



Support for Sustainable Development (SSD)

TERMINAL REPORT ON CHIFRA IRRIGATION BASED INTEGRATED DEVELOPMENT PROJECT (January 1st 2018 – June 30st 2021)



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1. Project Summary

Project Name	Chifra irrigation based integrated development project
Project Location	Country: Ethiopia, Region: Afar National Regional State, Zone 1, Chifra district.
Irrigable Area to be Developed	200 ha
Implementing Organization	Support for Sustainable Development (SSD)
Project starting date	March 1, 2018
Expected End Date	June 30, 2021
Number of Beneficiaries	600HHs
Reporting period	March 1 st 2018 – June 30 th 2021
Submitted to	CLWR/CFGB
Total Project Budget	ETB 27,445,786 [CLWR/CFGB share= Birr 20,858,798 and Afar Regional Government share= Birr 6,586,988]

2. Project Overview

2.1. Back Ground of the project rationale

Support for Sustainable Development (SSD) is a national, non-profit, charity organization established in May 2003 to support development initiatives of the poor, neglected, and marginalized communities of Ethiopia. SSD has been engaged in irrigation based integrated development project, and benefiting agro pastoralist communities in Afar National Regional State since its inception.

According to government census (2007) over 80% of the population in Afar practice pastoralism and that number is higher in Chifra woreda¹, however, a few do practice traditional farming along the banks of the Mille River. Petty trading and seasonal labor migration are also alternative income sources for some families. SSD has also observed intermittent use of irrigation practices in the woreda along Mille River using traditionally built irrigation canals. According to the woreda

¹ An Atlas of Ethiopian Livelihoods: The Livelihoods Integration Unit, 54-55: http://foodeconomy.com/wp-content/uploads/2016/02/Atlas-Final-Web-Version-6_14.pdf

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Pastoralist and Agriculture office and community representatives, approximately 46 hectares of land are currently under irrigation by 85 households once per year. Problematically, all of these livelihoods are steadily under threat due to increasingly unpredictable weather related to climate change.

The Chifra Irrigation Based Integrated Development Project launched in 2018 as a three year mandate to benefit 600 households (4,200 Individuals) with improved and sustainable food security by 2020. The project aimed to tackle both short-term food insecurities, and also mitigate long-term food insecurity of targeted households in Jarana-Kontola and Askomana-Akibura kebeles of Chifra Woreda. The project has planned to construct a durable gravity-based irrigation system which can develop 200 hectares of land without interruption and enables 600 households to sustainably cultivate food, fodder, and cash crops two times per year. The project has engaged able bodied persons from the community for the construction of the irrigation infrastructure and pay cash as wage for labor.

The project components were including infrastructure construction, agricultural development, community capacity building and natural resource management. The project has aligned with the Ethiopian Government development strategies and the Growth and Transformation Plans, and enjoyed the support of local communities and the Afar Regional Government. The Regional government allocated 24% of the total project cost. The relatively high initial investment needed for the project will be greatly offset by the improvement in food security and household income leading to improved quality of life, poverty reduction and development of the region.

2.2. Update on the food security Situation

The Afar regional state in general including Chifra woreda where the project is installed had experienced recurrent drought. As usual most of the pastoralist community who have cattle and camel animals had temporarily migrated with their livestock to other areas bordering Awash River from July to September until the main summer rain is gone off. It has been reported by Chifra woreda Pastoralist and agricultural development office there was less food insecure condition as the area is receiving better rain in the first semester of 2020 and in the first semester of 2021 due to farmers starting crop production and cover their household food needs for more than 7 months.

In the reporting periods, Chifra woreda had experienced recurrent drought during dry periods such as from January to June as usual but most of the project beneficiary pastoralist communities who have cattle and camels are stayed at the project by feeding their animals grass and stalk leaves but

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others who have not got this chance temporarily migrated with their livestock to other area bordering Awash River from January to June until the drought and next main summer rain is gone off. In the first semester of 2021, the target communities are supported their families and close relatives from their farm product i.e. maize. On the other hand, SSD provided cash for their labor rendered to commence CFW project activities. This semester is the happiest time for the target farmers to develop resiliency for any environmental shock caused by drought from the benefit they endowed with good harvest from their farm.

In the reporting period due to COVID-19 and its impacts on the market business, the costs of factory products were hardly affordable to the community till yet. People are advised to take maximum care if they go out and communicate with other people. The project carried its project activities with taking care and providing safety materials for training participants and also advised them to keep social distancing when doing field works.

3. Approved changes to project proposal

There were a few changes to the project proposal in this reporting period:

- i. In the reporting year, there had been minor change in the canal alignment from that of the planned one. The newly planned canal line has less number of drops and also avoids deep canal excavation to pass the water to the other parts of the farm areas. The only change was to shift the canal line to the upstream side to reduce constructing more drop structures
- ii. The budget allocated for oxen purchase was used for tractor operation, including the cost of fuel, minor maintenance, and operator's allowance. This change was proposed by the beneficiaries to prepare farmlands quickly for the next agricultural season using the tractor available with the woreda agricultural development office.
- iii. In view of the Covid-19 pandemic, desert locust infestation and heavy rainfall in the project area, SSD conducted an assessment of the impacts of these disasters on project activities together with the regional Bureau of Livestock, Agriculture and Natural Resource Development during Oct 1st – 3rd 2020. The assessment recommended an extension of the project timeline for the successful realization of project outcomes. Accordingly, SSD has made an official request to CLWR/CFGB for a six-month extension of the project to complete the activities planned in year 3 which were not completed as planned in 2020. And hence, all the remaining project activities were completed in the extension period.

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4. Monitoring and Evaluation

In order to ensure that, activities are taking place according to standard and to find out the weakness and gaps within the project, monitoring has been held by the team of the project throughout the year. Evaluation of the project was also done at different stages during the project implementation period. Some of the methodologies include field visits by senior staff to provide technical support and to monitor the technical visibility of the work and monthly/ quarterly/interim/annual reports detailing the status of the project are produced by project management. These documents are used for the purpose of regular monitoring and evaluation of the project. In addition to that, Project evaluation was also jointly done with Afar Regional State relevant offices regularly.

Different household surveys during the project periods conducted to identify the project impact or its results achieved as a result of the project intervention. In doing this, in 2021 a sample of 108 (40F, 68M) workers were randomly selected from the sampling frame of 600 target participants based on a confidence interval of 8.55% and a confidence level of 91.45%. This study helps to know the demographic status of the user community.

Table 1: Demographic data of Sample Population (first semester survey from Jan- June, 2021)

Response	Gender of Interviewee		Gender of head of HH		Total # of people in the HH	Interview is head of the HH		# of females in the HH			# of males in the HH		
	M	F	M	F		Number	Yes	No	> 18 yrs old	< 17 yrs old	Total	> 18 yrs	< 17 yrs
Count	68	40	76	32	806	89	19	168	210	378	189	242	431
Sample	108	108	108	108	108	108	108	806	806	806	806	806	806
Percent	62%	37%	70.4%	29.6%	Av. HH size 7.5	82.4%	17.6%	20.8%	26.1%	46.9%	23.4%	30%	53.5%

5. Actual results achieved

5.1. Inputs

Primarily SSD used cash and human labor to implement the project activities. Also, a field vehicle and a dump truck were also used for the transportation of staff and construction materials to the work sites. In the project periods since March 2018 to June 2021, the project employed a total of 1,417 (458F, 959M) unique unskilled people of and 94 semi-skilled workers. Thus, a total of 1,511 CFW participants were employed to work as daily laborers to implement project activities. In addition, 44 skilled laborers were also employed to work on masonry activities.

The skilled workers built masonry structures; semi-skilled workers mixed cement; transported stone and sand to the construction site, and, excavated canals, created bunds and slopes for the irrigation

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structures. A total of Birr 7,119,404.75 was paid in cash to all unskilled, semi-skilled and skilled laborers as shown in the table below.

Table 2: Cash utilization in 18 months' time

CFW DAILY WORKERS	No of workers		No of person * days worked	Cash earned/day (Daily Wage)	Total Actual January - December 2020	Total Annual planed	Ending balance	
	M	F						Total
Unskilled labors	959	458	1,417	76,646.82	70	5,364,561.72	4,890,830	-473,730.5
Semi-skilled labors	94	0	94	6,895.26	120	827,425.9	802,440	-24,985.9
Skilled labors	44	0	44	3,709.66	250	927,418.35	949,250	21,831.65
Total	1,097	458	1,555	87,251.74		7,119,406	6,642,520	-476,886

The cash received from the project supports the livelihood of CFW participants. They purchased food and other household items from the nearby Chifra market. A total of 655 (439M, 216F) direct laborers, including unskilled and semiskilled and 9,550 indirect beneficiaries (630 men, 1268 women, 3,636 boys and 4,016 girls), thus from this project a total of 11,061 individuals have got benefit since its inception in 2018 to its completion in June 2021. Skilled labors were not included as direct beneficiary as they are employed from outside of the project on contract basis to do technical matters.

5.2. Activities

Various construction activities were accomplished during the reporting period. Major activities accomplished were retaining wall constructed, main outlet gate work and gate installation, river bank protection on the left side of the river work, main and secondary canals construction, drainage canal along the main canal constructed, main canal lining, drop structures constructed, road and drainage culverts constructed and division box constructed, construction of stone check dam, facilitate production and plantation of vetiver grass along the canal, construction of cut off drain, production and plantation of multipurpose tree seedlings along the main canal and farm areas, and also different trainings and other activities such as hand tools provision, WUA and women's savings and credit groups establishment and seed money provision and nursery establishment have been done during the project periods.

A. Project Inception work shop conducted

Organizing project inception work shop is one of the planned activities to reach out the target people before the start of project implementation. During the workshop on 24 March 2018, the objective and the activities of the project which is going to be implemented and the responsibility of the community and local government as a stakeholder is well discussed. The workshop is organized to facilitate discussion among stakeholders, including the woreda and Kebele leaders, community elders and

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religious leaders of the beneficiary of the target Kebeles. In total the participants were 66 out of which 16 were females and 50 of them were males. On the workshop district pastoral, administration, women affairs, youth, police, health and broadcast office experts and from the kebele cabinet, community elders and religious leaders participated and well discussed about the project activities and their responsibility on implementation.

In general the discussion topics of the workshop includes objective of the project, payment modality & rate, land to be irrigated, responsibility of community, woreda and kebele on project implementation, involvement of women in labor and leadership and also SSD's role as well. Besides, a project committee consisting of four persons from target kebeles was elected. The role of the project committee is to create healthy working environment, mobilize the daily workers, and serve as liaison between the community and SSD during the execution of the project activities.

Finally, the community and government are made well aware of the Chifra project, mode of implementation, and the participation and responsibility of all the stakeholders (community, government and the implementer SSD).



Figure 1: Inception workshop participants

B. Environmental and Social Impact Assessment (ESIA) conducted

This assessment is conducted at Chifra project by employing consultant so as to explore and highlight the potential negative and positive impacts of the project on the environment and society. The result of the assessment shows that there are no wild animals or other biological features such as forests, wetlands, or aquatic life in the area that could be affected by any of project actions, therefore the project have no major effect on the biological environment. In addition, minor negative impacts are expected and can be mitigated by the project.

The study team recommends conducting annual environmental audits for the project in order to ensure compliance of the project with the mitigation measures outlined in the Environmental and Social Management Plan (ESMP). In addition, they recommend strong community participation to ensure involvement of different community groups, women, and youth in execution of water

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resources and environmental management and conservation operation of the project. Based on their recommendation an ESRMP data is collected and its result will be separately reported and as to the participation the target community participated on as information source about their local situation during all data collection time, work as daily laborers and as project committee to mobilize the community for different project activities.

C. Transfer Modality Assessment conducted

This assessment was also conducted at the project site to determine which transfer modality is preferred by the community for implementing the project activities. The study revealed that there is a clear comparative advantage of cash over food in terms of efficiency, effectiveness and impact. As to effectiveness of transfer modalities in improving food consumption, the study found out that CFW can be more effective in achieving this result as it allows recipients to purchase whatever food is their priority.

Accordingly, the project used cash for work system to pay for daily workers i.e. unskilled, semi-skilled and also for skilled people in cash as a wage for their labor rendered to execute project activities. Skilled people participated at the project or took project activities on contract base and have been paid with cash.

D. Cash management & handling training

Though SSD is experienced in cash management and handling, staff training was organized to train all SSD field staff who participated on project implementation. Accordingly, 8 staff members trained for two days at the project camp. The training was focused on avoiding theft, fraud, mismanagement of cash and safe handling of money (using bank and safe box systems and less petty cash system). Before paying any cash to laborers, all the required receipts, payment sheet and signatures of the recipients have been well discussed by the training participants. During the payment day the presence of kebele officials, project committee and SSD staff like construction and agro-ecology experts, project coordinator and the payer, finance man is kept as a prior requirement to effect wage payment to those who participated on the labor works.

F. Beneficiary Selection criteria

The selection of beneficiaries for executing different project activities was done by local leaders and clan leaders using the criteria shown in the table 3 below. The casual laborers for CFW activities and all trainings participants were selected from two project kebeles; namely, Jarana-contola and Askomana-akibura. The names of all selected target beneficiaries always come from these kebeles supported with official letters to SSD project coordination office base at Chifra project.

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Table 3: Participants selection criteria on different events

Cash for Work	NRM training	Irrigation agronomy training	WUA executive committee members	Land distribution	Training of women in SAC	Fodder training	Crop marketing training	Food preparation training
Food insecure households	Member of the project kebele	Land recipient or owner	He/ She should be a nominee as a committee member by the WUA members	Member of the project kebele	Volunteer women to be organized and participate in the association	Land recipient or owner	Land recipient or owner	Member of the project kebele
Generally poor households (based on local wealth standards)	Influential person one who can advocate about environmental conservation	Widow women/ women headed households	Ready to serve the community	willing to engage in farming Agriculture	Ready to abide by the rules and guidelines to be adopted by the association.	One who started farm cultivation	One who started farm cultivation	Volunteer to be a model farmer for others
Widow women/ women headed households be given priorities	Clan and religious leaders	Physical capability to work in irrigated agriculture	Keen to learn new ideas and skill	Women headed households	The women should be ready to learn and practice petty trading and other income generating activities	Volunteer to be a model farmer	Volunteer to be a model farmer	Women headed households given priority
Elderly headed households with an able-bodied member	Women headed households	Volunteer to be a model farmer	Kebele administration members	Sub clan quota sharing system	Kebele administration members	Widow women/ women headed households will be given priority	Widow women/ women headed households will be given priority	One who practiced crop farming
Able-bodied, i.e. capability to engage in physical works	Kebele administration members			physical capability to work in irrigated agriculture	Men that are kebele leaders, clan leaders and elders	Cattle owner will be given priority	Volunteer to grow market oriented crops	
Over 15 years of age	Over 18 years of age	Over 18 years of age	Over 18 years of age	Over 18 years of age	Over 18 years of age	Over 18 years of age	Over 15 years of age	Over 20 years of age
Resident of the target kebele	Resident of the target kebele	Resident of the target kebele	Resident of the kebele	Resident of one or/ both of the two kebeles	Resident of the kebele	Resident of the kebele	Resident of the target kebele	Resident of the target kebele

Table 4: Number of participants on direct events (CFW, trainings)

Beneficiary disaggregated	CFW	Environ conservation training	Irrigation agronomy training	WUA executive committee training	SAC training	Fodder training	Crop marketing training	Food preparation training	Field day participants	Awareness raising on WUA legal registration	Land recipient
Men	1,053	31	47	24	6	39	77	15	226	86	255
Women	458	7	11	10	200	11	23	45	89	24	75
Kebele development workers		2	2	6	4	3 Men	-	-	-	-	-
Total	1,511	40	60	40	210	53	100	60	315	110	330

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Table 5: Detail Project Activity plan and accomplishment

No	Description of Activities	Unit	Project life	Total Accomplished	%	REMARK
1	Planning and coordination					
1.1	Access road clearing and maintenance	km	10	3	30%	
1.2	Conduct Baseline	No	1	1	100%	
1.3	Organize project inception workshop	No	1	1	100%	
1.4	Cash handling training for SSD staff	No of session	1	1	100%	
3	Water diversion Weir and Irrigation Infrastructure Constructed					
3.1	Concrete Cut-off wall	m	80	80	100%	
3.2	Retaining wall Construction	m	60	60	100%	
3.3	Main outlet Gate work & gate installation	No	1	1	100%	
3.4	Gabion protection works (riverbank and cut off)	pcs	350	372	106%	
3.5	Riverbank Protection works (on the right side of the River)	pcs	330	185	56%	
3.6	Main canal Construction	km	7	7	100%	
3.7	Drainage canal along the Main canal	km	3.5	3.065	87.6%	
3.8	Main canal lining	m	200	200	100%	
3.9	Drop structures construction on main & secondary canal	pcs	30	24	80%	
3.1	Road and Drainage culverts	No	15	18	120%	
3.11	Division boxes	No	15	17	113%	
3.12	Gate purchase and installation for division boxes	No	105	44	41.9%	
3.13	Secondary canal construction	km	6	3.8	63.3%	
4	Targeted households receive irrigable land					
4.1	Facilitate clearing and distribution of land	Hectare	200	200	100%	
4.2	Facilitate primary tillage by purchasing oxen with accessories	Lump sum	1	100	100%	
4.3	Provide seeds of different vegetable and other crops	kg	50	80	160%	
4.4	Provide hand tools to facilitate farming activities	No of tools	300	700	233%	
4.5	Establish and run nursery & demonstration site	no	1	1	100%	
4.6	Facilitate staking of hay by target people	No. of HHs	300	300	100%	
4.7	Provision of improved fodder/forage seeds	kg	50	100	200%	
5	Run off retention bunds, cut off drain and check dams constructed and vetiver grass and multipurpose trees planted					
5.1	Construction of soil and stone bunds	km	15	15	100%	
5.2	Construction of stone check dams	m3	1200	1200	100%	
5.3	Construction of cut off drains	m3	1500	1500	100%	
5.4	Production of multipurpose tree seedlings	No. of seedling	6000	5520	92%	
5.5	Plantation of multipurpose tree seedlings along the canal and farm areas	no .of seedlings	5400	7,620	141%	2100 bought in extension period
5.6	Facilitate production & plantation of vetiver grass along the canal	slips	6000	6750	112.5%	
6	Farmers trainings, workshops, experience sharing and exposure visits completed					
6.1	Provision of trainings on irrigation agronomy and scheme management	# of people	120	120	100%	
6.2	Organize and conduct crop marketing & market development training	people	100	100	100%	

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6.3	Organize farmers field days at the project demonstration site	No.	4	4	100%	
6.4	Organize training on fodder production & rangeland management	people	100	100	100%	
6.5	Organize & conduct environmental conservation training	# of people	120	130	108%	
6.6	organize and conduct food preparation and demonstration training	# of people	60	60	100%	
7	Water Users Association Established and Strengthened					
7.1	Facilitate awareness raising sessions on the need of establishing water users association (WUA) & to foster effective scheme management	No of meetings	2	2	100%	
7.2	Establish and strengthen water users association (WUA) & to foster effective scheme management	No. of WUA	1	1	100%	
7.3	Organize and train WUA executive committee members and others	# of people	40	40	100%	
7.4	Facilitate legal registration of the water users association at woreda level	# of document	1	1	100%	
7.5	Organize experience sharing visit for WUA & other community members	# of people	40	40	100%	
8	Women Saving Groups Established and Strengthened					
8.1	SAC assessment in past SSD projects	# of report	1	1	100	
8.2	Organize and train SAC beneficiary women and community leaders in saving and credit	people	210	210	100%	
8.3	Provision of seed money for 200 SAC users	people	200	200	100%	
8.4	Follow up and strengthen women SAC groups	# of SAC groups	40	40	100%	
9	Monitoring					
9.1	Regular monitoring visits	# of visits	11	12	109.1%	
9.2	Conduct semiannual and annual surveys	# of report	6	7	116.7%	
9.3	Conduct annual environment audit	# of report	3	3	100%	
9.3	Final impact evaluation	# of report	1	1	100%	

5.3. Outputs

Activities that have been accomplished during the last 40 months since March 2018 to June 2021 were mainly focused on physical and software activities such as diversion work, drop, division box, road and drainage culvert structures, construction of river bank protection, main and secondary canals excavation. Besides, soil and stone bund, cut off drains and stone check dam were also constructed. On top of these, community trainings, seed money provision and finalizing legal registration of WUAs are the main and completed during the project periods.

Output 1: Cash paid to CFW participants as wage for labor

In the reporting periods, the project planned to perform 69,869 man-days by unskilled, 6,687 man-days by semi-skilled and 3,797 man-days by skilled labor totally 80,353 man-days of work and to pay **6,642,520.00** amounts of birr for CFW participants. In effect, 79,646.82 man-days by unskilled, 6,895.26 man-days by semi-skilled and 3,709.66 man-days by skilled totally 87,251.74 man-days of work was accomplished and a wage of birr 5,364,561.72 for unskilled, birr 827,425.9 for semi-skilled and birr 927,418.35 for skilled a total of birr **7,119,406.00** was paid for the labor rendered to excavate all the planned project activities. The reason for the variance was the project accomplished

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canal silt removal deposited due to unexpected floods drawn into the canal and pay additional money for the hard canal line excavation which cost much money in addition to the plan.

The CFW payment went to 1,417 unskilled, 94 semi-skilled and 44 skilled laborers, a total of 1,555 individuals (458W, 1,097M).

Output 2: Water diversion weir and irrigation infrastructure constructed

A. Access road constructed

Construction of an access road was also one of the planned activities during the reporting period. About 3km of the planned 10 km of access road was constructed during the reporting period, which enables small vehicle and truck movement for the transportation of construction materials to the construction site.

Even though the activity is essential for constructing new infrastructures to be implemented in the year, the available road was found convenient and big enough for both truck and small vehicle movement. Thus, the necessary construction was completed from the existing roads so it was unnecessary to make any additional roads.



Figure 2: Road constructed and cleared

B. Staff residence (camp) construction completed

The project camp has been constructed, which has access to both potable water and the nearby construction site. Thus, the construction of different facilities such as two staff shelter blocks, one site worker's block, one cooking block, one guard house, one sanitation corner, and in addition small store to keep well the purchased materials has been completed. Since then to the completion of the project, all SSD project staff lives in the camp and easily reach the construction site by foot.

C. Concrete cutoff wall constructed

The concrete cutoff wall was constructed during the year which consists of foundation pad and concrete wall both found buried in the ground. The structure is made to be similar to the river bed

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height so as to avoid high scouring effect below the cut off. The span of the cutoff wall built in the river has 80m length and 3m depth across the river. It has a volume of 193.5 m³ concrete.



Figure 3: Concrete cut off wall constructed

D. Gabion cutoff wall constructed

In order to support and strengthen the concrete cutoff wall to be withstanding the high river flood pushing effect, a gabion structure is installed at the downstream side or below the concrete cut off wall structure. About 170 gabions used for this structure. It is installed parallel to with the cutoff wall structure to avoid high pressure that could affect the cut wall structure. It is also built under the ground level with the same principle with the cutoff wall structure.



Figure 4: Gabion cut off wall constructed

E. Retaining wall constructed

The purpose of constructing the retaining wall is to protect the head work structure from river flood erosion; it also retains silt that enters to the canal. The planned activity for constructing the retaining wall structure for the year was 20m, however, the project perform hill side cut and retaining wall foundation excavation works which has huge soil mass to remove away from the construction site. As a result about 10m long foundation is cleared and prepared for constructing masonry retaining wall structures.

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Retaining wall is used to protect the river embankment from side erosion and also to safeguard the main canal from flood overtopping and damage by the action of the river floods. In the reporting period, 60 m long or 552m³ long masonry structure aligned with river had been completed in the project periods. As a whole the construction had been fully completed and is giving its intended purpose since 2019. In constructing this structure within the year, skilled, semi-skilled and unskilled laborers are participated.



Figure 5: Retaining wall constructed

F. Main outlet gate work and gate installation

The plan of installing or fixing the main canal gate on the retaining wall structure had been completed in the year and is giving its intended purpose. The reason for installing or fixing main canal gate on the retaining wall is for the purpose of controlling the amount of water to be conveyed to the farm areas and also to close the water inlet during the flood times. The gate is installed after the concrete slab is constructed so it will make an ease situation for the person operating the gate.



Figure 6: Main canal gate installed

G. River Bank protection on the right side of the river

In the reporting period, 245m long river bank areas are protected by 372 gabion boxes at the left side of the river. For this protection work 555m³ stones and 372 gabions are used. This river

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embankment area is eroded for many years during the Ethiopian main rain (from August to mid-September). It is found next or below the diversion areas and next to the retaining well at the left side of the main river. The structure is installed to direct the flow of the flood to take its main course of flow in the river and protect the river banks.



Figure 7: River protection work

H. Main canal construction

Main canal work is one of the laborious project activities that is planned to be excavated by human power and excavator machine. It is also the main water route to the farm which needs regular oversee, care and maintenance when required. During the reporting period it was planned to excavate 7km main canal and thus 100% of the main canal had been excavated and completed. Excavation work was done with help of excavator machine at deep canal areas and human labor at shallow areas. The project used the excavator machine to excavate deeper areas and also to cart away huge soil mass away from the canal side leaving some space for walk way and to retain soil slide into the canal bed. The canal which has soft soil and shallower depth had been excavated by human force. The project paid cash as a wage for labor rendered activities in monthly basis.



Figure 8: Main canal excavated by labour & machine

I. Drainage canal along the main canal

The plan of constructing 3.5km drainage canal is to drain excess floods or the canal water into the natural gullies or Main River without introducing any erosion while doing draining work. Thus, the planned 3.065km drainage canal had been excavated with manpower so as to protect the main

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canals as well as the farm areas from erosion hazards which will be caused by rain flood as well as excess use of canal water.



Fig 9: Drainage canal excavated

J. Main canal lining

The main purpose of lining the main canal starting from the retaining wall is to guide the speedy canal water until it maintains its non-scouring state and also to protect the main canal embankment from side sliding at the deep canal cut areas. During the reporting period it was planned to construct 200m lined canal and accordingly 200m long main canal is lined with stone masonry works and plastered with cement mortar. The lined canals are found at the headwork and along with the main canal at the middle of the farm areas.



Figure 10: Lined canal constructed

K. Drop structures constructed

Drop structure is helped to keep the canal depth as per its design or maintaining normal freeboard by dropping the canal where there is shallow canal depth expected. On the other hand, drop structure is used to avoid high velocity of water flow in the canal and risk of erosion. As the alignment of the canal line is changed it was found that no need of constructing all the planned drop structures. Thus, in the project years 24 drops out of 30 planned structures had been constructed along the main canal due to the new canal alignment change. The achievement is 80%.



Figure 11: Drop structure constructed on the main canal

L. Road and drainage culverts constructed

The road and drainage culverts made for the movement of people and livestock over is for passing animals and people and also to drain the upland sheet erosion to the other side without damaging the main canal. In the reporting period, 18 culverts were constructed against planned 15. The reason for variance was more culvert structures are required along the canal to cross it to the farm areas for the animals and human beings too. This makes the total culverts built in the life of the project increased by 3 from its plan and its accomplishment is 120%.



Figure 12: Road & drainage culverts constructed on the main canal

M. Division box constructed

The purpose of constructing division box is to divide or direct the flow of water between two or more secondary canals or ditches to the farm channels so as to irrigate the farmlands. Water enters the box through an opening on one side and flows out through openings on the other sides. The plan for the period was to construct 15 division boxes however 17 division boxes have been constructed and the accomplishment of the construction is 113%. The reason for adding some division boxes was to create convenient water distribution system to the farm areas and give responses for the beneficiaries to meet its practical needs.

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Figure 13: Division box constructed

N. Gate purchase and installation for division boxes

To regulate water distribution through division boxes control gates are needed and hence 44 control gates were installed in the division boxes for this purposes. The gates are made of metal meeting the government standards. The original plan was to install 105 gates, but with a change in the division box design and the actual requirement of the number of gates, only 44 gates were needed and have been installed.



Fig 14: Canal control gates fixed in the division boxes

O. Secondary canal construction

Secondary canals had been excavated along with the main canal to take water from it and distribute using division boxes to the farmland. Thus, a total of 3.8km of secondary canal was excavated so as to ease water distribution to the farm channels and irrigate the farm. The accomplishment was 63.3%.



Fig 15: Secondary canal excavation by CFW participants

Output 3: Targeted households received irrigated land

A. Clearing and distribution of land facilitated

The land distribution is the responsibility of the government and the leaders in the community. The project only facilitated the process. A total of 200ha of irrigable land was distributed to 480 Men and

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120 Women households and farmers cleared their farmlands and crop production is started since 2021.

B. Facilitating primary tillage by purchasing oxen with plough accessories

The plan was changed due to the request of woreda pastoral office and target farmers to use tractor instead of oxen as there was no animal feed during the time to feed and keep oxen to use for plowing and the other reason was they prefer to use tractor to address all farm areas in a season. Thus the idea was convincing and we accepted it to make the change and hence the plan to purchase oxen was replaced by providing operating cost of a tractor including a per diem for the tractor operator and his assistance.

Thus, SSD mobilized the community and woreda agriculture office, and a total of 197ha of farmlands belonging to 591 target farmers (473M and 118 Female) plant with maize and harvested a total of 7,880 quintal maize yield. The average production of maize per hectare was 40 quintal and the current market price of maize is 1800 birr per quintal. Thus, the estimated value in birr will be birr 14,184,000.00. In addition, 3ha of farmlands were planted with onion crop by 8 men and 2 women and they have collected 240 quintal of farm yields, and this farm product sold for 312,000.00 birr at Chifra market.



Fig 16: Maize farming at Chifra project



Fig 17: Maize crop yield harvested

C. Different vegetable and other crop seeds provided

In the reporting period, a total of 10.5kg of onion, 5kg of carrot, 5kg of cabbage, 8kg of tomato, 250kg of sesame and 250kg of Mung bean seeds were bought and distributed to 128 (91 M & 37 F) target farmers so as to make adapt these cash crops by the farmers and to instigate others to plant by their initiations.

Table 6: Farm inputs distributed to target farmers

No	Type of farm inputs	Amount in kg	People supported		
			Male	Female	Total
1	Sesame	250	37	13	50
2	Mung bean	250	39	11	50
3	Onion	3.5	10	8	18
4	Carrot	5kg	2	1	3
5	Cabbage	5kg	1	2	3
6	Tomato	8kg	2	2	4
	Total	503.5	91	37	128

Some vegetable seeds were used at the project demonstration site to train farmers practically how to prepare seedbed, seeding and transplanting the seedlings to farm plots. Thus, farmers are practicing vegetable production after they were trained at the project demonstration site.



Fig 18: Vegetable farming by target farmers with irrigation

D. Hand tools distributed to promote farming

In the reporting period, SSD purchased 740 different farm hand tools and distributed to 581 target farmers (461M and 120 F) through the joint effort with district pastoral office.

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Table 7: Different hand tools distributed to target farmers

No	Input type	Quantity	No of target farmers		Total
			Male	Female	
1	Shovel	185	361	85	446
2	Grape hoe	185			
3	Pickaxe	135			
4	Sickle	100			
5	Machetes	85	70	15	85
6	Axes	50	30	20	50
	Total	740	461	120	581

A farmer has got more than one hand tools such as sickle and machetes are distributed to be used in sharing system sickle while doing grass harvesting and machetes for land clearing type of works.



Fig 19: Hand tools bought and distributed

E. Nursery/ demonstration site established and managed

The management of nursery/demonstration site had continued in the reporting period. Currently, different types of food crops, fruits, vegetables and fodder are grown. The demonstration site helps to train and demonstrate the irrigation users on planting of different fruits and vegetables crops at their farm plots.



Fig 20: Farmers learn practically from nursery/demonstration site

F. Facilitate staking of hay by target people

Almost all the target farmers are practiced harvesting the maize stalk after they harvest the cob to keep and feed their animals for the stress periods or dry season. On average, one farmer has collected or harvested 25 bales of stalk and preserved by making as shown in the picture below. Hence, in the semester a total of 14,750 bales of maize stalk is collected and conserved by the total

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590 target households. 3 farmers out of 600 target farmers plant their land with onion crop and hence they didn't have maize stalk in the semester but they could share from their relatives.



Fig 21: Maize stalk collected to use for animal fodder

G. Provision of improved fodder/forage seeds

In order to show fodder production at the farm areas, 50kg of sincrus and panicum seeds bought and distributed for 85 farmers (68 M, 17 F) to plant them in July 2020, but the grasses were damaged by desert locust. However, SSD again bought 50kg of panicum seeds and distributed to 34 target farmers (27 M & 7 F) and technically help them how to seed and water it from irrigation canal. Currently, there is a positive trend that target farmers have tried to grow fodder grass at their farm lands besides collecting maize stalks after harvesting the cob heads.



Fig 22: Fodder grass development

Output 4: Run off retention bunds, cut off drain and check dams constructed and vetiver grass and multipurpose trees planted

Under this output the following activities have been implemented as per the plan:

A. Construction of soil and stone bund

Soil and stone bunds are constructed to protect the canal from soil erosion by retaining the overland flood that comes from the catchment into the trench and also to help to increase the soil moisture for regeneration of grass and small shrubs for fodder. It was planned to construct 15 km of stone and

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soil bunds and accordingly 15km were constructed during the reporting period and the accomplishment is 100%.



Figure 23: Soil bunds excavated

B. Construction of stone check dam

A total of 1200m³ stone check dam was constructed as per the plan in the reporting period. The construction was done where small gullies and ravines are dissecting the catchment above the main canal areas. The purpose of this structure is to prevent further gully formation and reclaim the eroded land by reducing its slope and by then depositing silt in the gully. The upland areas above the check dam are treated with soil bunds to terminate the flood line from getting into the checked areas.



Figure 24: Stone check dams constructed

C. Construction of cut off drain

The plan was to construct 1500m³ cut off drains and it was accomplished 100%, the structure will protect the canal from flood damage, it will stop gully formation and protect the soil bund excavated by excess sheet erosion. The structure will prevent the upland sheet erosion to the natural gully areas and drain without eroding soil in the catchment areas above the main canal along its length.



Fig 25: Cut off drain excavated

D. Production of multipurpose tree seedlings

It was planned to produce 6000 multipurpose tree seedlings on the project nursery site to plant it during the rainy seasons. This was achieved 92% or 5520 multipurpose seedlings were raised. The

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seedlings include agro forestry and fruit tree seedlings: 1650 pieces of papaya seedlings, 500 Acacia species, 550 Susbania tree seedlings and 1170 Meilia tree Chinus Molle 1000 seedlings and Dire Dawa 650 tree seedlings raised.



Figure 26: Different seedlings rose at the nursery site

E. Plantation of multipurpose tree seedlings and along the canal line.

A total of 3,870 multipurpose tree and 3,750 fruit plant seedlings totally 7,620 seedlings were planted and from these 850 tree seedlings were distributed to woreda government sector offices based on their request so as to plant in the compound of their offices. Therefore, the seedlings planted at the project included Mellia 1170, Chinus Molle 1000, accaia 500, susbania 550, and Dire Dawa 650, 700 mangos, 700 banan and 2,350 papayas.

Table 8: Different fruit seedlings distributed to target farmers

No	Input type	Quantity	No of Model farmers			Remark
			Male	Female	Total	
1	Mango	700	221	79	300	Bought
2	Banana	700				Bought
3	Papaya	2,350				1650 raised at the nursery & 700 bought in the extension period
4	Melia	1170				Planted around the project areas & at Chifra sector offices compounds
5	Azandrach					
6	Chinus molle	1000				
7	Susbania	550				
8	Dire Dawa	650				
	Acacia plants	500				
	Total	7,620	221	79	300	

All fruit seedlings such as papaya, banana and mango seedlings are distributed to 300 target farmers (221 men and 79 women) those who make ready their planting site and excavate planting pits around their farm areas which can get access water from the canal.



Fig 27: Fruit plant distribution to target model farmers

F. Vetiver grass splits planted along the canal

Similar to the plantation of agro-forestry seedlings mentioned above, a total of 6750 vetiver grass splits were planted on the edges of the canal on both sides. The achievement was 113% of the plan done in the year.



Figure 28: Vetiver splits planted at the side of the canal

Output5: Farmers trainings, workshops, experience sharing, and exposure visits completed.

Farmer training in irrigation agronomy, crop marketing and market development, fodder production and management, food preparation, environmental conservation and field days were held these reporting periods. Thus, the following activities have been completed under this output.

A. Irrigation agronomy and scheme management training provided

The irrigation agronomy training is planned to familiarize pastoralist community with irrigation agriculture. With the support of the irrigation agronomist Chifra woreda agriculture development office, 120 pastoralist (94M,26F) were given three days training on the techniques of land preparation, frequency of irrigation for different types of crops at different stages of growth; maximizing returns by growing food and cash crops, pest/insect control methods, and minimizing post-harvest loss using proper storage. The participants of this training will be serving as model farmers by implementing the new skill and knowledge acquired in the training on their own farms and while doing this, they will demonstrate practically to other farmers.



Figure 29: Irrigation agronomy training participants on field visit

B. Crop marketing and market development training

The crop marketing and market development training trained farmers on how to be competitive in the market. In the reporting period, from the plan 100 farmers and hence all 100 farmers (23W+87M) and 3 (2 M+1 W) government development agents received this training. The training was conducted on the month of August 2020 for two days and on May 2021. The training focused on seasonal produce for the local markets, ways of improving the productivity of farms and the quality of produce, and finding the right price negotiation techniques.



Fig 30: Farmers trained on crop marketing and market development

C. Field days

It was planned to conduct 4 field days and 100% of the plan were accomplished at the project demonstration site as well as at the model farmers' farm fields. In the event, 369 target farmers (108 F, 261M) were attended. In this event farmers were oriented on furrow construction, furrow planting, proper water application to crops, crop rotation to keep soil fertility and avoid soil nematodes, weeding, pest identification and control, on time harvesting of mature crops and conservation of farm residues to use animal fodder. During the day farmers shared their experience among themselves.



Fig 31: Field day participants at the project demonstration site & farmers farm fields

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D. Fodder production & rangeland management training conducted

It was planned to carry out fodder production and rangeland management for 100 farmers and hence the training was conducted and 100 farmers (75 M, 25F) were attained the three days training organized in 2019 and 2020. The plan is 100% achieved. Afar region has severe shortage of fodder as the area located in the lowland agro-climatic zone receives little or no rain. The training discussed the types of fodder grass and plants, ways of growing of fodder grass around the farm using irrigation; collection and conservation of fodders when available, and on proper utilization of fodder.



Figure 32: Fodder production training participants

E. Environmental conservation training

The Environmental conservation training was offered to 130 farmers (22F, 108M) for three days in collaboration with woreda natural resource conservation and development experts. The plan was achieved 108%. The training included practical demonstration and classroom discussion on indigenous forest and shrubs resource, construction of terrace, check dams, bunds and cut off drains, planting of trees and vetiver grass, and protection of the natural vegetation around the irrigation scheme as well as in the kebele.



Figure 33: Environmental conservation training participants

F. Organize and conduct food preparation training

This training was given so as to brief how to prepare and feed their household members from different varieties of food items by improving their local knowledge/skill and some which is easily practice and adaptable by the community. The main concern of the training was to teach the participants to show how to prepare different food types and eat nutritious food to their households

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by producing nutritiously rich crops from their farms. Accordingly, a total of 60 people (45 F and, 15M) practically trained on preparation of different food types and discuss and share the knowledge.



Fig 34: Farmers trained on food preparation training

Output 6: Water Users Association (WUA) established and strengthened

A. Awareness raising sessions on the need of establishing WUA facilitated

In the reporting period, the project organized and conducted two community awareness sessions so as to create a sense of ownership and active participation among community member before establishing water user's association (WUA). The plan was 100% achieved. This was done in collaboration with the woreda pastoral office that is the responsible to follow up and support the target beneficiaries during project implementation and when the project is phased out. A total of 250 farmers (70 F, 180M) attended the meetings from the total 600 land recipient target beneficiaries organized on October 10 and 20, 2020.

B. Water users association (WUA) established and strengthened to foster effective scheme management

A total of 80 pastoralists (25F, 55M) who were selected from each farm blocks were given an orientation on the importance of establishing water users' association. The responsibility and role of the WUA committee was well elaborated in this orientation. Following the orientation, the target community elected an executive committee with 7 members (2F, 5M) who will be responsible for the distribution of irrigation water to farmers. A total of 40 people (30 males and 10 women) comprise of elected WUA executive committee members, kebele leaders, woreda irrigation workers and agronomists were attended a 3 days training organized from November 15- 17, 2020 on water and scheme management.

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Figure 35: Water users training participants on class as well as on field visit

In the reporting period, the project organized meeting sessions for WUAs, block and farm leaders so as to strengthen their knowledge on how to manage the whole scheme constructed and properly use each system such as opening and closing of main and division boxes gates during water utilization and also keeping of equal sharing of water resources among beneficiaries. Besides, how to handle conflicts that may occur during water sharing, and how to perform good water administration system. On top of this, caution on periodic canal clearing and protection from unexpected floods were communicated during the meeting and any follow up program. This was done in collaboration with the woreda pastoral office to share responsibilities to follow up and support the target beneficiaries during and when the project is phased out. A total of 40 WUA leaders and other clan and religious leaders (9 F and 31M) attended the meetings.



Fig 36: WUA and other farm block leaders strengthened

WUA committee have collected 15,000.00 birr water fee or members contribution from target farmers and kept in Chifra commercial bank so as to use it for irrigation maintenance and input purchase purposes

C. Legal registration of the water users' association facilitated

Chifra irrigation water users association is formally organized into irrigation user cooperative and legally registered by the regional cooperative office. It is certified as legal entity or CBO to run chifra project and bear managing responsibility to control and manage the scheme. On the event a total of

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110 farmers (86M+24F) participated to discuss and formally support the established WUA. SSD played a facilitation role and woreda government done the legal registration process.

D. Experience sharing visit for WUA & other community members

An experience sharing visit was organized to SSD's other project areas on November 22, 2020 in Aura and Ewa woreda. Irrigation cooperative members at Aura and Ewa shared their experience during field visit. A total, 40 (10F, 30M) participants including farm block leaders, WUA members, model farmers, elders, kebele leaders and woreda pastoral representative and experts attended the event. Participants gained good knowledge listening to the experience of irrigation users at Aura and Ewa.



Fig 37: Experience sharing visit participants

Output 7: Women saving groups established and strengthened

A. Saving and credit (SAC) assessment

In order support Chifra project women beneficiaries with saving and credit scheme, CFGB/CLWR has requested SSD to assess the performance and results of other SSD project saving and credit program so as to agree to provide the seed money. Thus, from the recently handed over projects such as Amuli II and Dewe saving and credit program were selected to conduct monitoring assessment and report the result to the donor. Accordingly, the field assessment work was done at the two SSD previous projects the findings of the assessment report finalized and sent to the donor.

B. Organize and train SAC beneficiary women and community leaders in saving and credit

This activity was delayed due to a new plan proposed by the government. Following the government directions the SAC beneficiaries were selected from the Women Saving and Credit Union already established in Chifra woreda. There are total six WSAC associations in in the woreda. Of the six four associations were selected and two hundred women who need support were identified from them. . These women were organized into 40 groups of five women each and each group has selected their leaders. 40% of 200 WSAC members have land and 15% of them have also participated on CFW activities.



Figure 38: saving & credit training participants

C. Provision of seed money for 200 SAC users

Women saving and credit groups have been strengthened through training and follow-up by SSD staff and district experts. In this semester, 200 SAC members who have completed their training and other prerequisites were given loans worth Birr 3000.00 each, thus total of Birr 600,000.00 was distributed to 200 women.



Figure 39: Seed money disbursement to credit users

The SAC women have taken up small business, like goat rearing, animal husbandry, and petty trading in goods and commodities.

D. Follow up and strengthening of the women group

WSAC groups are involved on goat and sheep husbandry, local close sales, petty trading (small commodity shops) and farm product buying and selling business. Currently, all are well doing their businesses and generate income and save 10 birr per month/ woman for group saving and 100 birr/woman /month as individual savings. Thus, the total saving of 40 WSAC groups (200 women) within one year period is become 240,000 birr. This money is referred the saving kept at the bank not including the money they get from profit and found at their hands. WSAC groups are closely monitored by SSD and woreda cooperative office to backup them on their business they started to be able to generate good income from their business transaction. The follow up program help to give advice and strengthen them on how to widening their business types as per their local condition or community needs to fetch better income for future. Currently, they are working on animal buying and selling, food commodity sales, small shop business and goat and sheep husbandry.



Fig 40: SAC women participants on strengthening meetings

In the semester, SSD has conducted an assessment to measure the outcome of saving and credit scheme to women. During the survey assessment, 20 women from the saving and credit beneficiaries are interviewed about their business performance. From the interviewed 20 women, 9 of them have paid 11,500 birr from the total 60,000 birr borrowed money. Again, 19 out of 20 interviewed women have saved 26,050 birr from their business as profit money.

The repayment period for the revolving money has been started since May 2021 after one year as per the agreement they made with their saving association. The Woreda cooperative office was helping them through monitoring and backs up support so as to be effective and efficient in their business.

8. Monitoring of Chifra project

This project was made special by the visit of His Excellency Ato AWOL Arba, the president of the Afar regional state. His Excellency had applauded the success of the project and encouraged the project staff. This year the project also received a visit from the President of the Afar Regional State and the Head of Water Resource Bureau. Both the visitors commended the project achievements, and were keen to support SSD in its future endeavors.

Also, several important government functionaries and experts from Bureau of Livestock, Natural Resource and Agriculture, Cooperative promotion Department, Agricultural Extension Department and the Planning, Monitoring and Evaluation (PME) Directorate visited the project. The PME Directorate also conducted a six month monitoring of the project. The monitoring team conducted extensive field observations and held discussions with irrigation beneficiaries, district officials and technical experts. The Monitoring team appreciated the work progress thus far and commended the project team for their efforts.

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Fig 41: Afar officials and experts project visit

8. Inauguration of Chifra project

In the semester, Chifra project is inaugurated on 22nd of June 2021 by Afar National Regional State president Ato Awol Arba and other higher government officials from the Federal, Semera and Chifra district. During the day, the overall performance of the project was briefed by SSD General Manager. In the Occasion, The Regional President said that Chifra project is one of the river diversion projects constructed by SSD in Afar that our people have great opportunity to produce food as well as fodder for them and their animals. His Excellency added that SSD built the knowledge of our farmers through trainings and practical backups at the demonstration and nursery site so as to be effective at their day to day performance on crop production and income generation.



Fig 42: Inauguration of Chifra project

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9. Lessons learned/Experience gained

Working with the government and community representatives has been critical in the rollout of this project navigating many challenges. For example, while excavating the main canal and also during the land distribution there were individuals who created problems. However, by engaging the local government, clan and religious leaders and project committees, those issues were resolved amicably. Implementing the project amid COVID protocol SSD achieved working in the COVID-19 pandemic period by aware the CFW and other project users to take care of themselves by using face mask and keeping social distancing while doing their work. So far, No one either CFW laborers or SSD staff members are affected with this pandemic in the reporting period.

10. Challenge

The core problems encountered during the reporting period include:

- Due to Covid-19 protocol, community training was organized with less number of participants. This has required additional resources and more days to complete all the planned trainings.
- The national lock down following the Covid-19 pandemic disrupted supply chain of construction materials such as steel and cement in the local market resulting in shortages and price rise, this has in turn delayed and increased the cost of the construction activities of this project.
- Desert locust damaged all standing crops sowed in 2020 in the project kebeles; this has slowed down the activities planned in the project for promoting irrigation agriculture.
- During this 6 month time in the extension period, except the usual drought due to shortage of rain there is no other problem occurred at the project and forwarded to SSD head office.
- Threshing maize with hand or traditional system looks hard for the farmers who harvest maize yield. Hence, therefore it is better to support the farmers with maize thresher machine to ease and reduce labor intensive work. This issue is well communicated with the district pastoral office.

11. Case story

Ato Husen Gudele age 54 lives in Askomana-Akibura kebele. He is married and has 6 boys and 5 girls a total of 11 family members. He is now growing to agro-pastoral way of living. He ploughs 0.33ha of farmland that he had got from the kebele and sowed with maize and harvested 13.2quintals of yield. As per the Afar adda or culture he shared 3 quintal of maize production to his close relatives who have no farm and irrigation facility to produce crops.

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Husen served the project as a project committee in the previous project years and currently he serves his community as a member of executive committee for the irrigation water user's association at Chifra project.

Before the project intervenes at his kebele Ato Husen used to sell two goats per month for buying household food and non-food goods. But now he covered his household food items from his farm and only sells one goat per month to buy non-food items. He sends two boys of his children to school to attain their education at Chifra town. Ato Husen added that he constructed four houses in Chifra town and generates income by renting them for 2000 birr per month.



Fig 36: Model farmer Husen with his farm product

Ato Husen Gudele gave his thanks to SSD for the opportunity created for him to get access water to his farmland received from the kebele and the training and exposure visit he has got from the project. It is the first time he become a farmer and produce such amount of harvest as shown in the picture above.

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12. Financial report

	Description of Activities	Project Life Budget	Project Life Expenditure	Remaining Balance
I	Program budget			
1	Planning and coordination			
1.1	Access road clearing and maintenance			-
1.2	Conduct Baseline	50,000	49,941.56	58.44
1.3	Organize project inception workshop	30,000	30,000.00	-
1.4	Cash handling training for SSD staff	50,000	50,553.90	(553.90)
	Sub Total 1	130,000	130,495	(495)
2	Project Personnel			-
2.1	Project office Salary			-
2.1.1	Project coordinator	408,000	500,832.48	(92,832.48)
2.1.2	Agronomist/comm. Devt. facilitator	289,000	377,600.00	(88,600.00)
2.1.3	Surveyor	289,000	267,306.32	21,693.68
2.1.4	Construction Supervisor	221,000	224,512.84	(3,512.84)
2.1.5	Construction Forman	153,000	214,343.10	(61,343.10)
2.1.6	Admin and Finance	204,000	208,329.04	(4,329.04)
2.1.7	Driver	136,000	149,222.90	(13,222.90)
2.1.8	Store Keeper	119,000	140,700.00	(21,700.00)
	Total Project Salary	1,819,000	2,082,847	(263,847)
2.2	Benefits project office			-
2.2.1	Provident Fund 15 %	272,850	305,033.64	(32,183.64)
2.2.2	Termination benefit 15%	272,850	224,746.85	48,103.15
2.2.3	Location Allowance 40 %	727,600	830,132.04	(102,532.04)
2.2.4	Life and Medical Insurance 15 %	272,850	262,404.94	10,445.06
	Total project office benefits	1,546,150	1,622,317	(76,167)
	Sub Total 2	3,365,150	3,705,164	(340,014)
3	Water diversion Weir and Irrigation Infrastructure Constructed			
3.1	Concrete Cut-off wall	1,245,920	1,362,724.33	(116,804.33)
3.2	Retaining wall Construction	1,648,147	1,639,470.98	8,676.22
3.3	Main outlet Gate work & gate installation	30,000	27,363.75	2,636.25
3.4	Gabion protection works (river bank and cut off)	1,151,689	1,156,158.50	(4,469.50)
3.5	River Bank Protection works (on the right side of the River)	1,047,050	886,220.97	160,829.43
3.6	Main canal Construction	132,000	138,441.70	(6,441.72)
3.7	Drainage canal along the Main canal	88,000	87,096.00	904.01
3.8	Main canal lining	409,640	409,673.66	(33.66)
3.9	Drop structures construction on main & S.canal	599,910	489,482.17	110,427.83
3.10	Road and Drainage culverts	434,899	445,709.54	(10,810.19)
3.11	Division boxes	277,208	276,585.94	622.31
3.12	Gate purchase and installation for division boxes	367,500	349,442.00	18,058.00
	Sub Total 3	7,431,964	7,268,370	163,595
4	Targeted households receive irrigable land			
4.1	Facilitate clearing and distribution of land	300,000	21,329.00	278,671.00
4.2	Facilitate primary tillage by purchasing oxen with accessories	180,000	119,562.56	60,437.44
4.3	Provide seeds of different vegetable and other crops	35,000	32,145.00	2,855.00

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4.4	Provide hand tools to facilitate farming activities	75,000	73,112.50	1,887.50
4.5	Establish and run nursery & demonstration site	130,000	164,321.30	(34,321.30)
4.6	Facilitate staking of hay by target people	30,000	30,000.00	-
4.7	Provision of improved fodder/forage seeds	15,000	30,000.00	(15,000.00)
	Sub Total 4	765,000	470,470	294,530
5	Run off retention bunds, cut off drain and check dams constructed and vetiver grass and multipurpose trees planted			
6	Farmers trainings, workshops, experience sharing and exposure visits completed			
6.1	Provision of trainings on irrigation agronomy and scheme management	60,000	54,264.00	5,736.00
6.2	Organize and conduct crop marketing & market development training	50,000	62,706.52	(12,706.52)
6.3	Organize farmers field days at the project demonstration site	20,000	29,650.00	(9,650.00)
6.4	Organize training on fodder production & rangeland management	50,000	50,356.00	(356.00)
6.5	Organize & conduct environmental conservation training	60,000	59,974.00	26.00
6.6	organize and conduct food preparation and demonstration training	30,000	29,980.00	20.00
	Sub Total 6	270,000.00	286,930.52	(16,930.52)
7	Water Users Association Established and Strengthened			
7.1	Facilitate awareness raising sessions on the need of establishing water users association (WUA) & to foster effective scheme management	40,000	19,373.43	20,626.57
7.2	Establish and strengthen water users association (WUA) & to foster effective scheme management	30,000	49,040.00	(19,040.00)
7.3	Organize and train WUA executive committee members and others	20,000	19,820.00	180.00
7.4	Facilitate legal registration of the water users association at woreda level	50,000	48,327.80	1,672.20
7.5	Organize experience sharing visit for WUA & other community members	80,000	66,462.89	13,537.11
	Sub Total 7	220,000	203,024	16,976
8	Women Saving Groups Established and Strengthened			
8.1	SAC assessment in past SSD projects	45,000	45,000.00	-
8.2	Organize and train SAC beneficiary women and community leaders in saving and credit	105,000	103,210.00	1,790.00
8.3	Provision of seed money for 200 SAC users	600,000	600,000.00	-
8.4	Follow up and strengthen women SAC groups	40,000	40,688.78	(688.78)
	Sub Total 8	790,000	788,899	1,101
9	Cash For Work Labor			
9.1	CFW payment for Skilled labor	949,250	927,418.35	21,831.65
9.2	CFW payment for Semi-skilled labor	802,440	827,425.90	(24,985.90)
9.3	CFW payment for Unskilled labor	4,890,830	5,364,561.72	(473,731.72)
	Sub Total 9	6,642,520	7,119,406	(476,886)
	Total direct Program cost	19,614,634	19,972,759	(358,125)
10	Monitoring			
10.1	Regular monitoring visits	385,000	403,098.90	(18,098.90)
10.2	Conduct semi-annual and annual surveys	210,000	236,927.82	(26,927.82)
10.3	Conduct annual environment audit	105,000	107,048.95	(2,048.95)

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10.4	Final impact evaluation	75,000		75,000.00
	Subtotal 9	775,000	747,076	27,924
11	Operational Cost			
11.1	Camp Construction	350,000	350,331.47	(331.47)
11.2	Camp running cost	340,000	422,556.57	(82,556.57)
11.3	Utilities and stationary	340,000	391,208.80	(51,208.80)
11.4	Vehicle maintenance	480,000	539,486.31	(59,486.31)
11.5	Vehicle insurance	90,000	108,000.00	(18,000.00)
11.6	Travel expense	300,000	342,453.27	(42,453.27)
11.7	Office rent (25%)	360,000	435,364.51	(75,364.51)
11.8	Vehicle running cost (fuel)	255,000	316,397.47	(61,397.47)
11.9	Audit fee	45,000	45,000.00	-
	Sub Total 9	2,560,000	2,950,798	(390,798)
12	Head office Personnel			-
12.1	Head office Salary			
12.1.1	General manager	421,749	451,523.89	(29,775.23)
12.1.2	Deputy General manager	365,096	-	365,096.08
12.1.3	Admin and Finance Manager	365,096	385,618.64	(20,522.56)
12.1.4	Program coordinator	210,339	264,408.77	(54,069.64)
12.1.5	Construction program manager	246,500	268,250.00	(21,750.00)
12.1.6	Agro ecology program manager	125,895	129,596.25	(3,701.05)
12.1.7	Irrigation engineer	76,500	-	76,500.00
12.1.8	Mechanic	85,206	92,722.00	(7,515.96)
12.1.9	Transport officer	73,322	75,477.50	(2,155.31)
12.1.10	Senior Accountant	102,000	87,000.00	15,000.00
12.1.11	Accountant	91,259	99,317.25	(8,058.36)
12.1.12	Cashier	50,028	54,436.25	(4,408.57)
12.1.13	Secretary	58,555	63,714.00	(5,159.37)
12.1.14	Driver	49,671	48,276.50	1,394.95
12.1.15	Driver	49,632	48,057.20	1,574.30
12.1.16	Driver	40,743	47,719.25	(6,975.77)
12.1.17	Purchaser	36,898	-	36,898.08
12.1.18	Assistant Mechanic	50,771	18,976.75	31,794.69
12.1.19	Janitor	14,869	17,202.42	(2,333.42)
	Total Head office Salary 12.1	2,514,130	2,152,297	361,833
12.2	Benefits Head office			-
12.2.1	Transport allowance	136,000	112,500.00	23,500.00
12.2.2	Provident Fund 15 %	377,119	315,052.41	62,066.59
12.2.3	Termination benefit 15%	377,119	253,098.00	124,021.00
12.2.4	Life and Medical Insurance 15 %	377,119	279,906.76	97,212.24
	Total Head office Benefits	1,267,357.00	960,557.17	306,799.83
	Total Head office Personnel	3,781,487	3,112,854	668,633
13	OVER HEAD COST (10% PERSONNEL SALARY)	714,664	728,113.02	(13,449.02)
	TOTAL Admin cost	7,831,151	7,538,841	292,310
	GRAND TOTAL	27,445,785	27,511,600	(65,815)