction of joint procurement for the UN Agencies in line with the UN reform.

Ensures introduction and implementation of sourcing strategy and e-procurement tools focusing on achievement of the following results:

- Development and management of the rosters of suppliers, elaboration of supplier selection and evaluation, quality and performance measurement mechanisms.
- Management of e-procurement module.

Ensures facilitation of knowledge building and knowledge sharing in the CO focusing on achievement of the following results:

- Organization of trainings for the operations/ projects staff on Procurement.
- Synthesis of lessons learnt and best practices in Procurement.
- Sound contributions to knowledge networks and communities of practice.

IV. Impact of Results

The key results have an impact on the overall CO efficiency in procurement management as well as SED and Climate Change Projects and success in introduction and implementation of operational strategies. Accurate, thoroughly researched information, timely and appropriate delivery of services ensure client satisfaction and overall timely delivery of UNDP programmes and projects.

V. Competencies and Critical Success Factors

Corporate Competencies:

- Demonstrates integrity by modeling the UN's values and ethical standards
- Promotes the vision, mission, and strategic goals of UNDP
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability
- Treats all people fairly without favoritism

Functional Competencies:

Knowledge Management and Learning

- Promotes a knowledge sharing and learning culture in the office
- In-depth knowledge on development issues

- Ability to advocate and provide policy advice
- Actively works towards continuing personal learning and development in one or more Practice Areas, acts on learning plan and applies newly acquired skills

Development and Operational Effectiveness

- Ability to analyze procurement service requirements
- Ability to lead procurement processes using specific procurement methods (RFQ, ITB, RFP).
- Ability to apply organizational policies and procedures
- Ability to lead implementation of new systems (business side), and affect staff behavioral/attitudinal change
- Strong analytical skills

Management and Leadership

- Focuses on impact and result for the client and responds positively to feedback
- Leads teams effectively and shows conflict resolution skills
- Consistently approaches work with energy and a positive, constructive attitude
- Demonstrates strong oral and written communication skills
- Builds strong relationships with clients and external actors
- Remains calm, in control and good humored even under pressure
- Demonstrates openness to change and ability to manage complexities

UNDP Procurement Certification programme

Education:	Master’s Degree or equivalent in Business Administration, Public Administration, Finance, Economics or related field is desirable. Otherwise a combination of a first level university degree and at least 4 years of relevant experience is required.
Experience:	At least 2-4 years of relevant experience at the national or international level in procurement management (warehouse, logistics, assets or supply chain related field). Experience in the usage of computers and office software packages (MS Word, Excel, etc) .
Language Requirements:	Fluency in the English

VII. Signatures- Post Description Certification

Incumbent *(if applicable)*

Name	Signature	Date
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Supervisor

Name / Title	Signature	Date
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Chief Division/Section

Name / Title	Signature	Date
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Annex 4: Draft Concept for Installation of Monitoring Equipments

1) Weather monitoring, early warning system and agro-meteorological service

The SERCARB project potential site overview is as in Figure below. The county regular monitoring station (CRMS) will be equipped with fluviograph, impeller, solar panel with battery and regulator, personal computer and communications system for early warning system, and other appropriate equipment as needed, soil physical measurement and appropriate thermometer for agro-meteorological service and drought monitoring. The CRMS will receive rainfall data from all the rain gauge stations and hydrological data from Ri-level monitoring stations.

The Ri-level monitoring stations (RMS) will be equipped with fluviograph, impeller, solar panel with battery and regulator, and communications system for both transmission of hydrological data to the CRMS and for Ri-level early warning, and other appropriate equipment as needed, soil physical measurement and appropriate thermometer for agro-meteorological service and drought monitoring. The RMSs will receive rainfall data from the rain gauge stations. The rain gauge stations (RGS) will be equipped with automatic rain gauge, communications systems and solar panel with battery and regulator to transmit rainfall data to the RMS and CRMS.

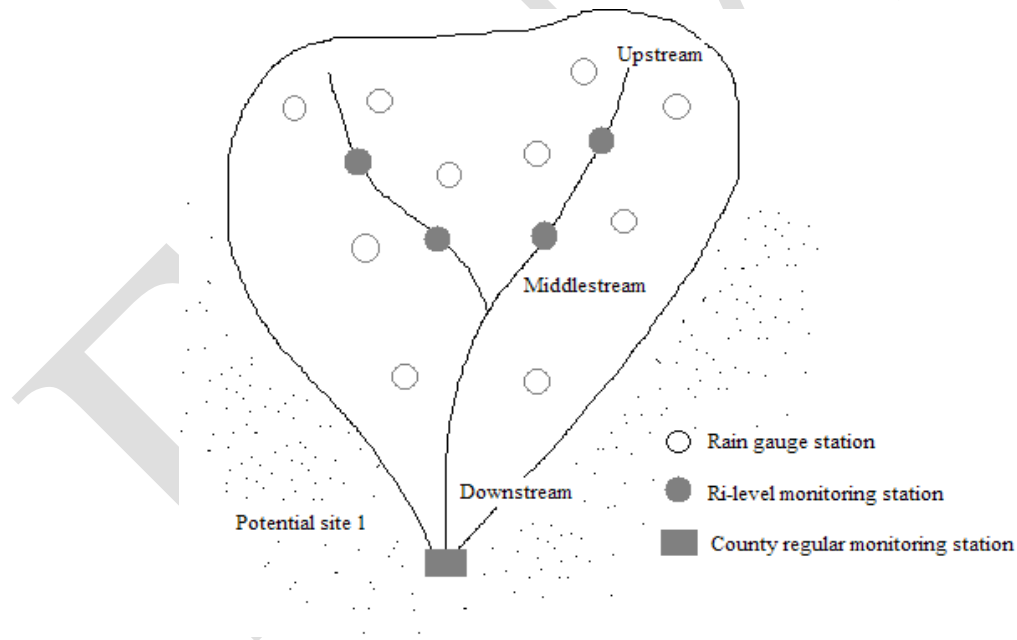


Fig 1. Sketch of watersheds in a potential site

Annex 5: Tentative List of Equipment

EQUIPMENT LIST ¹⁴							
Category	Unit	Quantity	Utility	Purpose	Distribution Plan		Observations
<i>Hazard mapping, Weather Monitoring and Early warning System</i>							
Automatic rain gauge	pcs	20	Weather monitoring for EWS	Real-timing monitoring	1pcs * 10 RGSs in each 2 watersheds		
Fluviograph	pcs	10	Water- level monitoring, forecasting/warning in river, Dam operation	Real-timing monitoring	4 pcs for RMS, 1 pc for CRMS in each 2 watersheds		
Impeller	pcs	10	Making of rainfall-discharge Curve	Correlation between discharge and rainfall	4 pcs for RMSs, 1 pcs for CRMS in each 2 watersheds		
Solar panel with battery and regulator	pcs	30	Supply of power for automatic rain gauge and automatic weather station	Stabilization of operation of early warning system	10 pcs for RGSs,4pcs for RMSs, 1pc for CRMS in each 2 watersheds		
Automatic weather station with soil moisture sensor	pcs	10	Drought monitoring and making of irrigation plan and schedule	Agro-meteorolgical service	4pcs for RMSs, 1pc for CRMS in each 2 watersheds		

¹⁴ For two watershed sites

Mobile phone	pcs	20	Communication between stations on rain and water levels	Facilitation of remote communication & monitoring	10 pcs for RGSs in each 2 watersheds		
Soil physical measurement	pcs	10	Estimation of water storage capacity of soil, resistance against drought and suitability of cultivation	Agro-meteorological service	4pcs for RMSs, 1pc for CRMS in each 2 watersheds		
Conventional Surveying Equipment Kits for Riverbed and Forest Areas	Pcs	4	Surveying Topography of River depth and width and Forest areas	SHMA	2 pcs per watershed		
Digital probe thermometer or electronic psychrometer (as considered appropriate)	pcs	10	Drought & Forest fire monitoring	Early detection of Drought & forest fire	4pcs for RMSs, 1pc for CRMS in each 2 watersheds		
Automatic voltage regulator	pcs	10	Stabilization of voltage	Electric power stabilization of observation	4pcs for RMSs, 1pc for CRMS in each 2 watersheds		
Personal Computer	pcs	10	Data collection, dissemination & Flood forecasting	Necessary instrument	4pcs for RMSs, 1pc for CRMS in each 2 watersheds		
Scanner	pcs	2	Hazard mapping	Scanning of topography	1pc for CRMS in each 2 watersheds		

Printer	pcs	10	Hazard mapping	Printing of hazard maps	4pcs for RMSs, 1pc for CRMS in each 2 watersheds		
Digital Camera	pcs	10	Hazard mapping	Survey of flood marks	4pcs for RMSs, 1pc for CRMS in each 2 watersheds		
Watershed mapping							
Laptop	pcs	2	Data collection and analysis	Development of land use planning, watershed mapping & database	Forest management station in project site		
Plotter	pcs	1	Printing of land use planning, watershed map		Forest management station in project site		
Forest fire control							
Local mobile phones	pcs	10	Facilitation of remote communication & monitoring (for forest rangers)	One forest ranger is in charge of 500-800 ha and for effective control and monitor mal factors in his jurisdiction area	Forest management station in project site		
Binocular	pcs	10			Forest management station in project site		
Megaphone	pcs	20	mobilizing people for firefighting, awareness raising activities among the community people				
Erosion control /disaster reduction management activities							

Cement	t	1000	Slop stabilization	This is just basic estimation of the amount of raw material needed to stabilize the landslide sites. Once the project starts and gets accurate technical design then we will get more reliable information on this amount.		
Gravel	t	2000				
Sand	t	1000				
Petrol	t	20				
Gavion	pcs	50				
Forest rehabilitation						
Small farm tools (axe, wheel cart, hoe, hammer, saw, spade...)	set	40	Slope stabilization including tree planting, contour farming in the project sites	Basic working tools for slope land users.	Forest management station in project site	
Trichogramma (stingless wasps) breeding facilities	set	1		During the last couple of years, forest area has been severely affected by pine caterpillars and it is the Government policy to control pests in a biological way		
Walking tractor (10Hp)	pcs	6				
Tractor (50Hp)	pcs	3	Transportation of compost, seedlings, other crop seeds, and crop yield for fuel wood and coal transportation for wintering	As above, and for various other related activities: slope stabilization, fuel wood and coal transportation for wintering.	Forest management station in project site	
Greenhouse equipment and building material						
Greenhouse with building material	set	2	For income generation and consequently to reduce the need to forage the mountains for survival.	The project envisaged several alternative livelihood activities to reduce heavy pressure for the cultivation, overexploitation of the natural resources and other	Sloping Land User Groups	

				development activities. There are several examples with European NGOs (EU Program Support units) in which they help the local people to help themselves and find solution. Providing small-scale income generation livelihood equipment could provide job opportunities, income generation, improvement of livelihood and quality of life.			
Sunshade	set	2					
Bio-energy facilities	set	40					
gas pressure gauge							
Gas valve							
Gas lamp							
Gas stove							
Biogas tank							
Income generation facilities							
Noodle making machine	pcs	1	Income generation and as side effect reducing heavy pressure to the mountain for food and firewood and in this way saving the cooking time of the housewives and improving their nutrition.	The project envisaged several alternative livelihood activities to reduce heavy pressure for the cultivation, overexploitation of the natural resources and other development activities. There are several examples with European NGOs (EU Programme Support units) in DPRK in which they help the local people to help by themselves and find solution as well. The reason is simple. Just providing small-scale income generation livelihood equipment which could provide job opportunities, income generation, improvement of their livelihood and quality of life, and improving their nutrition as well.			
Bean curd making machine	pcs	1					

Milk making machine	pcs	1				
Honey making	pcs	1				
Artificial meat making machine	pcs	1				
Oil pressing machine	pcs	1				
Community Awareness Centre						
<i>Building material</i>	<i>building</i>	1	Building of community awareness center	There is prior evidence of positive impact from similar activity. Swiss Development Cooperation Agency and other European Union Program Support units supported similar construction (Community Awareness Center) in N. Hwanghae Province project site in 2007, in which forest rangers, sloping land user groups and other concerned people gathered regularly to exchange views, best practices etc. There are cross-county visits organized during which the awareness centres are well utilised. There is evidence that such awareness centres have fostered community ownership, increased awareness and social capital.	Forest management station in project site	
Cement	t	100				
Iron bar	t	2				
Gravel/pebble	t	180				
Sand	t	300				
Timber	m3	40				
Window	pcs	17				
Door	pcs	13				
Slate for roof	m2	150				

tile for floor and wall	m2	50						
Non consumable equipment								
Laptop	pcs	2						
Sound system	pcs	1						
TV/DVD	pcs	1						
UPS	pcs	1						
Power stabilizer	pcs	2						
Table	pcs	20						
Chair	pcs	40						
Camera	pcs	2						
Scanner	pcs	2						
Cabinet	pcs	4						
White board	pcs	2						
Interpretation signboard	pcs	2						
Projector	pcs	2						
Screen	pcs	2						
Xtension cord	pcs	4						
Walking measurer	pcs	10						
Project management office								
4WD Vehicle	pcs	1	These items will be used and maintained by the project office in UNDP compound	Project office				
Laptop	pcs	4						
Printer	pcs	1						
Scanner	pcs	1						
Projector	pcs	1						
Screen	pcs	1						
Whiteboard	pcs	1						
Cabinet	pcs	4						