

# ASIAN DEVELOPMENT BANK

Country Safeguard Systems (CSS) Sub-regional Workshop

## “Developing Site-Specific Environmental Management Plans to Improve Environmental Safeguards Implementation”

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# PURPOSE OF SSEMP PREPARATION

- The ADB's long-term goal is the elimination of poverty in the Asia and Pacific region.
- A cornerstone of the ADB strategy is the principle that the ability to achieve and sustain poverty reduction depends on economic growth plus a well-managed natural environment. Only growth that is environmentally sustainable can eliminate poverty, as many of the poor depend on natural resources for their livelihoods.
- Experience shows that during project implementation cycle while procedural compliance has improved over time the substantive aspects of effective implementation of EMPs - remain challenging.

# PURPOSE OF SSEMP PREPARATION

Three major reasons why projects fail to effectively implement environmental safeguard requirements are:

- Poorly prepared EMPs that do not provide enough detail for the environmental staff of PIUs to know what measures to implement on the ground;
- Lack of direction and guidance from ADB as to what is required and when;
- Poorly prepared tenders and contracts that do not provide adequate environmental management requirements.

# PURPOSE OF SSEMP PREPARATION

- ▣ Specialists/consultants who conduct the environmental assessment (EIA) are not the same specialists that are responsible for the implementation of environmental management plans (EMP) during construction.
- ▣ This lack of continuity between the planning and construction phases means that the new team must review and understand the work of the previous team.
- ▣ The environmental assessment is often based on a concept design that is then refined during the detailed design phase; and so the original environmental management concepts need to be reexamined and refined to fit the final design.

# PREPARATION OF SSEMP

- ▣ SSEMP is applied to the actual site where construction activities will occur.
- ▣ The preparation of the SSEMP must occur before the contractor is given access to the project site.
- ▣ One of the most common failures of environmental management is the start of construction before the necessary SSEMPs have been prepared.
- ▣ When this happens, the construction teams have no guidance as to what environmental management measures are required, and so there is a high probability that environmental damage will occur.
- ▣ Proper planning beforehand is therefore essential.

# PREPARATION OF SSEMP



# PREPARATION OF SSEMP

- ▣ All contract documents must include the requirement that SSEMPs be prepared by the contractor and
- ▣ Approved by the environment specialists of the project implementation unit (PIU) at least ten days before the contractor is given access to the site.

# PHASES OF SSEMP PREPARATION

There are a number of steps in the preparation of a SSEMP. These are:

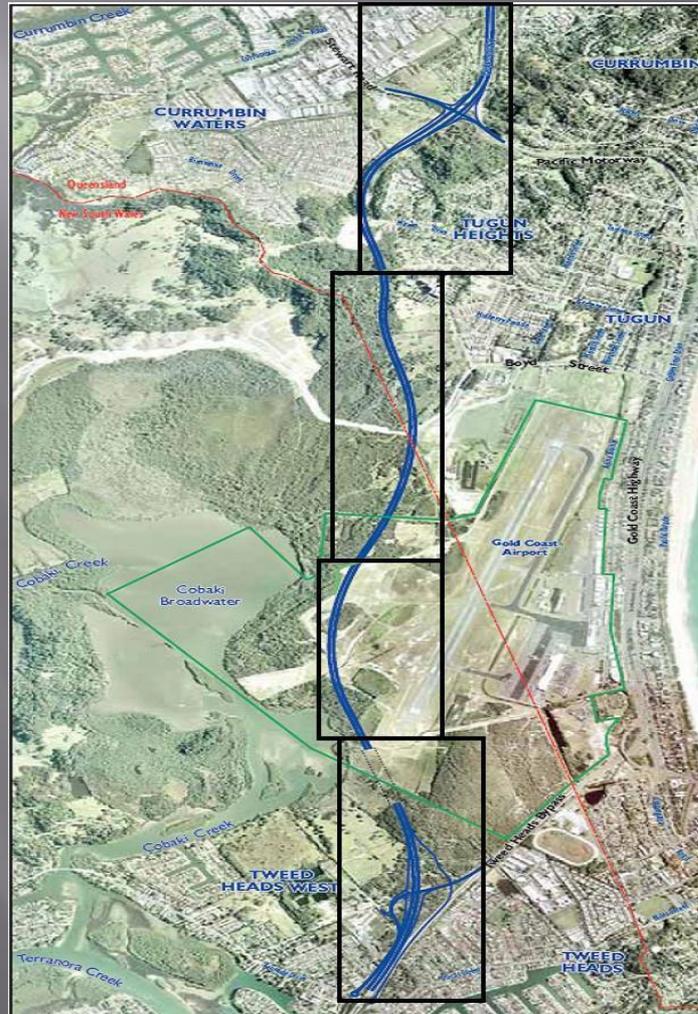
- Definition of boundaries
- Identification of environmental values and sensitive receptors of the site and its surrounds
- Definition of construction activities
- Risk assessment (preparation of Risk Assessment Matrix)
- Assignment of environmental management measures
- Preparation of site plans
- Preparation of monitoring plan

# PHASES OF SSEMP PREPARATION

## 1. Define Boundaries:

- Define the footprint of the construction site.
- This will indicate whether a single SSEMP or multiple SSEMPs are required

# PHASES OF SSEMP PREPARATION



# PHASES OF SSEMP PREPARATION

## 2. Identify Sensitive Receptors & Environmental Values:

- Consult the environmental assessment documents.
- If the footprint was changed during the detailed design phase, a site visit may be required.

# PHASES OF SSEMP PREPARATION

## 3. Specify Construction Activities :

- Schedule of works
- Phases
- Activities
- Environmental management requirements

# PHASES OF SSEMP PREPARATION

## 3. Specify Construction Activities (continuation):

- Site surveying & vegetation clearance
- Establishing the work camp, batch plant, and access roads
- Soil stripping and profiling
- Bridge construction
- Grading approaches
- Painting & finishing structures
- Landscaping/Reinstatement

# PHASES OF SSEMP PREPARATION

## 4. Conduct Risk Assessment

- Risk = likelihood x consequence
- Risk assessment matrix



# PHASES OF SSEMP PREPARATION

Construction activity	Issues to consider	Likelihood that the site or sensitive receptors will be affected?	Consequence of the site or sensitive receptors being affected?	Risk score: (consequence x likelihood)
		Score	Score	
Site surveying and vegetation clearance	Damage to vegetation beyond clearing limits	3	3	9
	Damage to habitats and ecosystems	2	3	6
	Erosion of exposed areas and sediment carried into river	5	3	15
	Loss of topsoil	3	2	6
	Dust generation	5	3	15
	Noise	3	3	9

# PHASES OF SSEMP PREPARATION

Risk Parameters: Likelihood/Параметры риска: Вероятность:

- Certain / Определенный риск
- Likely/Возможный риск
- Unlikely/Маловероятный риск
- Rare/Ничтожный риск

# PHASES OF SSEMP PREPARATION

Risk Analysis: Likelihood of Risk/Анализ риска : вероятность риска:

Likelihood/Вероятность риска	Definition/Определение	Score/Балл
Certain/ Определенный	Will occur more than once a week. Будет случаться чаще одного раза в неделю.	5
Likely/ Возможны	Likely to occur more than once or twice during the construction phase. Скорее всего произойдет один или два раза на этапе строительства.	3
Unlikely/ Маловероятный риск	May occur more than once or twice during the construction phase. Может случиться один или два раза на этапе строительства.	2
Rare/ Ничтожный риск	Unlikely to occur during the construction phase. Вряд ли произойдет на этапе строительства .	1

# PHASES OF SSEMP PREPARATION

Risk Analysis: Consequence of Risk/ **Анализ риска** :  
**Последствия риска**

Risk Parameters: Consequence/**Параметры риска** : **Последствия** :

- ▣ Catastrophic / **Катастрофические**
- ▣ Major/**Серьезные**
- ▣ Moderate/**Средней тяжести**
- ▣ Minor/**Незначительные**

# PHASES OF SSEMP PREPARATION



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# PHASES OF SSEMP PREPARATION

## Risk Analysis Matrix of Impact Categories/Анализ рисков Матрица категорий воздействия

Likelihood and Value/Вероятность риска	Consequence and Value/Последствие			
	Catastrophic (5) Катастрофические	Major (3) Серьезные	Moderate (2) Средней тяжести	Minor (1) Незначительные
Certain/Вероятный (5)	High/Высокий		Medium/Средний	
Likely/Возможный (3)	High/Высокий	Medium/Средний		Low/Низкий
Unlikely/Маловероятный (2)	Medium/Средний		Low/Низкий	
Rare/Редкий (1)	Low/Низкий			

# RISK ASSESSMENT MATRIX

Construction Activity	Issues to Consider	Likelihood	Consequence	Risk Score: (consequence x likelihood)	Environmental Management Measures
		that the site or sensitive receptors will be affected.	of the site or sensitive receptors being affected.		
		Score	Score		
Soil Stripping	Damage to vegetation beyond clearing limits				Indicate limits of clearing with highly visible markers. Monitor area for fauna prior to clearing operation. Employ catcher to remove fauna for release elsewhere. When clearing has been completed, keep fauna spotter/catcher on call.
	Erosion of exposed areas and sediment carried into river				Around the perimeter of the work site, erect silt fences and/or rock check dams, sedimentation ponds, and silt traps.
	Loss of topsoil				Provide stockpiles with protective covering, e.g., revegetation, geotextiles.
	Dust generation				Provide water truck to wet topsoils
	Noise impacting on nearby residents				Limit work near residential areas to 7a.m.–5p.m. Minimize noise whenever possible. Consult regularly with residents.
Site Establishment	Soil carted onto roads from tires				Provide rumble grids and use street sweepers on roads when needed.
	Stockpile erosion				Provide stockpiles with protective covering, e.g., revegetation, geotextiles.
	Noise and vibration				Monitor noise and vibration. Consult regularly with residents.
	Traffic congestion				Install traffic lights and regulate site traffic to ensure that there are no impacts on local vehicle movement.
	Fuel spills				Ensure that safety checklist for major plant has been completed, and that no fuel/oil leaks are visible. Emergency oil spill materials, boom, and trailer should be on standby.

# PHASES OF SSEMP PREPARATION

## 6. Prepare Site Plans

- This is the last, but vital, stage in the preparation of the site-specific environmental management plan (SEMP)
- ADB will not consider a SEM to be complete unless a site plan accompanies the risk assessment matrix.

# PHASES OF SSEMP PREPARATION

## 6. Prepare Site Plans (continuation)

**A site plan must cover all construction activities and should contain :**

- Indication of North and scale
- Existing and planned supporting infrastructure (e.g. access roads, water supplies, and electricity supplies)/ Location of planned work
- Contours
- Drainage systems
- Locations of sensitive receptors and environmental values.

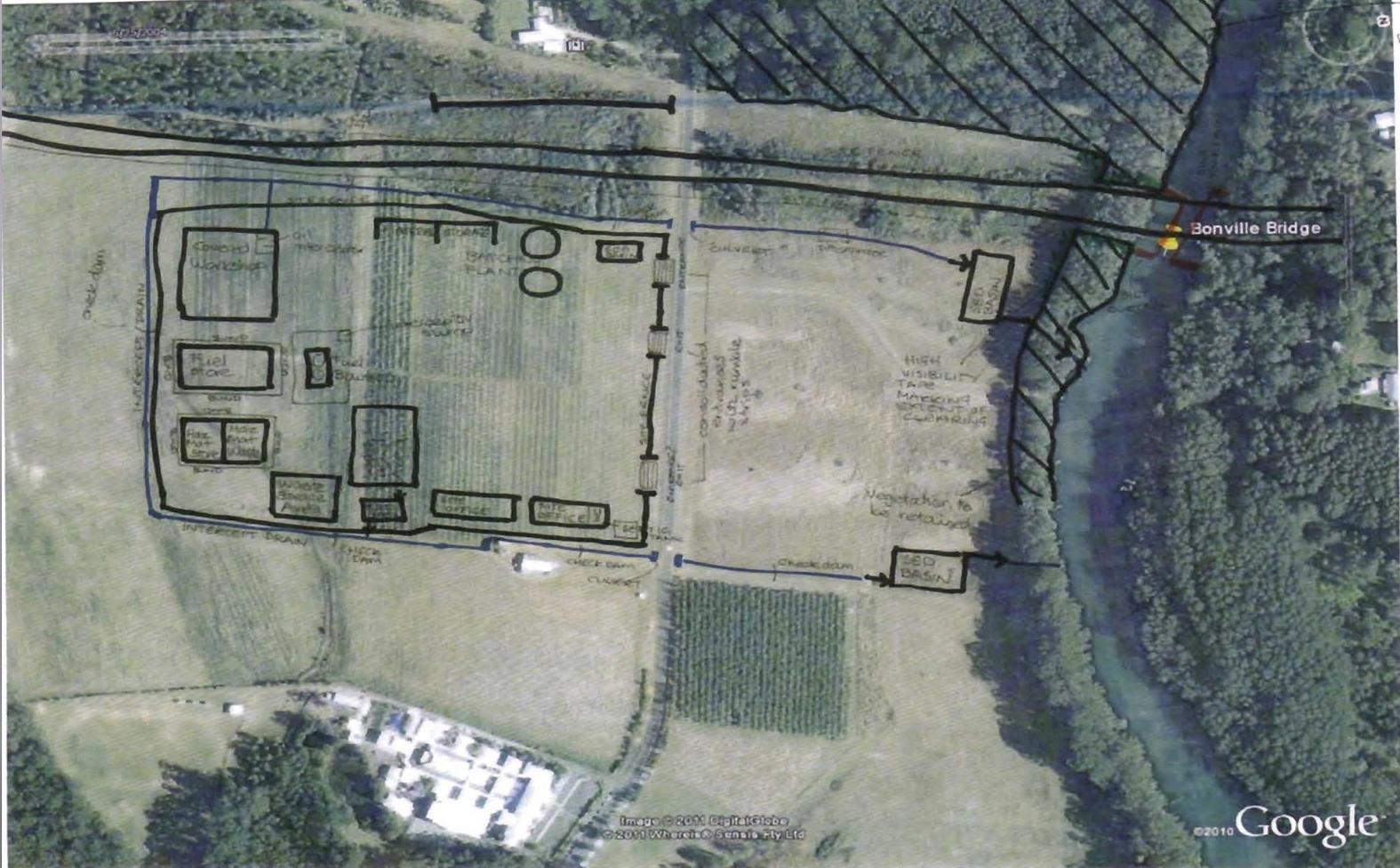
# PHASES OF SSEMP PREPARATION

## 6. Prepare Site Plans:

This can be done by:

- Computer graphics
- Hand drawings
- Use of standard symbols

# PHASES OF SSEMP PREPARATION



# PHASES OF SSEMP PREPARATION



# PHASES OF SSEMP PREPARATION

## 7. Preparation of Monitoring Plan

- Measurement Data
- How to measure
- What to measure
- Frequency and time
- Standards to be used

# RISK ASSESSMENT/ОЦЕНКА РИСКОВ

## Summary/Резюме:

The risk assessment helps to/ Оценка риска – это инструмент, который помогает:

- ▣ Identify potential impacts/ Определить потенциальное воздействие
- ▣ Plan mitigation measures/ Спланировать меры по его смягчению
- ▣ Prioritize efforts/ Расставить меры по приоритетности.

**THANK YOU!**

**TIME FOR Q & A!**