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SMALL IRRIGATION PROGRAM (SIP)



YEARLY PLAN OF OPERATION 2020-21 (2077-78)



PROGRAM MANAGEMENT AND IMPLEMENTATION SUPPORT CONSULTANT (PMISC)
September 2020

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Cover Page Photo: WUA starting construction work in the presence of Palika officials in Chisapani Panbu Dhansare Sinchai Yojana, Rautamai rural municipality, Udayapur | Photo Credit: Suresh Chaudhari

ABBREVIATIONS

ADCs	:	Agriculture Development Committees
AFECs	:	Agriculture, Forestry and Environment Committees
CAO	:	Chief Administrative Officer
CCS	:	Crop Cut Survey
CHF	:	Swiss Franc
CIAA	:	Commission for Investigation of Abuse of Authority
DAG	:	Disadvantaged Groups
DoLI	:	Department of Local Infrastructure
FG	:	Federal Government
FMIS	:	Farmer Managed Irrigation Systems
FY	:	Fiscal Year
GoN	:	Government of Nepal
ha	:	Hectare
IDEMS	:	Infrastructure Development and Environmental Management Sections
LG	:	Local Government
LGOA	:	Local Government Operations Act
LMBIS	:	Line Ministry Budget Information System
MIS	:	Management Information System
MDP	:	Market Development Potential
MoFAGA	:	Ministry of Federal Affairs and General Administration
MoPID	:	Ministry of Physical Infrastructure Development
NAMDP	:	Nepal Agriculture Market Development Programme
NPR	:	Nepalese Rupee(s)
O&M	:	Operation and Maintenance
PCC:	:	Project Coordination Committee
PG	:	Province Government
PG1	:	Province 1 Government
PLMBIS	:	Provincial Line Ministry Budget Information System
PPR	:	Project Preparation Report
PMISC	:	Programme Management and Implementation Support Consultants
PSC	:	Public Service Commissions
SDC	:	Swiss Agency for Development and Cooperation
WUA	:	Water Users' Association
WREDD	:	Water Resources and Energy Development Division

1. Executive Summary

Small Irrigation Programme- Phase II (SIP-II) is implemented by the Government of Nepal in collaboration with the Government of Switzerland and is built upon the experience of implementing SIP, Phase I. SIP-II aims to provide year-round irrigation to 20,000 hectares in about 1,300 small scale irrigation systems through community driven process benefiting 65,000 farmer households. The programme will cover Local Governments (LGs) of mid hills in Province 1. The expected impact of the programme is to reduce the poverty of small farmers especially from the disadvantaged groups (DAGs) by increasing their agricultural income. A no cost extension was approved for SIP-I till December 2020 so as to harmonize the project activities of Phase I and Phase II, meaning that both phases will run simultaneously till December 2020.

SIP-II will be implemented by LGs as the mandate to implement small irrigation programs lies with rural municipalities and municipalities as per the Constitution of Nepal, 2015. LGs will have the overall responsibility for planning, management and implementation of the program and each LG will appoint technical personnel as a focal person for the same. At the Province level, Province 1 Government (PG1) through Water Resources and Energy Development Division representing Ministry of Physical Infrastructure Development will manage planning, coordination and budgeting/budget transfers to LGs.

During fiscal year (FY) 2020-21, a guideline on one window system to be established by LGs to apply a uniform set of policies and procedures for identification, budgeting, implementation, monitoring and post construction support especially for irrigated agriculture and development or expansion of agriculture value chains will be developed by PG1. It is expected that 100% schemes will receive at least one visit of a rural advisory services provider during the production cycle.

20,000 small farmers especially from DAGs will benefit from year-round and increased irrigation water by managing and maintaining 337 irrigation schemes during FY 2020-21. Among the beneficiary households, 40% will be from disadvantaged groups, while 70% will have landholding of less than 0.5 ha.

With efficient utilization of irrigation water, crop yield of major irrigated food crops (rice, wheat and maize) and cropping intensity are expected to increase by 30% each. To record the impact on crop yields in the command area, a crop cut survey (CCS), in two batches will be conducted. The first batch of CCS will be conducted in at least one completed scheme in each of the 26 LGs of Khotang, Okhaldhunga and Udayapur while the second batch of CCS will be conducted in at least one new scheme in each LGs planned; results of which will serve as the baseline for Phase II. Similarly, the production of winter vegetable and other high value crops is expected to increase by a minimum of 50% above the current total production in SIP schemes by the end of Phase II. During FY 2020-21, a baseline for winter vegetables and other high value crops which have been identified as potato, cauliflower/cabbage, tomato, green peas will be established.

At least 80% of WUAs will establish a fund for Operation and Maintenance (O&M) and major repairs, through equitable collection of water service fees. Further, WUAs will also collect 1% of the total construction cost as upfront cash contribution for O&M during the signing of agreement with the LGs.

The programme through LGs will promote low-cost interventions that effectively focus on removing the existing constraints and bridging the productivity gaps and will create an enabling environment in which the key actors in the business, farmers, agro-entrepreneurs, traders, and possibly migration returnees and rural youth, tap the opportunities to enhance food production incomes. In FY 2020-21, SIP along with Nepal Agriculture Market Development Program (NAMDP) will identify WUAs with market development potential (MDP) and where SIP and NAMDP will engage together.

A total of 337 irrigation schemes, 153 carried over from FY 2019-20 and 184 new schemes will be constructed or rehabilitated during FY 2020-21. Among the 184 new schemes, detailed survey in 104 schemes as well as PPR of 40 schemes was completed during the last fiscal year. While detail survey in remaining schemes is expected to be completed by September, PPR for the same is expected to be completed by November, 2020. One of the lessons learned in SIP-I was the practice to select, design and implement schemes all within the same year impacting not only the overall project cycle

but also the efforts for institutionalization of WUAs mainly due to inadequate planning and lack of preparation phase. Starting this year, project teams will also work on identification, verification, detailed survey and PPR of 406 schemes to be implemented during the next FY, i.e. 2021-22 which is expected to be completed by April 2021.

The construction or rehabilitation of schemes is expected to generate 400,000 person-days of employment. WUAs are expected to equitably contribute at least 10% of the project construction cost which amounts to NPR 100,000,000 (CHF 869,565).

The total programme budget for FY 2020-21 amounts to NPR 1,149,700,000 (CHF 9,997,391) out of which NPR 1,000,000,000 (CHF 8,695,652) is allocated for civil works. Out of the total budget for civil works, NPR 308,142,130 (CHF 2,679,497) is allocated for carried over schemes and NPR 691,857,870 (CHF 6,016,155) is allocated for new schemes. The budget contribution proportion is 10, 20, 30 and 40% for WUA, LG, Federal Government (FG) and Swiss Agency for Development and Cooperation (SDC) respectively for carried over schemes while 10, 20, 20, 20 and 30% for WUA, LG, PG, FG and SDC respectively for new schemes.

Through a funds flow analysis, it is estimated that 23% of the programme funds will be allocated to discriminated groups and 77% to non-discriminated groups. From a cluster perspective, 99% of the programme funds will be allocated to Province 1 and 1% of the funds to others and national level. Regarding fund beneficiaries, 86% is targeted for attributable fund and 14% for general and common costs.

2. Outcome Monitoring Summary FY 2020-21 (2077-78)

Outcome 1: Local Governments (LGs) respond effectively to the needs of small farmers for irrigated agriculture			
S.N.	Phase Target (July 2020– December 2024)	Expected Outputs FY 2020-21	Comments
1.1	100% LGs have established a one window system for identification/ budgeting/ implementation/ monitoring/ support of irrigation schemes	A guideline on one window system for identification, budgeting, implementation, monitoring and support of small irrigation to be established by LGs will be formulated by PG1.	
1.2	35% (20,000 hectares) increase in additional area under year-round irrigation in participating LGs (baseline 56,893 hectares)	11% (6,239 ha) increase in additional area under year-round irrigation in participating LGs.	31% of 20,000 ha (2,239 ha from 153 carried over schemes and 4000 ha from 184 new schemes)
1.3	100% schemes have received at least one visit of a rural advisory services provider during the production cycle (Baseline# 15%)	100% schemes receive at least one visit of a rural advisory services provider during the production cycle.	
Outcome 2: Small farmers especially from DAGs increase agricultural productivity			
2.1	65'000 HHs benefited from year-round and increased irrigation water	20,000 HHs benefit from year-round and increased irrigation water.	A total of 337 (153 carried over and 184 new) schemes will be implemented during this FY from which 7,000 HHs and 13,000 HH will benefit respectively.
2.1.1	40% beneficiaries are from DAGs	40% (8,000) beneficiaries are from DAGs.	
2.1.2	70% of the program beneficiaries have a (In SIP command area) landholding of less than 0.5 ha.	70% (14,000) of the program beneficiaries have a (In SIP command area) landholding of less than 0.5 ha.	
2.2	30% increase in the yields of major irrigated food crops (Rice, Wheat and Maize) in SIP command area	Yields of major irrigated food crops (rice, wheat and maize) in schemes completed during Phase I will increase by 30%.	A baseline-crop-cut survey of major irrigated food crops (Rice, Wheat and Maize) as well as winter vegetables will be conducted to establish the baseline.
2.3	30% increase in cropping intensity in SIP command area (baseline: 160% target 190%)	Cropping intensity in sample schemes completed during Phase I will increase by 30%.	

			A crop cut survey among sample irrigation schemes completed during SIP-Phase I will be conducted.
2.4	Winter vegetable production and other high value crops increases by a minimum of 50% (by volume) above the current total production in SIP schemes	Winter vegetable production and other high value crops will increase by a minimum of 50% (by volume) in schemes completed during phase I	
2.5	90% irrigation schemes built or rehabilitated under the program are functioning well after 3 years of completion (Baseline # 93%)	90% irrigation schemes built or rehabilitated under the program are functioning well after 3 years of completion.	Short term monitoring survey among sample schemes completed in SIP-Phase I will be conducted.
2.6	At least 80% of WUAs establish a fund for Operation & Maintenance and major repairs, through the equitable collection of water service fees	At least 80% of WUAs establish a fund for O&M and major repairs, through the equitable collection of water service fees.	
Outcome 3: Market actors offer innovative supports and products to farmers in irrigated schemes			
3.1	50% of WUA that have contracted at least one input provider in the last 12 months (Baseline 0%)	92 schemes with market development potential (MDP) will be identified for which criteria will be developed jointly with NAMDP.	50% of the total schemes to be implemented under SIP-II (184 schemes for FY 2020-21). Potential private sector market actors with capacity and willingness to expand their businesses in SIP areas through sourcing and market management of the agricultural products produced by farmers will also be identified.
3.2	50% of SIP schemes that have established contracts with traders or wholesalers to buy their crops (Baseline 0%)		
3.3	70% of beneficiary farmers sell part of their irrigated agriculture production directly to the market (Baseline will be established as the schemes are selected)	Sample households from schemes with market development potential (MDP) will be identified for baseline study.	

3. Basic Information

The Programme

SIP-II is implemented by the Government of Nepal (GoN) in collaboration with the Government of Switzerland and is built upon the experience of implementing SIP, Phase I. The programme will cover Local Governments (LGs) of mid hills in Province 1. It will provide year-round irrigation to 20,000 hectares in about 1,300 small scale irrigation systems through community driven process benefiting 65,000 farmer households.

The expected impact of the programme is to reduce the poverty of small farmers especially from the disadvantaged groups by increasing their agricultural income. This will be achieved through three outcomes: (i) local Governments respond effectively to needs of small farmers for irrigated agriculture; (ii) small farmers especially disadvantaged groups (DAGs) increase agricultural productivity and (iii) market actors offer innovative supports and products to farmers in irrigated schemes.

The main approach of the programme is to consolidate the positive results in development of irrigation infrastructure, and further refine scheme design to condition these schemes for dry season irrigation of high value crops, and thus create enabling conditions for the introduction of commercialized agriculture. LGs shall actively support the introduction of improved agriculture practices with a focus on the production of high value cash crops as well as ensuring a conducive environment for the development of the private sector exist and facilitate the linkage between the input and output markets with the farmers.

Socio Political

Five years since the promulgation of the Constitution of Nepal in 2015 and three years since the local level elections in 2017, Nepal's transition from a unitary to a federal system has been promising with federal, provincial and local governments in operation today as envisioned by the Constitution. While roles and responsibilities among the three spheres of government with the spirit of federal governance are slowly being clarified, sector specific functions need further institutionalization by developing system and procedures.

Human resources at both Provinces and LGs has remained inadequate. The FG is yet to enact few laws which would allow the PGs to enact their own laws to govern themselves, staff recruitment being one of them. Such legislations would pave way for Provinces to recruit their own employees as well as that of LGs', through the Provincial Public Service Commission (PSC). In line with the Constitution, many PGs have passed the Province Public Services Commission Act which paves a way for the formation of Province PSC.

Nepal, like many countries in the world, has been severely affected by the unprecedented public health and economic crisis brought by the CoVID-19 pandemic. The lock down imposed all over Nepal in response to the CoVID-19 pandemic for four months since March 24th, brought the countries' economy to a standstill. It is estimated that around 700,000¹ Nepali migrant workers will return from overseas over the next year alone, while many people within the country have lost their jobs leading the country towards an unemployment crisis. Increased unemployment, decreased income and reduction in remittance inflows, has increased the inequality and economic vulnerability of DAGs as their safety nets and social protection remains weak and limited.

The YPO has been prepared with the underlying assumption that no further lock downs will be imposed in response to CoVID-19 pandemic hindering the implementation process.

¹ <https://kathmandupost.com/national/2020/06/10/government-task-force-says-nepal-needs-1-5-million-jobs-to-avoid-unemployment-crisis>

Programme Context

The mandate to implement small irrigation programs lies with rural municipalities and municipalities as small irrigation is one of the exclusive rights of the LGs as per the Constitution of Nepal, 2015 (Schedule 8). Adhering to this mandate, SIP continues to be implemented by LGs.

A bi-lateral agreement was signed between the GoN and the Government of Switzerland on 28th June, 2020 for the implementation of SIP-II from 1st July, 2020 till 31st December, 2024. At the federal level, on behalf of GoN, Ministry of Federal Affairs and General Administration (MoFAGA) will extend the necessary guidance and support to the programme and ensure collaboration with Province 1 Government (PG1) and LGs through Department of Local Infrastructure (DoLI). On behalf of MoFAGA, the DoLI will coordinate and manage budget transfers to the local levels.

At the Province level, Province 1 Government (PG1) through Water Resources and Energy Development Division (WREDD) representing Ministry of Physical Infrastructure Development will manage planning, coordination and budgeting/budget transfers of PG1 to LGs.

Program Management Implementation and Support Consultants (PMISC) representing the Technical Assistance (TA) provider will assist Programme Coordination Unit (PCU) at WREDD to prepare for the conditional grant to LGs, draft an umbrella one window policy for small irrigation, in anchoring Management Information System (MIS) and establishing an agricultural price information system. A memorandum of understanding (MoU) between MoPID, PG1 and PMISC was signed on July 27th, 2020 for the same.

At the local level, LGs with their Infrastructure Development Environment Management Section (IDEMS) will have the overall responsibility for planning, management and implementation of the program. SIP II will continue its bottom up approach as per the spirit of Local Government Operations Act (LGOA) 2074. MoUs will be signed between PMISC and each LGs for the implementation of SIP-II.

The geographical coverage of SIP II has been refocused from the 9 districts under SIP I, located in Sudur Paschim, Karnali and Bagmati Province to Province 1 in alignment with the Swiss Country Strategy 2018-2021 which states that 'the geographical concentration of the Swiss program will gradually move towards the newly established Province 1 in the east of the country'. The programme will be continued in 26 LGs of Okhaldhunga, Khotang and Udayapur and will be implemented in 48 LGs (See Annex I for map of working areas) in the first year; the number of LGs will be increased gradually by the end of the phase.

A no cost extension was approved for SIP-I till December 2020 so as to harmonize the project activities of Phase I and Phase II, meaning that both phases will run simultaneously till December 2020. The identification and preparation of a first batch of project for Phase II was started under SIP I and includes carry over projects from SIP I started in FY 2019-20. The proposed scheme list for FY 2020-21 includes both carried over schemes and new schemes. While the federal and SDC budget will be reflected in the federal Line Ministry Budget Information System (LMBIS), the provincial budget will be reflected in the Province LMBIS (PLMBIS). Till the writing of this report, program list was neither entered in the LMBIS nor in the PLMBIS.

4. Expected Outcomes

Outcome 1: Local Governments (LGs) respond effectively to the needs of small farmers for irrigated agriculture

A guideline on one window system for identification, budgeting, implementation, monitoring and post-construction support of small irrigation to be established by LGs will be formulated by PG1 during FY 2020-21. Through a one window approach a variety of services will be provided to Farmer Managed Irrigation Systems (FMIS) including construction or rehabilitation of irrigation facilities, pro-active support for development of irrigated agriculture and facilitate the development or expansion of agriculture value chains. It will also require the building up and maintenance of comprehensive inventories of irrigations schemes in the LGs.

Area under year-round irrigation will increase by 11% in program LGs. This refers to 6,239 ha out of the phase target of 20,000 ha that will be irrigated with the implementation of 337 irrigation schemes during the first year of SIP-II.

100% schemes will receive at least one visit of a rural advisory services provider during the production cycle. Rural advisory services², also called agriculture extension, are all the different activities – from public or private service providers - that provide the information and services needed and demanded by farmers and other actors in rural settings to assist them in developing their own technical, organizational, and management skills and practices so as to improve their livelihoods and well-being. For this, advisory assistance to link private service providers with LGs for delivery of extension services to the WUA will be provided with support from Nepal Agriculture Market Development Program (NAMDP).

Outcome 2: Small farmers especially from DAGs increase agricultural productivity

20,000 small farmers especially from DAGs will benefit from year-round and increased irrigation water by managing and maintaining 337 irrigation schemes. Among the beneficiary households, 40% will be from disadvantaged groups, while 70% will have landholding (in SIP command area) of less than 0.5 ha.

With efficient utilization of irrigation water, crop yield of major irrigated food crops (rice, wheat and maize) and cropping intensity are expected to increase by 30% each. To record the impact on crop yields in the command area, a crop cut survey (CCS) will be conducted; and as this is the first implementation year for SIP-II with Phase I simultaneously implemented till December 2020, crop cut survey (Annex III) will be conducted in two batches.

Table 1 Baseline(average) crop yield of major crops	
Major Crops	Crop Yield (mt/ha)
Paddy	2.33
Wheat	1.41
Maize	1.2

The first batch of the CCS will be conducted in at least one completed scheme in each of the 26 LGs of Khotang, Okhaldhunga and Udayapur. The average (baseline) crop yield for major crops in the such schemes is reflected in Table 1. Similarly, on an average (baseline), cropping intensity in 26 completed scheme is 165% and it is expected to increase by 30% to 215.32%.

The second batch of CCS will be conducted in at least one new scheme in each of the program LGs planned for FY 2020-21, results of the which will serve as the baseline for Phase II. CCS for monsoon paddy has been planned during the months of November-December, 2020 while survey for wheat and maize has been planned during March-April 2021 and July 2021 respectively.

Similarly, production of winter vegetable and other high value crops is expected to increase by a minimum of 50% above the current total production in SIP schemes. During FY 2020-21, CCS in schemes completed in Phase I will be conducted as well a baseline for winter vegetables and other high value crops which have been identified as potato, cauliflower/cabbage, tomato, green peas will be established.

90% irrigation schemes built or rehabilitated under the program are expected to function well after 3 years of completion. For this FY, short term monitoring survey among sample schemes completed in SIP-Phase I will be conducted to assess the physical status of irrigation systems.

At least 80% of WUAs will establish a fund for Operation and Maintenance (O&M) and major repairs, through equitable collection of water service fees. Further, WUAs will also collect 1% of the total construction cost as upfront cash contribution for O&M during the signing of agreement with the LGs.

Outcome 3: Market actors offer innovative supports and products to farmers in irrigated schemes

² Christoplos, I (2010) Danish Institute for International Mobilizing the potential of rural and agricultural extension <http://www.fao.org/3/i1444e/i1444e.pdf>

The programme through LGs will promote, low-cost interventions that effectively focus on removing the existing constraints and bridging the productivity gaps and will create an enabling environment in which the key actors in the business, farmers, agro-entrepreneurs, traders, and possibly migration returnees and rural youth, tap the opportunities to enhance food production incomes.

During Phase II, 50% of WUA will have contracted at least one input provider for seeds, fertiliser or construction and maintenance materials. Similarly, 50% WUAs will have established contracts (forward contracts, sale contracts), with traders or wholesalers to buy their crops. In FY 2020-21, SIP along with NAMDP will identify 92 WUAs (schemes) with market development potential (MDP), criteria for which will be jointly established.

Simultaneously, potential private sector market actors with capacity and willingness to expand their businesses in SIP areas through sourcing and market management of the agricultural products produced by farmers will be identified. This will be focused along three market corridors, i.e., Mechi, Koshi and Sagarmatha corridor. Further, multi stakeholder meetings among WUA representatives, potential traders, input suppliers, service providers and municipality for market linkage will be conducted in 15 LGs with advisory and technical assistance from NAMDP.

Similarly, another target is for 70% of beneficiary farmers to sell part of their irrigated agriculture production directly to the market and for which they should receive payment (bartering or exchange is not included in this measurement) during Phase II. For FY 2020-21, households from sample schemes with market development potential (MDP) will be identified for baseline study.

Cross-cutting themes on Gender Equality and Social Inclusion (GESI)

GESI will be operationalised through a gender action plan (see Annex IV for details). The action plan aims to institute greater gender balance in community leadership through the increased and more effective representation of women in water users' committees. It contains specific targets for participation of women and the discriminated groups.

It will be required to promote women and/or a representative of discriminated groups in key leadership positions (chair, secretary, and treasurer) in the WUAs and to provide technical and leadership training to them for their meaningful participation in decision-making. The agriculture development committees (ADCs) will ensure that the need and priorities of women farmers are addressed and 40% of the farmer group members trained will be women farmers. Equal access to agriculture extension services and equipment will be ensured in the WUA norms for female-headed households.

The programme will further ensure that agreements with WUAs on payable works will include specific provisions requiring the WUAs to comply with,

- (i) applicable labour laws and core labour standards;
- (ii) prohibition of child labour as defined in national legislation for construction and maintenance activities;
- (iii) equal pay for equal work of equal value regardless of gender, ethnicity or caste, and
- (iv) elimination of forced labour.

At the program management level, PMISC adopts the Work Force Diversity Policy.

5. Expected Outputs

Outcome 1: Outputs

Provincial Government strengthens its capacity to support Local Governments

PG1 will establish and publish norms, standards, strategies and policies for small irrigation officially. During FY 2020-21, PG1 will compile the national survey and construction norms on small irrigation for publication. Similarly, PG1 will also compile relevant small irrigation specifications and standards/manuals from national documents.

All responsible Federal (DoLI) /Provincial Government (MoPID) agencies are expected to enter the program list in LMBIS and PLMBIS respectively so as to arrange to send the program budget to the LGs by the end of August. As mentioned earlier, during this FY a guideline on one window system for identification, budgeting, implementation, monitoring and post-construction support of small irrigation will be formulated by PG1.

An internet-based MIS and automated project preparation system will be in operation during this FY. The overall target is for all LGs have access to the MIS and project preparation system which will be owned and maintained by the PG.

A learning event to share the experiences of SIP-I in relation to the development of small-scale irrigation will be organized for LGs in each of the SIP cluster.

LGs strengthen their legislative and executive capacity for implementing small irrigation schemes

The guideline on one window system formulated by PG1 will be shared with all working LGs. In accordance to the LGOA 2074, all LG Councils are expected to select irrigation schemes for implementation through a demand driven process.

Each LG will appoint technical personnel, either a sub-engineer or engineer as a focal person for the planning, designing, construction supervision and post construction support for SIP-II.

As part of strengthening their executive capacity, LGs (in all schemes) are expected to prepare and approve the bills within three weeks of the start of the measurement of construction works as well as ensure that all bills are paid within 30 days from the date of recommendation for payment by LG support units.

LGs build their capacity to provide support to the farmers in irrigated agriculture development

80% ADCs or a committee for the purpose of the same is expected to meet at-least twice every year for SIP related activities. The LGOA, 2074 and Local Level Annual Planning and Budgeting Guideline, 2074 provisions for sectoral committees to be formed and agriculture as such has been classified under economic development. Field reflections have shown that LGs have either formed a separate ADC or have been working through the Economic Development Committee for agriculture related activities.

It is expected that 80% of ADCs or similar committees for the purpose of the same will recommend the selection of irrigation schemes for implementation in annual budget to the LG councils as well as include and assign priority for the agriculture extension and input support for the selected SIP irrigation schemes. Based on this, it is further expected that LGs will provide agriculture extension support and facilitate the provision of agriculture inputs for SIP projects. As this is the first year of implementation, such agriculture extension support and provisions of agriculture inputs will be provided to 20% of SIP schemes.

80% of the LG will resolve any contractual complaints raised by contracting partners (LGs and WUA) related to irrigation schemes in a satisfactory manner

Outcome 2: Outputs

Small farmers organize themselves inclusively in Water User Associations

All WUA committees will have representation from head, middle and tail of irrigation system and 40% WUA committee members will be women, with at least 1 woman or a representative of a discriminated group in a leadership position.

100% WUAs will practice public hearing after project preparation to disseminate information on total cost, design and estimates, envisaged equitable cost sharing by the beneficiaries and the social principle of the project. Similarly, all WUAs will conduct public review during project implementation, while public audit will be conducted once construction is completed. All WUAs will place a hoarding board at a visible location in the scheme site.

Water User Associations (WUAs) build and/or rehabilitate small irrigation systems equitably

A total of 337 irrigation schemes, 153 carried over from FY 2019-20 and 184 new schemes will be constructed or rehabilitated during FY 2020-21. Due to the lock down imposed in response to CoVID-19 pandemic, work in 153 schemes from FY 2019-20 could not be completed and is expected to be completed by December 2020 as these schemes were taken up in SIP-I.

Among the 184 new schemes to be implemented during FY 2020-21, detailed survey in 104 schemes as well as PPR of 40 schemes was completed during the last fiscal year. While detail survey in remaining schemes is expected to be completed by September, PPR for the same is expected to be completed by November, 2020.

One of the lessons learned in SIP-I was the practice to select, design and implement schemes all within the same year impacting not only the overall project cycle but also the efforts for institutionalization of WUAs. This was mainly due to inadequate planning, lack of preparation phase and delay in budget due to changes in implementation modality. Starting this year, project teams will also work on identification, verification, detailed survey and PPR of 406 schemes to be implemented during the next FY, i.e. 2021-22 which is expected to be completed by April 2021.

Table 2. Schemes to be implemented in FY 2020-21							
Total schemes to be implemented in 2020-21		Schemes carried over from 2019-20		New Schemes to be implemented in 2020-21		Preparation for 2021-22	
No	Ha	No	Ha	No	Ha	No	Ha
337	6,239	153	2,239	184	4,000	406	6,500

A tablet-based application will be used for verification using water availability, size of command area and duplication/overlap as the primary criteria. The verified schemes will be further prioritized for detailed survey using the criteria of command area versus canal length, DAG percentage and distance of local market distance (See Annex V for prioritization criteria). A detailed target is reflected in Table 2.

The construction or rehabilitation of schemes is expected to generate 400,000 person-days of employment. Priority will be given to women and DAGs during construction work. WUAs are expected to equitably contribute at least 10% of the project construction cost which amounts to NPR 100,000,000 (CHF 869,565).

WUA operate and maintain irrigation systems equitably

100% WUA will receive training for O&M which will focus on formulation of O&M bylaws and plans, crop plan, water operational schedule and O&M fund collection and utilization post construction. All WUAs will prepare plans and cost estimate for recurrent system maintenance. 80% WUAs will also prepare and implement plans for equitable and timely water distribution.

Farmers access agriculture extension services from LGs

80% schemes will receive training on integrated crop and water management as part of the O&M training, including the operation of the distribution system, on farm storage facilities and pressurized water distribution (sprinklers, drip irrigation).

100% of SIP supported schemes will receive a visit from a LG Junior Technical Assistants (JT/JTA) in agriculture at-least once before construction begins where they are expected to support the WUAs in identifying potential and needs of the particular scheme. A format to be used by JT/JTAs for this purpose will be developed.

80% farmers in SIP schemes will have contact numbers of LG ward chairs, JT/JTAs, nearby agro-vet providers and this will be maintained in the project book provided to WUAs.

Water User Associations plan the production in their FMIS based on commercial opportunities

During Phase-II, 50% WUAs supported by the project are expected to plan their irrigated commercial crops based on reliable information on market demand and are also expected to receive production advice from JT/JTAs and private service providers based on market demand. As this is the first year of implementation, WUAs with market development potential will be identified together with NAMDP. Further, a trainer's manual for conducting business planning training which would incorporate production, marketing and financial planning will be developed which would later be provided to farmers in the schemes with market development potential.

WUAs in SIP schemes will also have contact numbers of traders and buyers, whole-sellers and retailers of agriculture products, agri-insurers which will be maintained in the project book provided to them. List of such stakeholders along the Mechi, Koshi and Sagarmatha corridor will be documented and mapped and shared with the WUAs.

Outcome 3: Outputs

Input service providers provide maintenance, production advice or embedded services to FMIS

Input service providers, to provide maintenance, production advice or embedded services to FMIS in each of the working LGs will be identified and mapped during this FY.

Traders and retailers establish contacts with WUA members

Traders and buyers in each of the working LGs will be identified and mapped for WUAs to start the discussion on establishing contracts. It is the program target to develop a simple and accurate price information system which farmers can consult before bringing produce to the market. During this FY, potential stakeholders, partners for the development and anchorage of the price information system will be identified.

Work Schedule for YPO 2020-21: The detailed work schedule for YPO 2020-21 is presented in Annex VI.

6. Project Management and Financial Resources

Budget for FY 2020-21

The total programme budget for FY 2020-21 amounts to NPR 1,149,700,000 (CHF 9,997,391) out of which NPR 1,000,000,000 (CHF 8,695,652) is allocated for civil works. Out of the total budget for civil works, NPR 308,142,130 (CHF 2,679,497) is allocated for carried over schemes and NPR 691,857,870 (CHF 6,016,155) is allocated for new schemes. The budget contribution proportion is 10, 20, 30 and 40% for WUA, LG, FG and SDC respectively for carried over schemes while 10, 20, 20, 20 and 30% for WUA, LG, PG, FG and SDC respectively for new schemes. For detailed civil works budget allocation refer to Table 3.

Budget Provision for Civil Works for FY 2020-21			
Working Area	Total Civil Works Budget	Budget for Carried Over Schemes	Budget for New Schemes
Bhojpur	64,507,245	18,747,245	45,760,000
Dhankuta	107,921,396	41,361,396	66,560,000
Ilam	144,399,558	34,961,383	109,438,174
Khotang	233,512,909	75,413,213	158,099,696
Panchthar	64,801,251	14,881,251	49,920,000
Okhaldhunga	162,255,982	45,775,982	116,480,000
Udayapur	180,756,193	64,276,193	116,480,000
Terhathum	41,845,467	12,725,467	29,120,000
Total	1,000,000,000	308,142,130	691,857,870

Further, NPR 32,700,000 (CHF 284,348) has been allocated for capacity building, training and workshops for WUA, LGs and PG1 while NPR 110,000,000 (CHF 956,522) has been allocated for programme management and implementation support.

The total budget also includes recurrent cost for DoLI. The detailed programme budget is presented in Annex VII.

Fund Flow Analysis (FFA)

Budget provisions in the fund flow analysis (See Annex VIII) are consistent with the budgeted amounts in the programme budget for this FY. The geographic allocations are based on the budget provisions at national, international and province level. These allocations can be summarized as follows: province 99.09% and national 0.91%.

From discrimination perspective, discriminated groups will benefit from employment opportunities from consultancy services, WUA training and LG's skill development and especially from employment generated by civil works for irrigation rehabilitation and/or construction. In construction works, preference for employment will be given to DAGs and women. It is estimated that 23% of the programme funds will be allocated to discriminated groups and 77.09% to non-discriminated groups. The reason for a higher allocation to non-discriminated groups is because 87% of the total program budget is allocated for civil works for which more than 70% of the expenses is for construction materials. From a cluster perspective, 99% of the programme funds will be allocated to Province 1 and 1% of the funds to others and national level.

Regarding fund beneficiaries, 86% is targeted for attributable fund and 14% for general and common costs. The attribution of costs is categorized as, attributable and general & common costs. Attributable costs are incurred for directly benefiting the target groups and general & common costs are not incurred for directly benefiting any beneficiary.

Program Management

The arrangements and responsibilities for project management and implementation has been spread over the three spheres of the government. DoLI represented by MoFAGA will be the focal unit and a Programme Advisory Committee, an advisory body of SIP II for inter-ministerial coordination will exist at federal level.

The Province 1 MoPID represented by WREDD will be the coordinating agency and a Programme Coordination Committee (PCC) to provide policy support and strategic guidance to the programme will exist at the Provincial level. PCC will make compilation of YPOs, annual progress reports, make key decisions on the provincial budget for the project, address policy issues, review/assess overall implementation and facilitate coordination with LGs.

LGs will be the implementing agencies and have the overall responsibility for project implementation including coordination among all agencies involved. Project Implementation Committee will be formed at each LG for project execution and its major responsibility will be to review and assess progress and resolve implementation issues at local level.

PMISC representing the TA provider will continue in supporting the project implementation. PMISC will be based in Biratnagar with five cluster offices with bases in Dhankuta Bazar (for Bhojpur, Dhankuta and Terhathum), Fikkal (for Ilam and Panchthar), Diktal (Khotang), Okhaldhunga Bazar (Okhaldhunga) and Gaighat (Udayapur). Project staff will be stationed in all working LGs where SIP is implemented as focal person to support them in project management and implementation.

A flow chart presenting the institutional arrangements for the implementation of the project is presented in Annex IX.

7. Lessons Learnt and Issues

As the implementation of SIP-II has just started, there are no significant lessons learned from ongoing activities, however there are lessons learned from SIP-I which has impact on programme implementation.

SIP-I has been less successful in improving agriculture production after the rehabilitation of existing or construct of new irrigation schemes. Result from crop cut surveys showed that after improving irrigation water supply, yield of all crops increased significantly over the baseline established during scheme preparation, but remained generally below the district average crop yields for irrigated and rain fed crops³. The reason for these low yields is that the farmers have not modernized their agricultural practices, continue using local varieties, or not timely replacing seeds of improved varieties, limited to no use of chemical fertilizer and agro-chemicals for pest control and ineffective use of organic manure.

The absence of modernization of agriculture practices after improvement of irrigation services can be mainly attributed to the extreme level of land fragmentation in the irrigated areas combined with the relatively large number of DAG households. Land fragmentation in the irrigation schemes was much higher than envisaged in the SIP I Programme document; an estimated average 0.5 ha per household compared to the actual average holding of 0.28 ha per household, with holdings of small and marginal farmers even lower, 0.2 ha. These small fragmented holding made it difficult to achieve the programme outcome of increasing household agriculture income especially the poor and disadvantaged households. Irrigation alone does not significantly increase the production of traditional cereal crops on these very small plots.

In addition, diversification from traditional cereal crops to cash crops was very limited resulting from the very low levels of marketing and commercialization in the programme areas. Access to modern inputs and extension service were limited and establishment of linkages with agriculture value chains or commercial trader to buy the produce could not be achieved. More attention will have to be given to water distribution within the command area, on farm water management, and the possibility to shift from traditional cereal crop cultivation to more commercial agriculture. This will require extension services, access to agriculture inputs and agriculture value chains.

With the effects of climate change, flow in local streams with small catchments from which most of the local irrigation schemes draw water, will become even more irregular. Simple run-of-the-river irrigation schemes will no longer be able to provide reliable water supply during the dry season and not even when there is a long break in the monsoon. Therefore, irrigation schemes that draw water from small local streams, with very low or no base flow should include on farm water storage in the form of small water storage ponds that could be filled when there is water in the source and used when the discharge in the source temporarily declines. Because of the effect of climate change on flow patterns in irrigation sources, irrigation from storage will become more important in the hills which will require a shift from conventional run-of-the-river gravity irrigation schemes to storage schemes.

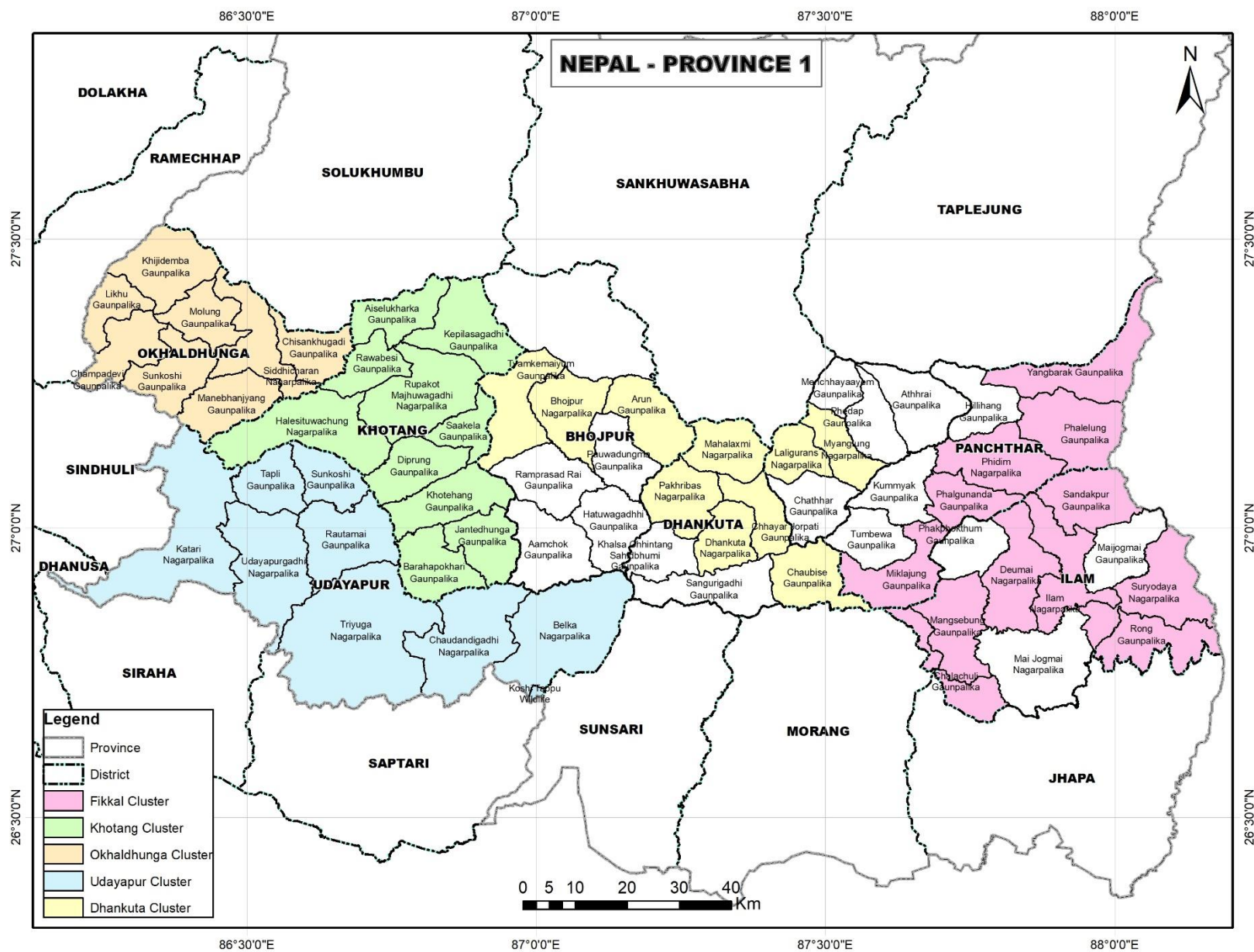
Field reflections have shown that while SIP-I has been successful in the inclusion and participation of women in both the WUA and construction activities through affirmative action such as quotas, the challenges women face for meaningful participation is yet to be addressed. Concrete measures such as flexible working hours, convenient meeting and training venues, on the job training, provisions of child care facilities during construction as well as trainings must be part of the project design. Women need training on leadership, public speaking, financial literacy to build their self-confidence. Such capacity building activities should be linked with similar initiatives within LGs and other SDC initiatives, if any. SIP will explore these possibilities during this FY. Further, women mason (skilled or unskilled) from this FY will participate in the construction management and quality control training as part of the capacity building activities.

While SIP's indicators and targets are gender-responsive, its' effective operationalization is dependent on the person as well as on the resources allocated for it. There is limited evidence of resources, both financial and human capacity being targeted for GESI apart from the financial resources for WUA training. It is also important that the field team is aware of the gender dimension during project planning, implementation and monitoring. Their capacity to better facilitate social processes for the transformation in gender relations within the WUAs will be developed through trainings and field reflection sessions.

³ Statistical Information on Nepalese Agriculture, 2072/73 (2015/16)

ANNEXES

Annex I: SIP Working Areas



Annex II: Expected Outputs 2020-21

S.N.	Outcome	Expected Outputs (Phase Targets)	Expected Outputs (FY 2020-21)	Comments
Outcome 1: Local Governments (LGs) respond effectively to the needs of small farmers for irrigated agriculture				
1.1	Provincial Government strengthens its capacity to support Local Governments	Norms, standards, strategies and policies for small irrigation are published officially	PG1 will compile the national survey and construction norms as well as relevant specifications and standards/manuals related to small irrigation for publication.	
		All responsible Federal/Provincial Government Agencies arrange the program LGs by the end of August	All responsible Federal/Provincial Government agencies will arrange the budget for program LGs by the end of August	
		A guideline on one window approach for small irrigation within the LGs is available	A guideline on one window approach for small irrigation will be formulated by PG1.	
		An internet-based MIS and automated project preparation system is available and operational for use by the LGs	An internet-based MIS and automated project preparation system will be in operation	
		At least one learning event is organized every year for LGs included in the program on, innovations and experiences in the development of small-scale irrigation	A learning event to share the experiences of SIP-I in relation to the development of small-scale irrigation will be organized for LGs.	
1.2	LGs strengthen their legislative and executive capacity for implementing small irrigation schemes	A one window approach for small irrigation within the LG is available	The guideline on one window approach for small irrigation will be shared with the LGs.	
		LG Councils select irrigation schemes for implementation through a demand driven process	All LG Councils will select irrigation schemes for implementation through a demand driven process	
		LGs appoint a focal person ⁴ for SIP planning, designing, construction supervision and post construction support	All 48 LGs will appoint a focal person for SIP planning, designing, construction supervision and post construction support	
		100% LGs prepare and approve the bills within three weeks of the start of the measurement	100% LGs will prepare and approve the bills within three weeks of the start of the measurement	

⁴ The focal person approves the detail design and cost estimates of the irrigations scheme.

S.N.	Outcome	Expected Outputs (Phase Targets)	Expected Outputs (FY 2020-21)	Comments
		100% LGs ensure timely payments to WUA's (within 30 days of bills being recommended for payment by LG Support Unit	100% LGs will ensure timely payments to WUA's (within 30 days of bills being recommended for payment by LG Support Unit	
1.3	LGs build their capacity to provide support to the farmers in irrigated agriculture development	80% Agriculture Development Committees (ADCs) in SIP implemented LGs meet at-least twice every year	80% ADCs or a committee for the purpose of the same in SIP implemented LGs meet at-least twice every year	
		80% Agriculture Development Committees (ADCs) in SIP implemented LGs recommend the selection of irrigation schemes for funding in annual budget to the LG councils	80% ADCs or a committee for the purpose of the same in SIP implemented LGs will recommend the selection of irrigation schemes for funding in annual budget to the LG councils	
		80% ADCs include and assign priority for the agriculture extension and input support for the selected SIP irrigation schemes	80% ADCs or a committee for the purpose of the same will include and assign priority for the agriculture extension and input support for the selected SIP irrigation schemes	
		LGs provide agriculture extension support and facilitate the provision of agriculture inputs for 80% SIP projects	LGs provide agriculture extension support and facilitate the provision of agriculture inputs for 20% SIP projects	
		80% of the LG address contractual complaints related to irrigation schemes in a satisfactory manner	80% of the LGs will address contractual complaints related to irrigation schemes in a satisfactory manner	
Outcome 2: Small farmers especially from DAGs increase agricultural productivity				
2.1	Small farmers organize themselves inclusively in Water User Associations	100% WUA committees have representation from head, middle and tail of irrigation system	100% WUA committees will have representation from head, middle and tail of irrigation system	
		40% WUA committee members are women, with at least 1 woman or a representative of a discriminated group in a leadership position.	40% WUA committee members are women, with at least 1 woman or a representative of a discriminated group in a leadership position.	
		100% WUAs practice Public hearing, review and auditing & place hoarding board at scheme sites	100% WUAs will practice public hearing, review and auditing & place hoarding board at scheme sites	
2.2	Water User Associations (WUAs) build and/or	Approximately 1300 irrigation schemes are constructed or rehabilitated	A total of 337 irrigation schemes will be constructed or rehabilitated	153 carried over schemes from FY 2019-20 will be completed during this FY

S.N.	Outcome	Expected Outputs (Phase Targets)	Expected Outputs (FY 2020-21)	Comments
	rehabilitate Small Irrigation Systems equitably			along with 184 new schemes
		1'000'000 person –days of employment through the construction of irrigation schemes	400,000 person–days of employment will be generated through the construction of irrigation schemes	
		All WUAs/farmers equitably contribute at least 10% of the project construction cost	All WUAs/farmers will equitably contribute at least 10% of the project construction cost	
2.3	WUA operate and maintain irrigation systems equitably	100% WUA have received training for Operations & Maintenance (O&M)	100% WUA will receive training for Operations & Maintenance (O&M)	
		All WUAs prepare plans and cost estimate for recurrent system maintenance	All WUAs will prepare plans and cost estimate for recurrent system maintenance	
		80% WUAs prepare and implement plans for equitable and timely water distribution.	80% WUAs will prepare and implement plans for equitable and timely water distribution.	
2.4	Farmers access agriculture extension services from LGs	80% schemes receive training on integrated crop and water management, including the operation of the distribution system, on farm storage facilities and pressurized water distribution (sprinklers, drip irrigation)	As part of the O&M training, 80% schemes will receive training on integrated crop and water management, including the operation of the distribution system, on farm storage facilities and pressurized water distribution.	
		100 % of SIP supported schemes receive a visit from a LG JTAs at-least once before the construction begins.	100 % of SIP supported schemes will receive a visit from a LG JTAs at-least once before the construction begins.	
		80% farmers in SIP schemes have contact numbers of LG ward chairs, JT/JTAs, nearby agro-vet providers	80% farmers in SIP schemes will have contact numbers of LG ward chairs, JT/JTAs, nearby agro-vet providers	
2.5	Water User Associations plan the production in their FMIS based on commercial opportunities	50% Farmers in FMIS supported by the project plan their irrigated commercial crops based on reliable information on market demand	WUAs with market development potential (MDP) will be identified together with NAMDP in the first fiscal year.	This target will be measured from next fiscal year.
		50% JT/JTAs and private service providers provide production advice based on market demand.	WUAs with market development potential (MDP) will be identified together with NAMDP where JT/JTAs and private service providers will provide production advice based on market demand.	

S.N.	Outcome	Expected Outputs (Phase Targets)	Expected Outputs (FY 2020-21)	Comments
		80% farmers have contact numbers of traders and buyers, whole-sellers and retailers of agriculture products, agri-insurers	80% farmers will have contact numbers of traders and buyers, whole-sellers and retailers of agriculture products, agri-insurers.	
	Outcome 3: Market actors offer innovative supports and products to farmers in irrigated schemes			
3.1	Input service providers provide maintenance, production advice or embedded services to FMIS	Input service providers provide maintenance, production advice or embedded services to FMIS	Identification and mapping of input service providers to provide maintenance, production advice or embedded services to FMIS in each of the working Palikas	
3.2	Traders and retailers establish contacts with WUA members	80% of WUA reporting ongoing discussions with traders and buyers	Identification and mapping of traders and buyers in each of the working Palikas.	
		Simple and accurate price information system is developed and operational	Identification of potential stakeholders, partners for the development and anchorage of a simple and accurate price information system	
		Famers consult price information system before bringing produce to the market	This target will be measured once the price information system is developed and operation	

Annex III: Crop Cut Survey (CCS)

Crop cut survey (CCS) for FY 2020-21 will be carried out in two batches. The first batch of the CCS will be conducted in at least one completed scheme in each of the 26 Palikas of Khotang, Okhaldhunga and Udayapur while the second batch of CCS will be conducted in at least one new scheme in each of the program LGs planned for FY 2020-21 and results of the second batch of CCS will serve as the baseline for Phase II.

Crop cut survey is proposed to record the crop yield of major crops such as paddy, wheat and maize in the selected irrigation projects. Further, a baseline for winter vegetables and other high value crops which have been identified as potato, cauliflower/cabbage, tomato, green peas will be established.

1. Methodology of CCS

The CCS included the following activities in sequence:

- a. Selection of at least one irrigation schemes in each Palika of Khotang, Udayapur and Okhaldhunga covering all FYs of SIP-I
- b. Selection of at least one new irrigation schemes in each Palika for establishing baseline

Numbers of IP selection for Crop Cut Survey, Batch 1

S.N.	Working Area	Number of IP selection for CCS
1	Okhaldhunga	8 IPs
2	Khotang	10 IPs
3	Udayapur	9 IPs
	Total	26 IPs

Numbers of IP selection for Crop Cut Survey, Batch 2 (Baseline)

S.N.	Working Area	Number of IP selection for CCS
1	Bhojpur	3
2	Dhankuta	5
3	Fikkal	7
4	Khotang	10
5	Panchthar	5
6	Okhaldhunga	8
7	Terhathum	2
8	Udayapur	8
	Total	48

- c. Selection of schemes on the basis of elevation variation:
 - Less than 1000 m
 - In between 1000 m to 1500 m
 - Above 1500 m
 - One scheme with highest total estimated cost
 - One scheme with pipe canal system or lowest total estimated cost

- d. Organization of meeting with WUA of each scheme
 - Identify 3 water user farmers each from head, middle and tail of the command area and plan the tentative date of crop cut with them (Refer Table 1)
- e. Selection of the crop field of each selected/identified farmer
 - Selected crop field should be rectangular as far as possible
- f. Measurement of the perimeter with its diagonals and plot it on Auto Cad for area measurement or other ways for area measurement
- g. Assist WUA/MC and participating farmers to harvest the standing crop in the whole field plot or at least $5\text{m} \times 2\text{m} = 10\text{sqm}$ each in HMT
 - Thresh the harvested crop
 - Clean it
 - Weigh it and use the local available measuring tools such as Pathi, Mana and so on first and calibrate it in Kg using the digital balance
 - Take 1 kg sample for moisture adjustment (Keep info tag in each sample bag and bring it back to the Office)
 - Repeat the process for HMT
- h. Use Tablet to record the coordinates and altitude of the crop cut field and also take photos
- i. Calculating Crop Yield: The crop yield is calculated by carrying out the following steps:
 - Sum up all 3 replicates
 - Adjust the moisture
 - Total weight after moisture adjust (Kg)
 - Get the land measurement of crop cut plot (m^2)
 - Get the crop yield in t/ha.
- j. Get data of each farmer (HMT) identified for crop cut survey
 - Name of the farmer identified each in HMT for CCS
 - Land holding of farmer identified each in CA
 - Crop area in each crop season (monsoon, winter and spring) in % practiced by each identified farmer in HMT
 - Irrigation water received in each season as < Adequate > or < Inadequate> or any comment from the farmer
- k. Use the attached reporting Table 2, 3 and 4

Table 1. Crop Cut Planning with WUA of Irrigation Projects											
Name of District											
Name of Staff, DPMISC(Involvement in crop cut)											
				Tentative Crop cut date as per planning with WUA of IP							
S.N	IP Name	IP Code	Address	Monsoon Season	Winter Season		Vegetable	Spring Season		Altitude of IP	Remarks
				M. Paddy	Wheat	Potato		Spr. Paddy	Other crop (Specify)		
1											
2											
3											
4											

Table 2 : Crop cut results												
	Name of District											
	Name of Staff, DPMISC(Involved in crop cut)											
	Name of Crop											
	Reporting date											
S.N	IP Name	IP Code	Name of Farmer	Crop cut (date)	Latitude (North)	Longitude(East)	Elevation (m)	Crop cut area measured (sqm)	Total Production measured at Field (Pathi)	Local Pathi = Kg	Crop Variety	Remarks
1			Head :							1 pathi = ?? Kg		
			Middle :							1 pathi = ?? Kg		
			Tail :							1 pathi = ?? Kg		
2			Head :							1 pathi = ?? Kg		
			Middle :							1 pathi = ?? Kg		
			Tail :							1 pathi = ?? Kg		
3			Head :							1 pathi = ?? Kg		
			Middle :							1 pathi = ?? Kg		
			Tail :							1 pathi = ?? Kg		
4			Head :							1 pathi = ?? Kg		
			Middle :							1 pathi = ?? Kg		
			Tail :							1 pathi = ?? Kg		
5			Head :							1 pathi = ?? Kg		
			Middle :							1 pathi = ?? Kg		
			Tail :							1 pathi = ?? Kg		

S.N	Table 3: Crop coverage Information from Farmers Participating in Crop Cut												
	Name of District												
	Name of Staff (Involved in crop cut)												
	Reporting date												
	IP Name	IP Code	Name of Farmer	Holding in CA (Ropani/Katha)	M. Paddy Coverage/ Area (%)	Wheat Coverage/ Area (%)	Oilseed/ Pulse Coverage/ Area (%)	Potato Coverage/ Area (%)	Winter Veg Coverage/ Area (%)	Spr. Paddy Coverage/Area (%)	Spr. Maize Coverage/ Area (%)	Remarks	
1			Head :										
			Middlle :										
			Tail :										
			Total										
2			Head :										
			Middlle :										
			Tail :										
			Total										
3			Head :										
			Middlle :										
			Tail :										
			Total										
4			Head :										
			Middlle :										
			Tail :										
			Total										
5			Head :										
			Middlle :										
			Tail :										
			Total										

	Table 4: Irrigation Information from Farmers Participating in Crop Cut										
	Name of District										
	Name of Staff, DPMISC(Inolved in crop cut)										
	Reporting date										
S.N	IP Name	IP Code	Name of Farmer	Irrigation Application in M. Paddy Times/Interval	Irrigation Application in Wheat Times/Interval	Irrigation Application in Oilseed/pulse Times/Interval	Irrigation Application in Potato Times/Interval	Irrigation Application in Winter Veg Times/Interval	Irrigation Application in Spr.Paddy Times/Interval	Irrigation Application in Spr.Maize Times/Interval	Remarks
1			Head :								
			Middlle :								
			Tail :								
2			Head :								
			Middlle :								
			Tail :								
3			Head :								
			Middlle :								
			Tail :								
4			Head :								
			Middlle :								
			Tail :								
5			Head :								
			Middlle :								
			Tail :								

Annex IV: GESI Action Plan

Project Outputs	Gender Activity/ Measure	Target/Performance Indicators	Data Source and Reporting Mechanism	Responsibility
Outcome 1 Local Governments respond effectively to needs of small farmers for irrigated agriculture				
1.2 LGs strengthen their legislative and executive capacity for implementing small irrigation schemes	Enhancement of women's roles in decision-making positions.	<ul style="list-style-type: none"> equal rights for women in access to services and control over resources Implementation of existing policies to ensure 	Project annual reports	Provincial Government and LGs
1.3 LGs build their capacity to provide support to the farmers in irrigated agriculture development	Agriculture extension addresses the needs and priorities of women, farmers and ensures participation of women, small and marginal farmers in all training events and access to agri-extension activities	<ul style="list-style-type: none"> Women, small and marginal farmers are consulted in the agriculture extension planning process Data on farmer group composition will be collected and maintained disaggregated by sex, caste/ethnicity. 	Project monitoring, programme MIS and annual report	LGs and PMISC
Outcome 2 Small farmers especially from DAGs increase agricultural productivity and shift from subsistence to commercialized agriculture				
2.1 Small farmers organize themselves inclusively in Water User Associations	<p>Beneficiaries household sample baseline socio-economic and agricultural data</p> <p>Executive committee formation ensures women's representation and reflects the demographic profile of the command area as guided by their constitution.</p> <p>WUA Constitution includes provision for meaningful participation of women.</p>	<ul style="list-style-type: none"> Data available in programme MIS and reported in Annual Reports Minimum 40% representation of women in WUA executive committees Proportional representation from head, middle and tail-enders. All of WUAs have at least one woman holding a key leadership position (chairperson, secretary, treasurer) WUA rules provide for equal pay for men and women for work of equal value; and either the husband or the wife is an eligible member Women executive committee members actively participate in discussions and decision-making related to the operation, 	<p>Review of Minutes of WUA General Assemblies, reported in project annual report</p> <p>Review of WUA constitutions, reported in project annual reports</p>	LGs and PMISC

Project Outputs	Gender Activity/ Measure	Target/Performance Indicators	Data Source and Reporting Mechanism	Responsibility
		management and maintenance of the schemes		
2.2 Water User Associations (WUAs) build and/or rehabilitate Small Irrigation Systems equitably	Ensure meaningful participation of women members of WUA executive committees through leadership and technical training to WUA executive committee members	<ul style="list-style-type: none"> 65% of trained women leaders (where applicable) demonstrate increased ability to perform Women are consulted on the design of scheme construction and/or improvement Design of water distribution systems benefits men and women in an equal manner Constitution provision for equal pay for men and women is applied in under the payable works implemented through WUA contracts 	Public hearings, WUA agreements, construction supervision. Muster roles and WUA payment records	LGs/PMISC
2.3 WUA operate and maintain irrigation systems equitably	Equitable distribution of irrigation water in the scheme command areas, especially with regard to irrigation water supply to plots farmed by women	<ul style="list-style-type: none"> 80% of plot farmed by women in the scheme command areas receive timely water supply in sufficient quantity 	Post construction monitoring and annual reports	WUAs, LGs, PMISC
2.4 Farmers access agriculture extension services from LGs	Promote and develop women leader farmers in the subproject areas. Provide priority access to subsidized agriculture inputs and equipment to women farmers	<ul style="list-style-type: none"> 40% of farmer group members trained are women farmers. 50% of women farmers have adopted improved agriculture technologies and are using improved seen varieties. LGs ensure the WUA's allow equal access of female-headed households, to community owned agriculture equipment 	Post construction monitoring and annual reports	LGs and PMISC
2.5 WUAs plan the production in their production in their FMIS	WUAs will involve all female members in planning of production and inform them on the commercial opportunities	<ul style="list-style-type: none"> 50% of women farmers are plan their production based on commercial opportunities 	Post construction monitoring and annual reports	LGs and PMISC

Project Outputs	Gender Activity/ Measure	Target/Performance Indicators	Data Source and Reporting Mechanism	Responsibility
based on commercial opportunities				
Outcome 3 Market actors offer innovative supports and products to farmers in irrigated schemes.				
3.1 Input service providers provide maintenance, production advice or embedded services to small irrigation schemes	LGs, WUAs and input service providers will ensure that the services are promoted to women and that women farmers have equal access to these services	<ul style="list-style-type: none"> 80% of women farmers avail of agriculture inputs and services provided by private sector service providers 	Post construction monitoring and annual reports	LGs and PMISC
3.2 Traders and retailers establish contacts with WUA members	WUAs will ensure that all female members will be able to establish contacts with agriculture traders	<ul style="list-style-type: none"> 30% of women farmers sell commercial production to traders 	Post construction monitoring and annual reports	LGs and PMISC

Annex V: Project Prioritization Criteria

A. Scheme Verification

1. Project Eliminating Criteria

Schemes listed in the approved list obtained from the LGs shall be identified/verified in the field through scheme verification. Schemes/Projects with the following characteristics shall be eliminated and no further actions shall be taken upon them.

SN	Criteria	Yes	No	Remarks
1	Water availability at source for three cropping seasons		Eliminate	Tagged "Not Verified" by the system
2	Farmers willing to pay 10% contribution		Eliminate	
3	Upstream users have any objection	Eliminate		
4	Downstream users have any objection	Eliminate		
5	Active landslides in main canal alignment	Eliminate		
6	Overlap with prior schemes of DoI/SIP-I implemented within last 15 years	Eliminate		

2. Project Ranking Criteria

Schemes thus remaining after the elimination shall be ranked/prioritized for further detail survey/actions. The prioritization shall be based on three criteria; and their weightage shall be as follows:

SN	Criteria	Weightage (%)
1	Ratio of command area (CCA) to total canal length	60
2	Presence of disadvantaged groups (DAGs)	20
3	Proximity to local market	20
	Total	100

The detail of each criterion are follows:

a. Ratio of command area to total canal length

The ratio shall be multiplied by 1000 and percentile of all the schemes shall be calculated based on the highest ratio.

b. Presence of DAGs

The presence of DAGs shall be categorized depending upon the percentage of DAGs present in schemes as follows.

DAG Range, %	Score	Remarks
≥ 40	100	
30-40	75	Including 30
20-30	50	Including 20
10-20	25	Including 10

<10	0	
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c. Proximity to Local Market Hub

Depending on the distance of local market hub from the scheme/project, it shall be categorized thus:

Distance of Market, km	Score	Remarks
≤ 1	100	
1 - 2	75	Including 2
2 - 3	50	Including 3
3 - 4	25	Including 4
> 4	0	

B. Detail Survey

1. Project Eliminating Criteria

If, after detail survey, schemes are found to have the following characteristics, they shall be eliminated from prioritization and shall not be considered for implementation.

SN	Criteria	Yes	No	Remarks
1	Water availability as per proposed cropping pattern		Eliminate	Reassess
2	Conflicts regarding water rights	Eliminate		Reassess
3	Conflicts regarding voluntary land donations	Eliminate		
4	Command Area between 5 to 50 hectares		Eliminate	
5	Overlap with prior schemes of DoI/SIP-I implemented within last 15 years	Eliminate		Reassess

2. Project Prioritizing Criteria

After completion of the detail survey and analysis of the data thus obtained, schemes/projects shall be prioritized for further actions considering the following criteria and weightages:

SN	Criteria	Weightage, %
1	Command area (CCA) size, ha	20
2	DAG household, %	20
3	Idle canal length, km	20
4	Road head distance, km	20
5	Distance of nearest market, km	
	Major market hub	10
	Local market hub	10
	Total	100

Detail of each criterion follows.

a. Size of Culturable Command Area (CCA)

Command Area (CCA), ha	Score	Remarks
≥ 20	100	
15 - 20	80	Including 15
10 - 15	60	Including 10
5 - 10	40	Including 5
< 5	20	

b. Presence of DAG Households

DAG HH %	Score	Remarks
≥ 40	100	
35 - 40	80	Including 35
30 - 35	60	Including 30
25 - 30	40	Including 25
< 25	20	

c. Idle Canal Length

Idle Canal Length, km	Score	Remarks
≤ 1	100	
1 - 2	80	Including 2
2 - 3	60	Including 3
3 - 4	40	Including 4
> 4	20	

d. Distance to Road-head

Distance of Road-head from Command Area, km	Score	Remarks
≤ 1	100	
1 - 2	80	Including 2
2 - 3	60	Including 3
3 - 4	40	Including 4
> 4	20	

e. Distance to Major Market Hub

Distance of Major Market Hub from Command Area, km	Score	Remarks
< 5	100	
5 - 10	80	Including 5

10 - 15	60	Including 15
15 - 20	40	Including 20
> 20	20	

f. Distance to Local Market

Distance of Local Market from Command Area, km	Score	Remarks
< 1	100	
1 - 2	80	Including 2
2 - 3	60	Including 3
3 - 4	40	Including 4
> 4	20	

Annex VI: SIP Work Schedule for FY 2020-21

ACTIVITY	1st Trimester				2nd Trimester				3rd Trimester			
	Shrawan	Bhadra	Asoj	Kartik	Mangsir	Poush	Magh	Falgun	Chaitra	Baishak	Jestha	Asar
	July/Aug	Aug/Sep	Sep/Oct	Oct/Nov	Nov/Dec	Dec/Jan	Jan/Feb	Feb/Mar	March/April	April/May	May/June	June/July
	1	2	3	4	5	6	7	8	9	10	11	12
Carried Over Schemes (153) (Phase-I)												
Training on QC and ID												
Construction Activities and Supervision												
Public auditing and system testing/ commissioning												
Running and final billing and payment												
Post Construction Support: O&M and water management training and plans preparation												
New Schemes 184												
Collection of scheme list												
Project Verification of new schemes												
Mass meeting and detailed survey of new schemes												
Preparation of PPR and endorsement in annual plan												
Formation and registration of WUAs												
Public hearing of scope of work, cost estimates and cost sharing												
Signing of community agreements												
Construction Activities and Supervision												
Public Review, Processing interim payments												
Public auditing and system testing/ commissioning of construction completed schemes; Final Payment												
Post Construction Support: O&M and water management training												
New Schemes (406): For FY 2078-79												
Collection of scheme list												
Project Verification of new schemes												
Mass meeting and detailed survey of new schemes												
Preparation of PPR and endorsement in annual plan												
LMBIS Entry												
Other Activities												
Baseline: Paddy crop cut survey												
Baseline: Wheat crop cut survey												
Baseline: Maize crop cut survey												
Baseline: Potato crop cut survey												
Baseline: Winter vegetable and high value crop cut survey												

Annex VII: Program Budget

Annex VII: Program Budget								
	SIP Phase Budget							1 CHF= Nrs.115
SI	Budget Heading	By Financiers (Amount in CHF)						
		SDC	FG	PG	LG	Total	Farmers	Grand Total
1	Civil works	13,140,000	8,760,000	8,760,000	8,760,000	39,420,000	4,380,000	43,800,000
2	Equipment	73,000	-		-	73,000	-	73,000
3	Consulting Services	3,807,000	-		-	3,807,000	-	3,807,000
4	Institutional Strengthening of PGs and LGs	500,000	-		-	500,000	-	500,000
5	Project Management		100,000	200,000	900,000	1,200,000	-	1,200,000
6	External Evaluation	80,000	-		-	80,000	-	80,000
TOTAL PROJECT COST		17,600,000	8,860,000	8,960,000	9,660,000	45,080,000	4,380,000	49,460,000
	SIP Budget for FY 2020/21							
SI	Budget Heading	By Financiers (Amount in CHF)						
		SDC	FG	PG	LG	Total	Farmers	Grand Total
1	Civil works	2,876,662	2,007,097	1,203,197	1,739,130	7,826,087	869,565	8,695,652
2	Equipment	39,999				39,999	-	39,999
3	Consulting Services	1,203,651				1,203,651	-	1,203,651
4	Institutional Strengthening of PGs and LGs	37,218				37,218	-	37,218
5	Project Management					-	-	-
6	External Evaluation				-	-	-	-
	Recurrent Cost- Federal Government		20,870			20,870		20,870
TOTAL PROJECT COST		4,157,530	2,027,967	1,203,197	1,739,130	9,127,824	869,565	9,997,389

Annex VIII: Funds Flow Analysis FY 2020-21													
Project:	Small Irrigation Programme												
Period of analysis	16 July, 2020 to 15 July, 2021												
Budget	9,127,824												1 CHF= NRS 115
	Budget/Expense Headings	Expense Amount (in NPR)	Budget/ Expense Amount (in CHF)	Fund Receivers			Discrimination Perspective		Fund Allocation			Fund Beneficiaries	
				Geographical Outreach			Discriminate d	Non - Discriminate	Cluster perspective (Swiss cluster districts and others)			Beneficiary Perspective Directly attributable or not	
		1,049,700,000	9,127,824	District/ Province	National	International			Province 1	Province 2	Others and National	Attributable funds	General and common costs
PART 2	Local Office of Contractor	6,480,239	56,350										
2.1	Local Office staff of contractor	5,624,527	48,909		100%			100%			100%		100%
2.2	Reimbursable cost	855,712	7,441		100%			100%			100%		100%
PART 3	PROJECT IMPLEMENTATION	108,119,761	940,170										
PART 3a	Long Term Experts	31,915,400	277,525										
3.1	Professionals (expat and national)	31,915,400	277,525	100%			15%	85%	100%				100%
3.2	Travel expenses of residential expats	-	-										
3.3	Other costs of resident expats	-	-										
PART 3b	Short term experts	-	-										
3.4	Short term experts	-	-										
3.5	Reimbursable costs	-	-										
3.6	Remuneration of national support	44,098,322	383,463										
3.6.1	National Level	9,929,032	86,339	100%			92%	8%	100%				100%
3.6.2	Cluster Level	34,169,290	297,124	100%			76%	24%	100%				100%
3.7	Reimbursable Costs	9,715,901	84,486										
3.7.1	Travel	802,230	6,976	100%			78%	22%	100%				100%
3.7.2	Accommodation incl DSA	8,913,671	77,510	100%			78%	22%	100%				100%
3.8	Purchase of equipment for project	4,600,000	39,999										
3.8.3	Project Vehicles(motorcycles)	1,749,296	15,211	100%				100%	100%				100%
3.8.4	Professional GPS	1,425,352	12,394	100%				100%	100%				100%
3.8.5	Office Equipment	1,425,352	12,394	100%				100%	100%				100%
3.9	Operating Costs PIU (effective cost)	17,790,138	154,697										
3.9.1	Office Rent (including security)	2,009,064	17,470	100%				100%	100%				100%
3.9.2	Cluster Office Rent	627,834	5,459	100%			4%	96%	100%				100%
3.9.3	Running cost Office (Stationery/ consumables)	5,348,203	46,506	100%				100%	100%				100%
3.9.4	Office material (Furniture & Fixture)	1,069,640	9,301	100%				100%	100%				100%
3.9.5	Running cost vehicles/ motorcycles	3,565,469	31,004	100%				100%	100%				100%
3.9.6	Local Auditing	713,094	6,201		100%			100%			100%		100%
3.9.7	Internship/ Traineeship	2,674,100	23,253	100%			100%		100%				100%
3.9.8	Training national support staff	1,782,734	15,502	100%			78%	22%	100%				100%
PART 4	ADMINISTERED PROJECT FUNDS	932,700,000	8,110,435										
4.1	Civil works- Federal	230,816,183	2,007,097	100%			21%	79%	100%			100%	
	Civil works- Provincial Government	138,367,635	1,203,197	100%			21%	79%	100%			100%	
	Civil works- Local Government	200,000,000	1,739,130	100%			21%	79%	100%			100%	
	Civil works- SDC	330,816,183	2,876,662	100%			21%	79%	100%			100%	
4.2	Construction training	28,419,895	247,130	100%			-	100%	100%				100%
4.3	Institutional Strengthening of Palikas	3,424,084	29,775	100%			-	100%	100%				100%
4.4	Provincial Capacity Strengthening	856,021	7,444	100%			-	100%	100%				100%
	Recurrent Cost- Federal Government	2,400,000	20,870		100%			100%			100%		100%
	Total amount	1,049,700,000	9,127,824	9,044,404	83,420	-	2,091,468	7,036,356	9,044,404	-	83,420	7,826,087	1,301,737
				99.09%	0.91%	0.00%	22.91%	77.09%	99.09%	0.00%	0.91%	85.74%	14.26%

ANNEX IX: Institutional Arrangement

