

## Kathabaung Sluice Gate



- Kathabaung Sluice faces the middle of northern side of the Daunggyi polder.
- Checked sluice gate condition together with staff of Irrigation Department is as follows.

Gate No.	1	2	3	4	5	6	7	8	9	10
Land Side	Stop Log	Stop Log	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Stop Log	Stop Log	Stop Log	Stop Log
	Slide gate to be installed	Slide gate to be installed	Hoisting assembly shall be maintained	To maintain hoisting assembly, need to repair gate seal	To maintain hoisting assembly, need to repair gate seal	To maintain hoisting assembly, need to repair gate seal	Hoisting assembly shall be maintained	Hoisting assembly shall be maintained	Slide gate to be installed	Slide gate to be installed
River Side	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
	It may be good but to be checked	It may be good but to be checked	Gate seal shall be repaired	Gate seal shall be repaired	Gate seal shall be repaired	Leakage is not so serious but to be repaired	Leakage is not so serious but to be repaired	Seal condition seems to be good	It may be good but to be checked	Seal condition to be checked

- For repairing works of gates, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	112	34
	Temporary coffer dam height	7	2
River Side	Temporary coffer dam length	164	50
	Temporary coffer dam height	13	4.1

- Just after Nargis cyclone UNDP and “Christian Association” provided food but it had already terminated.
- “Social Vision Service” is now providing drinking water to 280 households around this sluice, which population is 1,460 peoples and providing water quantity is half gallon per person per day.
- There were three (3) numbers of drinking water ponds around the sluice and these ponds were affected by the cyclone so villagers pumped water out several times but it was not yet improved.

- Existing crest level of dike around the sluice before Nargis cyclone was 2m (6.5 ft) and there was flood water overtopping 0.5 – 1.0m (1.6 – 3.3 ft) more or less (villagers’ explained figure was not the same).
- Irrigation Department (Construction Division (6)) had provided emergency embankment works around the sluice and its height was EL. 2.6m (8.5 ft)
- According to U Myint Soe, a staff of MFE, average yield of paddy around this area was about 45 – 50 baskets per acre and that of after the cyclone declined to 25 baskets per acre.
- According to U Kyaw Than, a gate keeper, salinity condition after Paddy I project had been improved because of function of flap gates but it was contaminated by saline water after the cyclone and salt content in channel increased.

#### **Farming condition in the area**

- According to a farmer U Aung Myint, financial assistance is required in this area because some of the money debtors died or could not continue farming properly so money lenders hesitated to lend money to beneficiaries.
- Initial cost for starting paddy farming is required as follows;

No.	Works	Amount	Unit	Unit cost	Cost
1	Land preparation	1	L/S	12,000	12,000
2	seed cost	2	basket	4,000	8,000
3	Labor cost for seedling	1	L/S	10,000	10,000
4	Interest for above (7%)	5	month	1,820	9,100
5	Harvesting	1	L/S	10,000	10,000
6	Transportation after harvesting	1	L/S	5,000	5,000
7	Threshing	1	L/S	12,000	12,000
8	Transportation to a port	1	L/S	1,500	1,500
	Total				67,600

- He has paddy land along Pathy Chaung, which is basically reserved forest area but this area is already occupied and developed as paddy land privately.
- Before the cyclone he could harvest 50 baskets per acre but it decreased sharply down to 4 baskets per acre because he could not manage it due to public service (he is the chairman of hospital construction after the cyclone).
- Other farmers along Pathy Chaung could harvest about 20 baskets per acre after the cyclone.

### Drainage channel enlargement



- There are opinions from farmers in Daung Gyi polder to deepen and widen drainage channel for obtaining supplemental water for summer crops.
- The observed channel bed level of said drainage is about 0.2m (0.7 ft) below average sea water level.
- Dredging of the said channel will result it result saline water reservoir because it can not drain saline water due to low elevation of channel bed level.
- Before improvement of Kathabaung sluice, it is not recommended to deepen and widen the said channel.

### Asigale Sluice Gate



- Asigale Sluice locates at western edge side of Daung Gyi Polder, directly facing Bogalay River.
- The location of this sluice is about 60m (200ft) from the confluence of Bogalay River so left bank of river side about 11m and right bank of it 15m are seriously eroded.
- There are nine (9) openings in the sluice and condition of each gate of opening was checked together with a gate keeper, U Hlaing Htun, Irrigation Department was as follows.

Gate No.	1	2	3	4	5	6	7	8	9
Land Side	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate
	There is leakage, to be repaired	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	There is leakage, to be repaired	It may be good but to be checked	There is leakage, to be repaired
River Side	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
	There is leakage, to be repaired	There is leakage, to be repaired	There is leakage, to be repaired	It may be good but to be checked	There is leakage, to be repaired	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked

- There was no damage of sluice structure by the cyclone.
- For repairing works of gates, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	131	40
	Temporary coffer dam height	9	2.7
River Side	Temporary coffer dam length	164	50
	Temporary coffer dam height	15	4.5

- The top elevation of sluice parapet was EL. 2.56m (8.41ft) and flood water overtopping was observed about 0.9m (3ft) above the parapet concrete.
- Present dike height around the sluice was 3.3m (10.9ft) and design dike level by Paddy I project was 2.6m (8.5ft).
- Communication High Way by Public Work Department is now under construction.
- Soon after Nargis cyclone UNDP provided 100US\$ (100,000 Kyat) and 100 gallon of diesel for pumping water out from a drinking water pond near by the sluice.
- Villagers utilized the said assistance and pumped water out three (3) times from the pond so it became in good condition.
- There are total four (4) drinking water ponds around here and the pond near by the sluice has the best quality.
- After the cyclone UNDP planned to provide fence, pipe and water tank to the said pond but those items were provided to the pond in Seinyate village.
- Even though the drinking pond was renovated by UNDP in Seiyate village, villagers of Seinyate village came to the pond near by the sluice and fetch it because of its quality.
- During the cyclone some people sheltered to the bank of the pond from flood waving and survived.
- From the said fact, villagers consider that bank of the pond shall be raised another 0.9m (3ft) for flood wave and wind protection.
- 100 peoples died due to flood wave of the cyclone.
- A fisherman, U Thein Myint, a father of 10 children, could luckily hold tree stem in the area after flashing out by cyclone water wave but his 9 children flashed out and dead.
- His wife could hold a barrel together with a child after flashing out by flood and they could survive and come back to the house.
- According to information from a farmer U Saing Mai, he owns 20 acres of paddy land, average paddy harvest before the cyclone was about 50 baskets per acre, and after Nargis it reduced 20 baskets per acre.
- In monsoon 2008, he tried direct seeding three (3) times.
- One of reason decreasing paddy yield was farmers lost their cattle and power tillers were provided but it was too late.

### Dike construction at west side of Daung Gyi polder



- Original dike of 1.8m (6ft) height, which design height was 2.6m (8.5ft) by Paddy I project was eroded by the cyclone hitting and ID constructed emergency dike at land side with 2.6m (8.5ft) height.
- Public Works Department is now carrying out communication and rural high way with height of 3.8m (12.5 ft) at the west side of polder.

### Myit Kyo Sluice Gate



- Myit Kyo Sluice locates at southern side of Daung Gyi Polder.
- There are five (5) openings in the sluice and condition of each gate of opening was checked together with a staff of Irrigation Department was as follows.

Gate No.	1	2	3	4	5
Land Side	Stop Log	Slide Gate	Slide Gate	Slide Gate	Stop Log
	Stop log is completely embanked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	Stop log is completely embanked
River Side	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked

- There was no damage of sluice by the cyclone.
- If gate repairing work is required, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	115	35
	Temporary coffer dam height	9	2.7
River Side	Temporary coffer dam length	82	25
	Temporary coffer dam height	15	4.5

- Sluice concrete parapet top elevation was EL. 1.8m (6ft), emergency embankment was 2.3m (7.5ft), the present bank crest level around sluice was Existing Crest Level was 2.1m (6.75ft) about 0.2m (0.75ft) of height was settled.
- Design crest level by Paddy I project was 2.6m (8.5ft) and it might be eroded.
- According to information from U Kyaw Thu Ya, a 100 households leader, water quality of channel in the polder was good because of protection form saline water by dike and gates but salinity increased after the cyclone hitting due to dike breaching at Wei Chaung.
- The said dike breaching was made by the cyclone hitting, and ID repaired it but it collapsed again during rainy season in 2008.
- According to information from a farmer U Hla Win Naing that he owns 32 acres paddy land and yield before Nargis was about 50 baskets per acre but it decreased down to 15 – 20 baskets per acre after Nargis cyclone hitting.
- He tried three (3) times of seeding (around this area seeding practice is normally direct seeding) in 2008 monsoon season because germination of paddy was not sufficient at the first and the second time.
- Drinking water can be obtained from drinking water pond which is repaired by “Care Myanmar” and its water quality is good for drinking.
- “Care Myanmar” provided a earthenware pod about 75cm (2.5ft) diameter to each household for drinking water keeping.
- Just after Nargis cyclone, UNDP did financial assistance on monsoon paddy farming and provided 2 numbers of power tiller for 4 villages.
- Just after Nargis cyclone, “Care Myanmar” provided food such as rice, edible oil, salt, beans.
- At present, “Care Myanmar” is continuing food supply to jobless people 44 households, which is categorized as follows.

Category	Independent H/H	With job but not sufficient	Jobless
Number of households	18	16	44

- Continuation period of food supply by “Care Myanmar” is not sure.
- Provided water drinking pond fence has posts with 2.4m (8ft) interval spacing.
- “Care Myanmar” supplied material such iron nets, concrete posts, cement, and pipes for drinking water

pond renovation.

- U Kyaw Thu Ya, a 100 households leader, supervised the renovation.

### Present condition of Reserved Forest



- Farmers occupied Pyindaye reserved forest already and utilized there as paddy farm land.
- Farmers Group organized to construct flood wave protection dike about 1.8m above ground level (6ft), which will be 3.8m (12.5ft) above sea level with their own cost.
- Labor charge of the dike construction is 2 US\$ (2,000 Kyat) per 1 suddram (2.8m<sup>3</sup>)
- Only two (2) area of reserved forests are kept as

reserved forest, other areas are developed as farm lands by farmers without any permission from the government

### Thechaung Sluice Gate



- Thechaung Sluice locates at southern part of Daunggyi Polder.
- There are six (6) numbers of openings in the sluice and condition of each gate of opening was checked together with a gate keeper U Tin Tun and staff of Irrigation Department was as follows.

Gate No.	1	2	3	4	5	6
	Stop Log	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Stop Log
Land Side	Slide gate to be installed	Gate shaft is bent, hoisting holder is taken out	A fixing nut was lost	A fixing nut was lost	It may be good but to be checked	Slide gate to be installed
	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
River Side	It may be good but to be checked	It may be good but to be checked	There is leakage, to be repaired	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked



- There was no damage by Nargis cyclone.
- If gate repairing work is required, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	115	35
	Temporary coffer dam height	9	2.7
River Side	Temporary coffer dam length	105	32
	Temporary coffer dam height	16	4.9

- Parapet concrete top elevation was 1.62m (5.3ft) and existing crest level was 1.68m (5.5ft) around the sluice, flood water overtopping at the cyclone was 0.3m (1ft), the top elevation of emergency embankment by Irrigation Department was 1.89m (6.2ft), design crest level by Paddy I project was 2.59m (8.5ft) respectively.
- Drinking water ponds around the sluice were not so good condition, some were dried up, and others were not drinkable due to salt contents.
- Water in the said ponds and land side channel of the sluice is used for cloth washing and bathing only.
- “Care Myanmar” is now supplying drinking water with rate of 3liters per head per day, total about 1,000 villagers in 3 villages.
- “I love Myanmar” has provided 138 numbers of houses.
- U Tin Win, a farmer of 100 acres paddy land, he used to harvest 50 baskets of paddy from good condition farm before the cyclone and it decreased to 38 baskets per acre, 35 – 40 baskets per acre from worse condition farm decreased down to 18 – 20 baskets per acre after the cyclone.
- U Tin Win owns a rice mill and he milled villagers’ paddy 60 baskets per day before Nargis cyclone and it declined 20baskets per two (2) days.
- UNICEF provided one temporary school for 170 pupils but due to narrow space class was demarcated into two (2) times for schooling.
- “Pep Myanmar” is now supplying food to jobless people about 60 households.
- “Mingala Myanmar” provided urea fertilizer 1 bags (50kg) per farm household in monsoon season in 2008.
- “Care Myanmar” provided tube well with 238m (780 ft) depth, an air compressor, diesel oil for operation so villagers do not pay its maintenance charges.
- The tube well started operation from the end of February and it might contain some fine materials of iron or others so villagers kept pumped up water one (1) night to settle impurities of it.
- Water in sluice channel is now used for domestic purpose not for drinking.
- Near the sluice there is drinking water pond with size of 85m X 116m (380ft X 280ft) area, about 2.1m (7ft) height of bank, and 1.2m (6ft) of bank top width.
- After pumping out all water one (1) time villagers observed that water at river side in the said pond was



salty and that of other side seemed to be good so villagers were planning to divide it into half at the center and utilize water at land side from coming rainy season.

### Ye Kyaw Toe Sluice Gate



- Ye Kyaw Toe Sluice locates at southern part of Daunggyi (east) polder.
- There are twenty one (21) numbers of openings in the sluice and condition of each gate of opening was checked together with a gate keeper U Saw Shwe and staff of Irrigation Department was as follows.

Gate No.	1	2	3	4	5	6	7	8	9	10
	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate
Land Side	Slide gate to be installed	Hoisting assembly shall be repaired, fixing nuts are lost	Hoisting assembly shall be repaired, fixing nuts are lost	Fixing nuts of hoisting assembly holder are lost	Hoisting assembly shall be repaired, fixing bolts are lost	Hoisting assembly shall be repaired	A part of hoisting assembly holder is broken, fixing bolts are lost	Fixing bolts, nuts of hoisting assembly holder are lost	Fixing bolts of hoisting assembly holder are lost	Concrete base of hoisting assembly holder is broken
	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
River Side	It may be good but to be checked	It may be good but to be checked	There is leakage, to be repaired	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	There is leakage, to be repaired	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked

Gate No.	11	12	13	14	15	16	17	18	19	20	21
	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate
Land Side	A part of hoisting assembly holder is broken, fixing bolts are lost	It cannot be operated (very tight), fixing nuts are lost	Fixing nuts of hoisting assembly holder are lost	It may be good but to be checked	Fixing nuts of hoisting assembly holder are lost	Fixing nuts of hoisting assembly holder are lost	It cannot be operated (very tight), fixing nuts are lost	It cannot be operated (very tight), fixing nuts are lost	It may be good but to be checked	It may be good but to be checked	Fixing nuts of hoisting assembly holder are lost
	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
River Side	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked

- Before Nargis cyclone three (3) gates had trouble for operation at No. 13, No. 17, No. 18 but after the cyclone another six (6) numbers of gates become trouble, namely No.2, No.3, No. 8, No.9, No. 10, No. 11.
- If gate repairing work is required, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	213	65
	Temporary coffer dam height	9	2.6
River Side	Temporary coffer dam length	246	75
	Temporary coffer dam height	14	4.3

- Design dike height above sea level in Paddy II project was 2.6m (8.5ft), parapet concrete top elevation was 1.4m (4.5ft) and it was the same as existing crest level before the cyclone, flood water overtopping was 0.75m (2.5ft), emergency embankment after the cyclone by Irrigation Department was 0.3m (1ft).
- According to a farmer U Tin Tun Aung, who has 14 acres of paddy farm land, average yield of paddy before the cyclone was about 60 baskets per acre but it decreased to 25 – 30 baskets per acre at the last monsoon season.
- There are 3 numbers of drinking water ponds but all are damaged by salinity due to cyclone even they pumped water out three times so they are using them for domestic purpose.
- “Social Vision Service” contracted to UNDP is now supplying water 3 liter per day per person to three (3) villages, about 2,500 peoples.
- Just after the cyclone hitting, UNDP and WFP provided food.
- “Pep Myanmar” supplies food to them once a month.
- There is no plan for tube well construction.
- Roof of a primarily school was damaged by the cyclone and UNDP provided roof of it.
- Out of 280 houses around the area, only there (3) houses were left after the cyclone hitting.
- GAA (German Agro Action) and UNDP are now having consultation with villagers to construct new houses and a sample house is constructed by GAA near by the sluice.
- GAA is also considering renovating a drinking water pond which size is about 60m X 45m (200ft X 150ft) with 2.1m (7ft) in height.

### Ponnayeik Sluice Gate



- Ponnayeik Sluice locates at west part of Daunggyi (west) polder
- There are seven (7) numbers of openings in the sluice and condition of each gate of opening was checked together with a gate keeper U Aung Ko Oo, a son of passed away gate keeper by the cyclone and staff of Irrigation Department was as follows.

Gate No.	1	2	3	4	5	6	7
Land Side	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate
	A hoisting assembly holder and a shaft were bent, a fixing nut is lost	A hoisting assembly holder moved, the gate is not functioning	There is no fixing bolt and nut at a hoisting assembly holder	An assembly holder does not support the gate due to no fixing nuts	There is no fixing nut at a assembly holder	Hitting by boat, a holder moved, a shaft was bent	Hitting by boat, a holder moved, a shaft was bent, no bolt, no nuts
River Side	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
	There is a little leakage	It may be good but to be checked	It may be good but to be checked	It may be good but to be checked	There is leakage, to be repaired	There is leakage, to be repaired	There is leakage, to be repaired

- A concrete base for hoisting assembly holder with size of 0.45m (1.5ft: W) X 0.3m (1ft: H) X 14m (46ft: L) was seriously broken so it should be replaced.
- If gate repairing work is required, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	75	23
	Temporary coffer dam height	8	2.4
River Side	Temporary coffer dam length	85	26
	Temporary coffer dam height	15	4.6

- The top of parapet concrete wall was 2.5m (8.3ft), flood water overtopping was 1.4m (4.5ft) above the parapet wall.
- According to information from a farm labor U Thit Lwin Oo, paddy yield before the cyclone was about 50 – 55 baskets per acre, and after the cyclone it decreased down to 25 – 30 baskets per acre.
- There were two (2) numbers of drinking water pond around this area and the villagers pumped water out two (2) times.
- Those ponds are constructed by Irrigation Department, one of them has 0.25 acres of area 30m X 30m (100ft X 100ft), and another one has 0.75 acre of area with size of 45m X 45m (150ft X 150ft), and about 1.2m (4ft).embankment will be required for keeping monsoon rain efficiently
- Even two (2) times of water pumping out, the quality of water did not improved so much and it was not so suitable for drinking, however, villagers had to drink it because of no other water resources around this area.
- There is no water supply project at present.
- Numbers of villages using the said water ponds are three (3), namely Ponnayeik village (71 households), Deyebyu village (60 households), Kansu village (45 households) and estimated population is about 900 peoples.
- Water in the sluice channel is basically used for domestic purpose and some of villagers utilize it for

kitchen gardening planting chili, water melon, and other vegetables.

- About ten (10) days after hitting by the cyclone, UNDP and “Care Myanmar” provided food aid and UNDP provided finance of 120 US\$ (120,000 Kyats) per households of income dependency condition.
- UNDP also provided financial assistance to fishermen 90US\$ (90,000 Kyats) for boat purchasing, 70US\$ (70,000 Kyats) for fishing net purchasing and fishermen had select only one of them.

#### **Dike embankment works of Irrigation Department near Ponnayeik Sluice**



- Soil spreading thickness for dike embankment is about 0.45m – 0.6m (1.5ft – 2ft) by works of Irrigation Department near by Ponnayeik Sluice.
- Spreading works are done by Class II dozer (20tons class bulldozer) and compaction works on the dike embankment are two (2) to three (3) times of round passing.
- The embanking soil water content seemed to be less than OMC (optimum moisture content) but not

being in saturated condition and it seemed to be in good condition because soil classification was CH.

#### **Mangegale Sluice Gate**



- Mangegale Sluice locates at west part of Daunggyi (west) polder.
- There are five (5) numbers of openings in the sluice and condition of each gate of opening was checked together with and staff of Irrigation Department was as follows.

Gate No.	1	2	3	4	5
Land Side	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate
	Concrete base moved from proper position	Concrete base moved from proper position	Concrete base moved from proper position	Concrete base moved from proper position	Concrete base moved from proper position
River Side	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
	A gate is local made, gate is broken due to corrosion, to be replaced	A gate is local made, gate is broken due to corrosion, to be replaced	A gate is local made, it seems to be functioning but to be checked	A gate is local made, it seems to be functioning but to be checked	A gate is local made, it seems to be functioning but to be checked

- At the center of concrete barrel of No. 1 and No. 2, water leakage was found at the surface of embankment.
- By observation of the Study Team, concrete sealing of concrete barrels could not be functioning and the leakage portion connected directly to river side that was why water leakage occurred with high tide.
- Two possible reasons were considered on non-functioning of concrete seal of concrete barrel, one was soil consolidation after construction and other was improper concrete sealing during construction period.
- The cause of concrete sealing non-functioning would be improper concrete dealing because there was no concrete (there was void space) just beside of concrete barrel between No. 1 and No. 2.
- RC Concrete base of hoisting assembly holders was totally broken so replacement of it would be required.
- If gate repairing work is required, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	92	28
	Temporary coffer dam height	7	2.1
River Side	Temporary coffer dam length	164	50
	Temporary coffer dam height	14	4.2

- It was observed about 0.9m (3ft) of flood water overtopping during the cyclone, which was equivalent to 2.4m (7.83ft) above sea level.
- Total four (4) drinking water ponds were affected by the cyclone and villagers pumper water out about two (2) to three (3) times.
- Water in two (2) drinking water ponds out of the said four (4) ponds became drinkable condition but it would be used out within the end of March 2009.
- The size of water quality improved pond is 18m X 18m (60ft X 60ft) for both.
- The number of Beneficiaries of the said improved pond is about 250 people, 1 village.
- “EGG” (Ever Green Group) had constructed twenty seven (27) of houses and “GAA” (German Agro Action) had constructed four (4) numbers of houses.

- Due to the cyclone, total seventy (70) numbers of houses were destroyed.
- Just after the cyclone hitting, UNDP provided food and cloth.
- According to a farmer U Nyan Htun 30 acres of paddy farm land holder, average yield of paddy was about 50 baskets per acre before the cyclone hitting and it decreased down to 30 baskets per acre after the cyclone.
- He seeded paddy seeds four (4) times in 2008 monsoon season.
- Due to saline water leaking from the sluice salt content of water inside of polder is very high according to U Nyan Htun.

### Kamakalu Sluice Gate



- Kamakalu Sluice locates in Daunggyi (upper) polder at southern part of Daunggyi (upper) polder.
- There are five (5) numbers of openings in the sluice and condition of each gate of opening was checked together with a gate keeper U Win Myint and staff of Irrigation Department was as follows.

Gate No.	1	2	3	4	5
Land Side	Slide Gate	Slide Gate	Slide Gate	Slide Gate	Slide Gate
	Concrete base moved from proper position	Concrete base moved from proper position	Concrete base moved from proper position	Concrete base moved from proper position	Concrete base moved from proper position
River Side	Flap Gate	Flap Gate	Flap Gate	Flap Gate	Flap Gate
	A gate is local made, gate is broken due to corrosion, to be replaced	A gate is local made, gate is broken due to corrosion, to be replaced	A gate is local made, it seems to be functioning but to be checked	A gate is local made, it seems to be functioning but to be checked	A gate is local made, it seems to be functioning but to be checked

- If gate repairing work is required, estimated temporary cofferdam size is estimated as follows.

Location	Items	Feet (ft)	Meter (m)
Land Side	Temporary coffer dam length	118	36
	Temporary coffer dam height	9	2.6
River Side	Temporary coffer dam length	148	45
	Temporary coffer dam height	16	4.9

- Freshwater coming from northern side of polder improve water quality at this area so water in the sluice channel is drinkable.
- Water in drinking water pond was pumped out one (1) time and water quality became in good condition.
- Kamakalu village has five (5) numbers of ponds supporting about 1,000 households and water quality and quantity are enough for them.
- There was no aid, no flood water overtopping.
- According to information from several farmers, average paddy yield in this area was 40 baskets per acre before the cyclone and it decreased down to 20 baskets per acre after the cyclone hitting.
- Summer paddy is cultivated in hundred (100) acre in this polder, where is northern part of this polder.