Environmental Impact Assessment
Professor Harshit Sosan Lakra
Department of Architecture and Planning
Indian Institute of Technology, Roorkee
Lecture 47
EIA Method – Cultural Heritage

Welcome to the course Environmental Impact Assessment. And in today's session, we are going to cover EIA methods for cultural heritage.

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So accordingly, our coverage will include that we will look at what is the changing perspective, while we are dealing with cultural heritage. And how does that influence our middle impact assessment? Further, we will look at what is the purpose of undertaking an impact assessment related to cultural heritage.

And then we will look into some of the definitions and concepts so that we understand and come to a basic understanding to take over cultural impact assessment. Further, we will look into what procedure you need to follow to undertake a baseline study, and then we will look into impact prediction and evaluation of what impacts happen in this domain.

Learning Outcomes

1. Discuss approach for Cultural Impact Assessment
2. Review the purpose of Cultural Impact Assessment
3. Define various key Terms and Concept
4. Review key aspect of Baseline Study and Methods
5. Review various Impact Prediction and Evaluation Methods

So, accordingly, our learning outcomes will include that after completion of this particular session, you should be able to discuss various approaches that are adopted for cultural impact assessments was the change in the perspective. Now, you should be able to review the purpose of impact assessment about cultural heritage, then you should be able to define various key terms and concepts in this domain. Then you should be able to review key aspects of the baseline study and then the methods involved. Similarly, you should be able to review various impact prediction and evaluation methods.

So, a key reference for this is, again, the methods book by Terrible and Woods. So, looking at the perspective change, like what is happening in this domain, we see that there is there has been a shift in how we look at cultural heritage and how we have been assessing it. So initial concern was that the approach was mostly to look at the historical component and undertake physical assessments. But now we see that it has changed and it has become wider and it covers a lot of aspects related to cultural aspects, which includes not only the tangible aspects but also intangible aspects, the spiritual aspects, the traditional aspects, among many things.

So we also see that there is a strong link between cultural heritage and the other environmental components. So these all are also addressed. While we undertake cultural heritage assessments, and the strong link when we say between cultural heritage and environmental components we are we may also include biodiversity, we might look at the landscape, human health and well-being quality of life, and all those aspects. So while you are going through this, you might also realize that this domain overlaps a lot with other domains. So, you will see how it overlaps with biodiversity, how it overlaps with landscape, health aspects, and so on.

So, looking at the purpose, why we need to undertake this, and what the key objective, which we are addressing this is like by undertaking this impact assessment from the cultural heritage point of view.

We try to provide information to the decision-makers about the kind of impact or range of impacts that this proposal would have on cultural heritage. We make this information available to the decision-makers and so that the decision-makers or the proper project proponents can facilitate mitigation measures, appropriate mitigation measures, and they would also undertake investment-related investments with it. So, we see that the IFC performance stand rose, so, describes the purpose why cultural heritage assessment has to be undertaken. So, the key purpose which I have seen mentioned is that one should look into.

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They try to protect cultural heritage from any kind of negative impact that might happen because of the project activity. And there is a need to support its preservation and then also promote equitable sharing of the benefits. So that everyone who has been using or connected with the resource gets the opportunity to share it equally whatever is coming from that, whatever linkages, or services one gets from that place. So, that is what purpose is defined by IFC.

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Further, we see that World Bank Environmental Social Standard ESS 8 also defines the purpose of why one needs to undertake cultural heritage. We see that the key purpose they identify is to address cultural heritage as an integral aspect of sustainable development. So, they highlight that cultural heritage is an integral part of sustainable development. The idea to undertake this is to promote meaningful engagements for the people who are involved, concerning whom we are talking about in this cultural heritage aspect.

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So looking into some of the key definitions and concepts, we see that UNESCO defines what is cultural heritage, it says that.

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It is a whole complex of distinctive spiritual, material, intellectual, and emotional features, that characterize a community, society, or social group. So, that is how it defines culture. All of these can also include arts, literature, more, and then the way of life, and the rights of the people. And then the value system, they carry the kind of traditions they have the kind of faith system they have belief they have. So all that becomes part of cultural heritage.

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Further, we see another definition given by the World Bank, which says that cultural heritage is the current present manifestation of our human past. So it identifies both the elements that look at the tangible heritage as well as intangible heritage and when we try to understand what is tangible heritage, it is the heritage that is physical something that we can touch and can perceive it.

So that is the tangible heritage and something intangible heritage that is not physical or you can address represent that in a physical sense, but it has value and you cannot measure it with precision so that is intangible.

So, the World Bank defines both these kinds of tangible and intangible as cultural heritage. So, in this if you look at the tangibles, there are various kinds, which are formally in the legal system recognized a lot and have been traditionally recognized are the archaeological remains.

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So, when you look at archaeological remains, they cover both the objects that are above or below the ground, which are buried and could be the remains or the standing buildings or could be archaeological sites, individual objects or it can be complex buildings. So, all these can be there.

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In the images, you can see examples of archaeological remains. Then, there is another term that is commonly used as a monument.

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Monuments

Ajanta, Cave 1, exterior view, Ajanta Caves
(Source: Sahapedia.org)

Boddhisatva king painting, Ajanta Caves
(Source: Sahapedia.org)
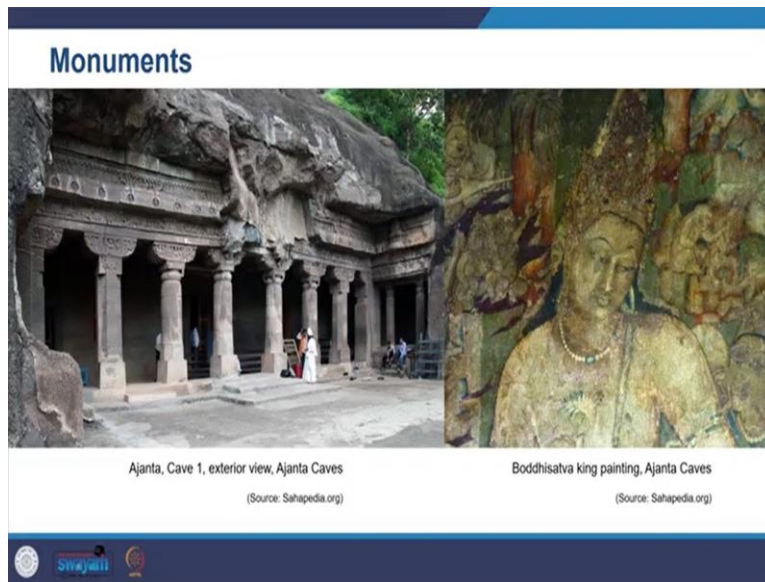
So, when we say monuments, you would be referring to all the monumental sculptures, paintings, inscriptions, and cave dwellings.

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Historic Buildings and Sites

Acropolis of Athens
(Source: gtp.gr, 2022)

Konark Sun temple, Odisa
(Source: hindufaqs, 2015)

Then you have historical historic buildings and sites. So it can be individual or groups of different buildings, which are in terms of architecture and other things, which are identified here. There can be also all these buildings and sites can be in any kind of context, it can be in an urban or rural context.

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Structures of Historic and/or Architectural Merit

London Bridge, UK
(Source: CNN, 2022)

Roman Aqueduct, Pont De guard, Greece
(Source: Forbes, 2022)

And then there is also a structure that is like it, it can have historic or architectural merit. This structure could be like roads, bridges, canals, or aqueducts, which have been studied in history, and then kind of irrigation systems, roads, ancient roads, and so on. So all these are considered. So, you also see the historical cultural landscape. So, you look at the work of human beings or the combined work of nature and humans. So, you see how those cultural landscapes are there.

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Historic/Cultural Landscape

Nazca Lines, Peru
(Source: History.org, 2022)

Palmanova, Italy
(Source: Italian Ways, 2022)

And these kinds of areas' cultural landscapes can be historic, it can be aesthetic or it can be ethnological, or anthropological it might be related to people's history and way of life. And so, this would include cultural landscape.

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Historic Artifacts – Movable Objects

Canopic Jars, Egyptian Artifacts

(Source: John Speight, 2022)

Indus Seal/Stamp, Indus Valley

(Source: Brittaninca, 2022)

Then you might have movable objects as you have, you can have a history or like rare books, manuscripts, paintings and so on could be also there. And then even features of landscape and townscape can also be included in these things.

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Mexico City Declaration on Cultural Policies (UNESCO 1982)

So here you can also see that UNESCO also describes cultural heritage. So what do all things cultural heritage include, like the work of artists, architects, musicians, writers, and so on? Then you can also see the cultural heritage definition given by ICOMOS.

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- Cultural heritage is often expressed as either intangible or tangible cultural heritage.

  (ICOMOS 2002).

- Cultural heritage is a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge, and traditions. All aspects of the environment result from the interaction between people and places through time

  (Council of Europe 2005)

Where the cultural heritage is seen as an expression of ways of living developed by the community and passed on from generation to generation. And then you also see the definition here Council of Europe, which gives cultural heritage as a group of resources inherited from the past, which people identify independent slate of ownership as a reflection and expression of their constantly evolving values, fee, beliefs, knowledge and traditions. So these are all definition ranges of definitions you can look at.

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UNESCO's definition of Intangible Cultural Heritage:

- Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage;
- Performing arts;
- Social practices, rituals and festive events;
- Knowledge and practices concerning nature and the universe (including traditional medicines);
- Traditional craftsmanship.

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When we look at these aspects so when we are looking at UNESCO's definition of intangible cultural heritage, we see that it includes like it takes care of oral tradition, like how people would have folk songs, how they would tell the stories, they would express themselves, and then looking at languages as a vehicle of intangible cultural heritage. They would also include the performing arts of the community, the kinds of practices, they

have rituals and festivals, and so on, which people celebrate, they all would be included under the intangible cultural heritage.

And then not only just that, but the knowledge and practices, which are related to how they interact with nature, and our surroundings. And then it will also include the craftsmanship, the skills, and the traditional knowledge, that they have. So that also you see in UNESCO provides that.

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And of the key areas we see is the convention of biological diversity. It is important to note that even biodiversity and the various components of biodiversity also become very important because of indigenous knowledge and culture. So the convention of biological diversity of 1992 highlights that. So you could see here about indigenous communities, what are the other intangible knowledge, intangible aspects of culture, which comes here, so this particular convention further highlights article 8J.

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To protect the knowledge and practice of indigenous and local communities. So it is emphasized that it is important that it is protected is conserved for the sake of sustainable development.

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Similarly, you see article 10, which again, emphasizes the need to protect and encourage the customary use of biological resources as per the traditional cultural practices. And then it also highlights the art and emphasizes the equitable sharing and fair sharing of all this knowledge and resources. So if you look at these, they are special concerns, special attention given to the indigenous people here, Aboriginals here.

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And you see that even IFC performance standards six recognize the cultural value of biodiversity. So you can see here IFC six I have also given you the link to download as well as you can see World Bank. ESS six also recognizes the cultural value of biodiversity. So the link is provided so that you can look at the framework that it provides to review it. So, here now, we have seen various key concepts and definitions and you will see that your EIA needs to take care of both the components, the tangible components and intangible components in the assessment process. So, now moving on we look at the scoping stage of EIA about cultural study. So, what do we do at the scoping stage?

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So, at the scoping stage, here, you have a concern about what period you are going to study like, in terms of what will be the scope for time, what stretch you should study. So, you would be looking at the past present, and future, then you have to decide how much past present, and future going to look at and then you also need to decide upon what will be the geography or the scope of your study. So, will you be including the terrestrial area, coastal area, or marine environment, all these become a part of it, but you need to determine what will be

your geographical scope. And when you look at different communities on which you will be studying or you will be emphasizing. So, you would be also deciding on which will be the affected communities.

So, now, we see that there is increasing emphasis on the integration of EIA, and then the indigenous people's interest. So, more and more emphasis is placed on that. The key reference to support this emphasis is that you can see the UN Declaration on Rights of Indigenous People Agenda 21 You also see the Convention on Biological Diversity and you also see accurate con voluntary guidelines. So, many of these guidelines we have already seen when we had covered the legislation part about this if you may recollect. And slightly giving a minute on like, which areas to be concerned for Aboriginals and indigenous culture.

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So, the key points are that you look at the traditional knowledge of the people you look at sacred sites, which are important in like in terms of rituals as well as practices they support. Then you look at the land and water traditionally occupied by them. And then you also look at how the indigenous people have engaged in the entire process, how the participation and the key elements of their participation in a very free environment, in the very informed environment, and without the prior consent of the people. And then there now we also see this provision for funding for indigenous peoples' participation in many of the countries but still, there have been key concerns about indigenous communities, ownership, protection, and control of traditional knowledge. So the key concern, so that all needs to be taken care of.

So, that is what you look at when you have affected people communities when you study so indigenous people become one important area to look into. Then when you are further looking into the scoping, you also see various settings of cultural heritage.

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Setting of a Cultural Heritage

- Surroundings in which a place is experienced, while embracing an understanding of perceptible evidence of the past in the present landscape.

- Setting definition by ICOMOS (2005) :- "The immediate and extended environment that is part of, or contributes to, its significance and distinctive character".

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So what setting of cultural heritage means is the surroundings in which the place is experienced, how is the place where you get the sense of place, and you see how you connect to that place. So that is about setting off cultural heritage. The definition is given by ICOMOS, about the setting of the cultural heritage, that is the immediate and extended environment that is part of or contributes to its significance and distinctive character. So what makes it the care what the setting is the cultural heritage of that place.

So, for this purpose, when you need to analyze such a complex subject like the setting of cultural heritage, you need to look at your world because it is complex in needs like a multidisciplinary approach. You would also need inputs from the experts and the local community. You will also need to look into existing information and you also need to collect lots of data. So all Desktop studies secondary studies and services have to be taken.

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Consideration for Understanding and Analyzing Setting one needs:

- The use of a multidisciplinary approach;
- Seeking the views of both experts and the local community;
- Review of existing information, where available, including: formal records;
- Oral history and traditional knowledge;
- Artistic and literary descriptions.

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And you might also need to look at different oral history traditional knowledge. And also look at various descriptions which are there in artistic and literature, resources as well. So that would be required while you

have to analyze the setting. So, we will also look at another key landscape that we identify as a historic and cultural landscape. So, for these, the key references are UNESCO World Heritage Committee guidelines. And then you also see the Council of Europe landscape convention, then you also see the World Heritage Convention, they also identify and recognize many of the protected cultural landscapes.

So, you see that historic landscapes are also defined mostly it is defined by all national at the national level. So India also does that from the point of view of conservation. So one needs to look at each country's legislation and the acts that are there.

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So you can see here, the definition of landscape as provided by UNESCO. So UNESCO defines landscape as an area as perceived by people, so how people perceive it, what whose character is the result. So whatever is there is a character as a result and character of the action and interaction of nature and then human factors. So that is what makes it the landscape, what it is. And you have a lot of tools to integrate policies and practices for the conservation of these built environments that can be done here. And that can be done in the case of urban and rural contexts, as well. We also see that historic landscapes are important, you also find another term historic seascapes, which is also considered as important.

These are such sites of fishing, transport, and trade. And then you can also see sites where the shipwrecks and other things that they are so that are also considered historic seascapes.

And if you look at, historic landscape, defined by United States National Park Services, so historic landscape, if you look at it, what it means it would include residential gardens and community parks, it would include scenic highways, and so on. It is composed of several characters with varied features, you can see that it would be a composite of individual and collective characteristic features, that are there in that particular setting.

So you can find one case study from Italy, I have given you the link here, to how they have undertaken the study of traditional rural landscapes to understand this.

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So there are others whenever you deal with the culture, there is also concern about authenticity and integrity. So for this, to understand how technically we define authenticity and integrity, you have a key reference, which is an international declaration at the conference in 1964.

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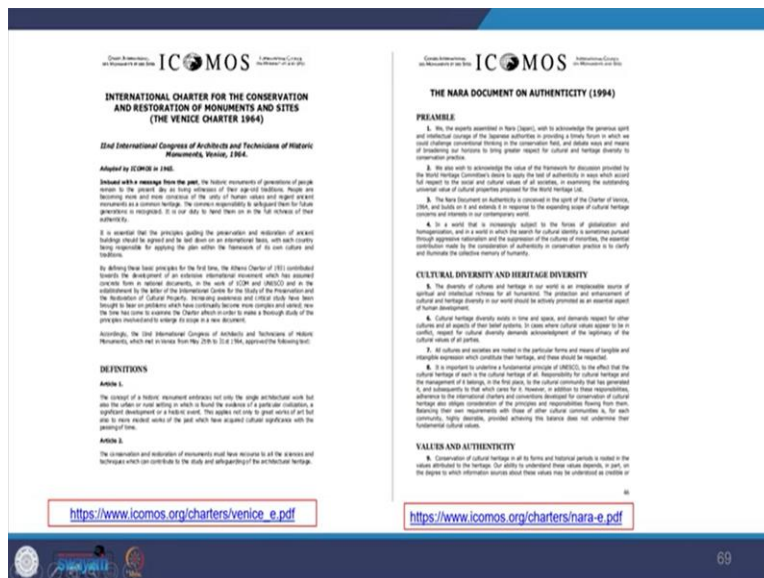
That is the key reference here. And you find another key reference, which is Nara, Japan, which produced the document NARA document on authenticity. So these are key references, and I have given you the link to the NARA document on authenticity. So, you can see your values and authenticity, which gives you an understanding and the significance of that. So, what are the real conditions under which authenticity is dependent?

So, you see that authenticity depends on the type of cultural heritage, and it is in what cultural context it is. So, when you are assessing it, you need to assess the authenticity of the cultural elements from the perspective of

the property and in its context, so that you need to understand how authentic is the cultural context which you are talking about.

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So, there are various factors of authenticity. So such as like form and design, what form and design is, is there about that the character of that particular cultural heritage you are looking at. And then what is the material in substance what kind of use it is put into the traditional techniques, how it is managed, and where is the entire setting of it? And how what kind of language and intangible heritage is there, the kind of feeling you get from the place, and what are the different factors that play together in that? So these all need to be reviewed, or like understood when you are taking care of authenticity.

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There is another term that you look at is integrity. So, authenticity is one thing and then when you deal with integrity is integrity, which measures how everything together works as a complete structure. So, various

elements, the biodiversity, the culture, the tradition, and how come together, and maintain the integrity as an act as complete one. So the measure of wholeness and intactness of the cultural heritage and its attributes. So, you might think of any particular traditional city where you have like, the city offers certain skills and crafts as well as the rituals of the people also create and complete environment. So that would be called integrity.

So, while you are looking at the aspect of integrity, there are other considerations, that you get from World Heritage properties, guides, and world heritage operational guidelines, so how do you assess the integrity of a place? So while you are assessing the integrity of a place, you would be looking at the property what you would be looking at. You would be looking at like, what are the various necessary elements, in that particular context like you would be identifying the outstanding universal value of those places.

And then what size it is its considerable size or not, and whether it is giving a complete picture or not. And then what kind of adverse effects can happen to this?

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And then why we look at integrity, why integrity is important is to maintain the entire physical fabric of that particular property. And then it is important that you also look at the protection of all the key elements in that and how that relationship is maintained. So why do we assess integrity it works as a complete whole, so you must maintain that physical fabric, you maintain those key elements and you also maintain the interrelationship between them. So, there is a difference between Integrity and Authenticity, which we talked about.

So, authenticity is where all this kind of like you see that whatever things are coming are how much original attributes are there or not. Whereas integrity is looked at as how, together, these things are working as one complete straw element or a component, there is another term which see is the critical cultural resources.

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So, this includes natural areas with cultural or spiritual value, and these could be sacred groves sacred bodies of water, waterways, sacred trees, and sacred rocks. And then they can be natural areas with cultural values and all these equivalent priority ecosystem services as well. So, you can refer to the performance standard six for this purpose.

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So, you see the critical cultural heritage, this performance standard emphasizes that wherever the project may impact the critical cultural heritage, it is a, it is required that it has to be avoided, such impact should not happen, and if it is unavoidable, then the affected community peoples you need to have consent of that. And wherever the project intends to use the heritage knowledge or innovations of the people they need to inform the affected communities of the indigenous people. So you see how, these performances and standards aid, the

usage of critical, critical cultural heritage. And then it is also seen that it also highlights the participation of the people involved in stakeholder engagement.

And it is, again, like you have been seeing, it is always suggested that people should be engaged from the beginning of the project. So that adds value and it narrows down the later part of the engagement because it is very inclusive and takes care of lots of components.

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So if you see the range of stakeholders when you are studying the cultural heritage, then you can have public authorities, you can have indigenous people and local communities, then you can have scientific institutions and individuals who are involved. You can also have religious institutions, NGOs, and also international organizations. And then you can also see the examples related to all these stakeholders' range of stakeholders. So this was about the scoping part.

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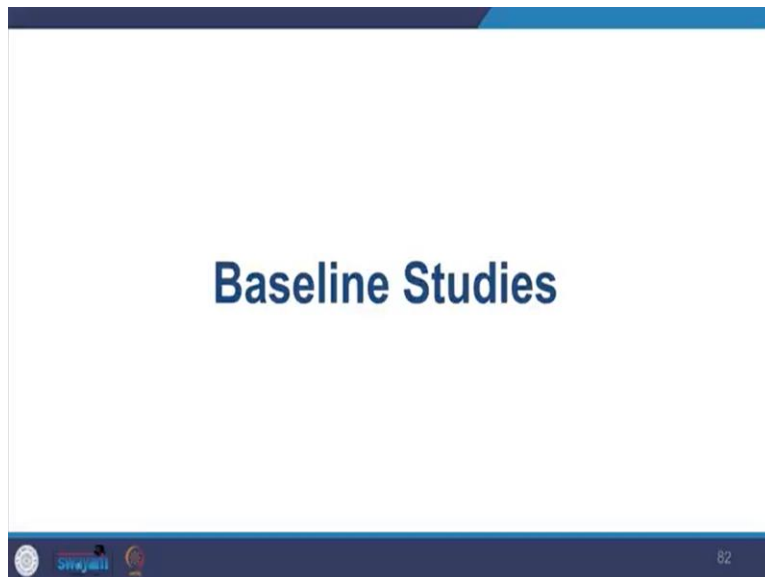
Now we will look at the baseline studies and how you undertake baseline studies concerning cultural heritage. So looking at what is the purpose of the baseline study.

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So the key idea why we undertake baseline study in this domain is that we want to identify or and we want to describe the kind of culture the nature and where it is located. And then also look at the value associated with it and the importance that particular culture has to the people who will be affected. Then you also need to comply with the terms of reference for EIA what you need to undertake so you will also look at that and you also need to see in whichever country you are working you need to align it with the regulations.

Then you also need to decide how you are going to manage the future study how you are going to plan your work and how you are going to manage all the data. And then it is important to understand such work will need a lot of coordination between all the team members community and then you would need like if you see this this particular domain will need to work with the social team of social assessment.

Then the resettlement team also needs to work with the indigenous people aboriginals who have expertise in that and also landscape and biodiversity. So it will be a lot of overlapping will happen so you would need to integrate with that.

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Data Collection Methods

- Rapid appraisal (preliminary understanding)
- Desk-based studies (in depth understanding)
- Interviews of concerned and affected communities;
- Interviews of local religious leaders;
- Interviews of specialists with local knowledge;
- Ethnographic studies;
- Gathering of oral traditions;
- Field surveys;
- Building surveys;
- Specialised surveys for underwater areas.

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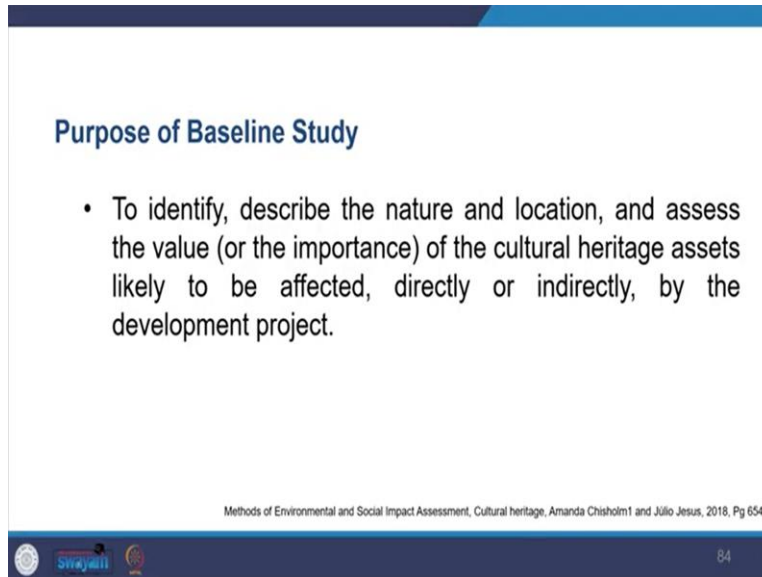Then we look at some of the data collection methods for your baseline study. So you have you can take rapid appraisal so this rapid appraisal helps you for primary understanding and it is fast to undertake so you get a sense of the place and you try to identify the key elements. Then you can undertake desk-based study also which helps you to have a better in-depth understanding. And then you can also interview the people who will be affected by the project. And then also you can connect with religious leaders in the place and then also look at people who are specialists in local knowledge.

You can also look at the ethnographic studies related to your study area and you need to try to gather oral traditions and undertake field surveys then you also need to design surveys. And then you might need to have a very specialized survey if you need to do underwater studies also. So these are different data collection methods.

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Sources of Desk Stop Study

- International, national, provincial and local registries or databases;
- Old maps;
- Aerial photographs and satellite imagery, old and recent;
- Photographs;
- Books, newspapers, pamphlets, scientific articles, scientific reports, etc.;
- Parish and estate records, old plans.

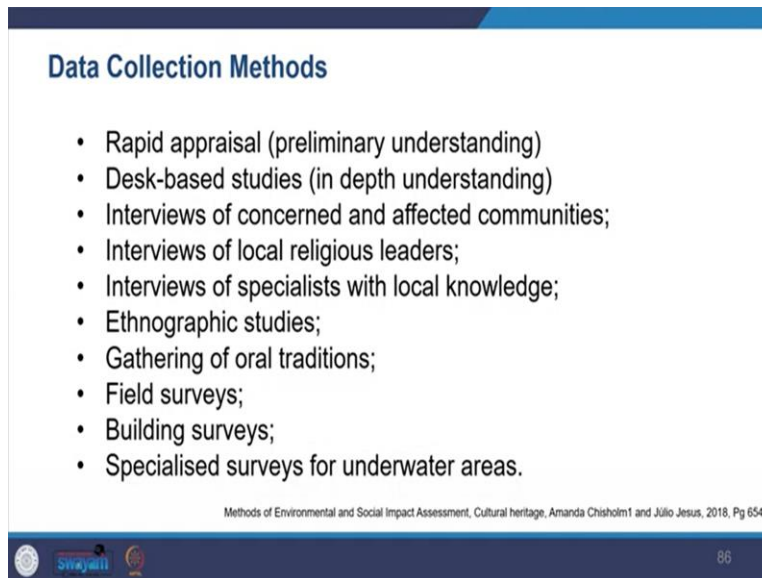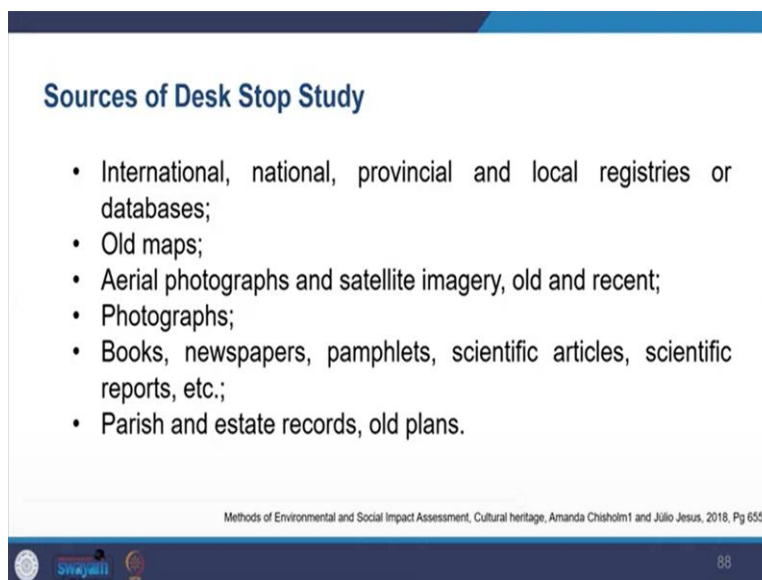Methods of Environmental and Social Impact Assessment, Cultural heritage, Amanda Chisholm1 and Júlio Jesus, 2018, Pg 655

And if you look at it like when you need to undertake desk stop study like we have been seeing you can use all forms of secondary data like international national and all kinds of databases. You can look at old maps aerial photography is also quite a lot used photography is used and then newspaper all these scientific articles are very handy. And then you can look at the library's old maps and all this. So aerial photographs and satellite imagery are now becoming very important sources of data.

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So if you look at this example here of source of information at the national level you can have all the authorities cultural related ministries and departments and museums and universities which work. And then at the community and individual levels, you can have schools religious leaders, and so on.

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And then here is how the technology has been used you can see the Lidar has been used for discovering cities and how to work under shallow waters and also to find out to delve more into it. Then you can also see some field survey techniques.

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So you have a geophysical technique so the purpose is to identify the changes in the character and property of ground which can happen. So you have a resistivity survey that measures ground resistance to the progress of an electrical current. So how the electrical current will move across the ground you keep checking. And then when there is a change in how the electrical current moves that will indicate that there is something underneath you will also be able to identify what is there inside and what is the nature of buried features there so that is the resist resistivity survey.

Then you also have a magnetometer survey which also measures the magnetic properties of the soil and is used to identify the location of past human activity like burning hunting and so on.

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Field Survey Techniques

Field walking – known as surface artefact collection (confined to ploughed fields).

- Process allows to collect and plot material on their location.
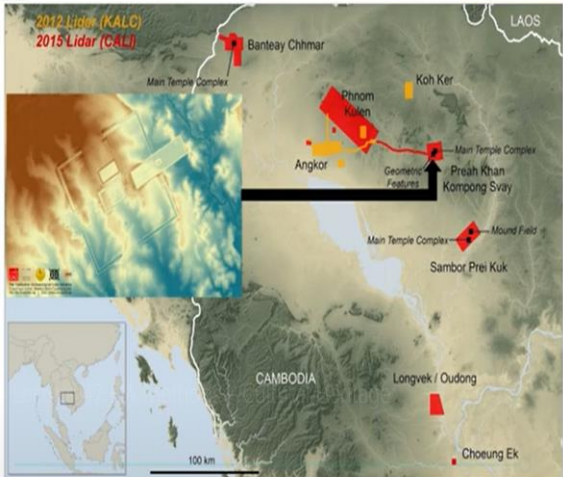- Field walking is rapid and economical.
- It has its own limitation.

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Then you also have field walking which we had also seen before so where as you walk along the plowed field you try to collect the artifact and then in that process you collect and plot material on their location. So you create maps and then the rate at which you find those elements. So this field walking is said to be very it helps it is rapid it helps you to understand things rapidly and it is also said to be very economical. But all these techniques also have its limitation I am not going to get into them.

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Field Survey Techniques

Auguring

- Most frequently used in river valley where deposition has covered the land surface.

- In the process soil sequence is recorded through auger holes and maps are prepared.

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The other technique you see is Auguring and this is also especially used in river valleys. So wherever there is a deposition and there is a covered with the land surface is covered there is some kind of subtle cover masking of the element which you want to undertake. So in this process what you do is process soil in a very sequential manner and then you record what you find. So you create like auger holes and you prepare the maps for that.

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Field Survey Techniques

Test Pitting

- Hand excavation by creating small pits of planned sizes.
- Test pits can be of different sizes as per the requirements.
- Analysis of different artefact recovery rate over an area indicates date, location and extend of surveyed site.
- Machine trenching can also de done.

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Further another method is testing pits so you can do hand excavation and you can create small pits of different varying sizes and then as per your requirement. And then you can analyze how you are identifying artifacts and what is the recovery rate. So you can also have machine trenching can also be done rather than just hand.

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Field Survey Techniques

Earthwork Surveys

- Analytical earthwork survey provides useful information on the form and condition of earthworks;
- It is also extremely good at identifying the chronological relationships of the elements of the landscape to one another.
- This is the essence of analytical earthwork survey – using the measuring process to examine slopes and other features, their forms and patterns, and to examine relationships and compare them with analogous examples.

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There is another technique which is an earthwork survey so you also have an earthworks survey which also gives you information useful information like trying to understand what the form is and the condition of the earth. It helps you to see how all the factors are working like how is the slope, and how is the gradient, and then, and then you also look at the relationship here. So this helps you to examine all the aspects of the profile which is there.

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So here I have given you the link to one of the detailed earthworks survey techniques so you can look at that.

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Finds or Recovered Artifacts

Archaeological artifacts recovered from Khirsara, Indus Valley Civilization.

Source: Pokharia et al.; 2017

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And there is another one that is like find so wherever whatever artifacts you recover so that is also used as a technique. But you need to have some legal permissions you would need what kind of remains you find under the ground or the sea.

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So we also see that drones are also used a lot these days to understand the historical structure. So they are providing like aerial platform where you can record historic buildings monuments archaeological sites and landscapes so that usage has also increased.

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And further you can also undertake underwater service and you can have done under river lakes or marine environments. Whenever you have to undertake an underwater survey you need to have very specialized techniques like multi-beam sonar and then you also have magnetometry sub-bottom profiling with sonar. So all these tools and techniques that you use have to be accompanied by the actual diversity in observations that has to be supplemented by whatever has been done with the machine. Then you also have remotely operated vehicles ROVs which are also used.

However, you have to have certain you have to look into the healthcare concerns that are involved in the process. This kind of technique can have very intensive data so you have to also look into how you are going to

manage data and how you are going to process these all these have to be considered. So that was about the baseline study.

So now we will look at how do we determine the importance of the cultural heritage. This is a very critical step and often there is debate about whether we should rank this as the important number one number two or so or we should just describe its uniqueness so that debate is on.

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And then here we can see one example where a certain value has been assigned to heritage resources you can see very high-value high value medium low and negligible or unknown. So here you can see high value is given to world heritage sites and then also then you see high value given to nationally protected areas medium value given to the regional important areas and this. So you might think that what might be important for you in your local context might be given low value here so that is the problem about this kind of assigning value. So depending on who is the user from which perspective we are looking at these values have to be taken care of.

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Methodology for assessing the value of the assets of Cultural Heritage:

- The value of heritage attributes is assessed in relation to statutory designations, international or national, and priorities or recommendations set out in national research agendas, and ascribed values.
- Professional judgement is used to determine the importance of the resource.
- This method used as objectively as possible, qualitative assessment using professional judgement is inevitably involved.

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You also see that ICOMOS gives you an approach to assessing the value of cultural heritage. So it suggests that first, you need to look at what kind of national statutory status has been given to that heritage. And then you might also support with professional judgment and then as much as possible try for an objective approach.

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Critical Cultural Heritage:

i. The internationally recognized heritage of communities who use, or have used within living memory, the cultural heritage for long-standing cultural purposes.

ii. Legally protected cultural heritage areas, including those proposed by host governments for such designation.

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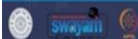
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Then even IFC performance standard 8 also gives input on critical cultural heritage. And then it also provides you with the definition of critical cultural heritage which we have already seen. And so that is about the importance part.

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Impact Prediction
and
Evaluation
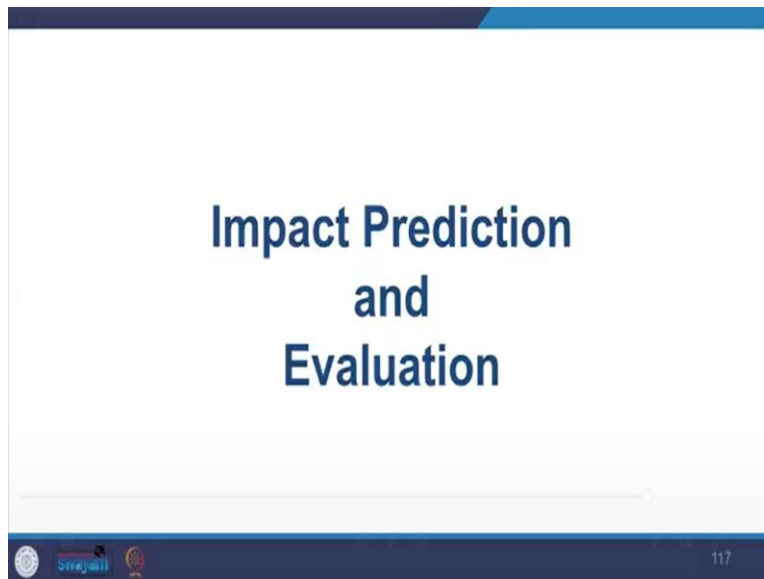
Now we are looking at impact prediction and evaluation so once we have identified various impacts and then how do we look at its prediction and how do we evaluate that? So what we look at is what kind of changes will happen to cultural heritage. So because of the kind of project you are dealing with will it have any negative impact at what stage it would happen and what would be the significance of it that is the key element whenever you do the impact prediction and evaluations.

So all of this like impact prediction on tangible and intangible will depend a lot on the context which you are dealing with and then it will also vary with the resources the recipients recipient resources where this impact is happening so that will also make a lot of difference. So you see ICOMOS also gives you guidelines for identifying the impacts.

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Potential Sources of Impacts

- Large-scale development: roads, bridges, tall buildings, "box" buildings (e.g. malls), inappropriate, acontextual or insensitive developments, renewals, demolitions and new infrastructure typologies like wind farms;
- Land-use policy changes;
- Large-scale urban frameworks;
- Excessive or inappropriate tourism.

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And then you see that it gives you a list of sources which can have an impact on your cultural resources like you can have large projects like huge construction projects of roots and bridges and all which can have. Then you can also have a change in culture because of the change in the policy.

You can also have an impact because of the large-scale urban development and then also because of tourism, there can be changes. So you see what kind of activities can bring changes and ICOMOS gives that. Then you also see the World Bank gives you which of these sectors have major impacts on the cultural heritage.

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Sectors "Particularly Prone" to affecting Cultural Heritage:

- Energy (construction of gas pipelines, utility lines etc.);
- Communications (laying of cables, fiber optics);
- Transport (highways, road construction or extensions, bridge construction or replacement, canal construction, railway construction);
- Water (dams, irrigation and drainage schemes);
- Sewerage and sanitation (waste-water treatment works, laying of sewer mains, water treatment works);
- Urban development (infrastructure provision);
- Industry and mining;
- Agriculture (intensification and extensification) and forestry.

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So you have energy communication transportation water severity sanitation urban development industry mining agriculture all these are said to have an impact on cultural heritage.

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Potential Negative Impacts on Tangible Cultural Heritage:

Archaeological remains

Negative effects to archaeological remains
Removal of archaeological deposits (loss, damage)

Stage/activity

- Ground investigations: trial pits/boreholes;
- Site clearance: removal of trees and vegetation;
- Construction: topsoil stripping;
- Operational phase: induced development.

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So there are certain areas you can see that hurt tangible cultural heritage like you have when you remove the archaeological deposit then so that also has a negative impact. This can especially happen during the ground

investigation site clearance when you are doing your project and also while you are doing the construction stage. Then the impact can also happen on the setting we learned about what the is setting so impact can also happen on the setting. And again it can happen at any stage of the project construction stage site clearance stage or like even the operational stage.

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Then you see that there can be also disturbances to the archaeological sites and the disturbances can be also on the underwater sites. And again during all the stages of the project.

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Potential Negative Impacts on Tangible Cultural Heritage:

Archaeological remains

Negative effects to archaeological remains
Damage to monuments through trampling/erosion.

Stage/activity

- Increases in visitor numbers at the operational stage.

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Potential Negative Impacts on Tangible Cultural Heritage:
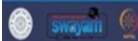
Historic Buildings/Monuments

Negative effects to archaeological remains
Loss of historic buildings or upstanding remains.

Stage/activity

- Site clearance: demolition (partial or complete)

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Potential Negative Impacts on Tangible Cultural Heritage:

Historic Buildings/Monuments

Negative effects to archaeological remains
Damage to building fabric from air pollution.

Stage/activity

- Atmospheric emissions from operational traffic movements/power stations, industry etc.

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Potential Negative Impacts on Tangible Cultural Heritage:

Historic Buildings/Monuments

Negative effects to archaeological remains
Severance of one part of a property from another (loss of access; dereliction/neglect).

Stage/activity
- Site clearance: fencing; construction of access and haul roads.
- Construction: construction of buildings/ infrastructure/ structures/ car parks/ access roads.

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Potential Negative Impacts on Tangible Cultural Heritage:

Cultural/Historic Landscapes

Negative effects to archaeological remains
Change to landscape integrity.

Stage/activity
- Site clearance: building demolition (partial or complete); loss of open spaces.

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So you see all these examples are given about what different negative impacts can happen so you can see a range of impacts that can happen negative impact.

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Potential Negative Impacts on Tangible Cultural Heritage:

Cultural/Historic Landscapes

Negative effects to archaeological remains
Severance of landscape elements from one another (loss of continuity; dereliction/neglect).

Stage/activity

- Site clearance: fencing; construction of access and haul roads
- Construction: construction of buildings/ infrastructure/ structures/ car parks/ access roads.

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Potential Negative Impacts on Tangible Cultural Heritage:

Cultural/Historic Landscapes

Negative effects to archaeological remains
Improvement of setting.

Stage/activity

- Screening provided by landscaping (earth mounds/bunds) and/or landscape planting;
- Improvement of lighting ambience;
- Removal of traffic from sensitive areas such as historic town centres;
- Re-establishment of historic setting.

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Potential Negative Impacts on Tangible Cultural Heritage:

Cultural/Historic Landscapes

Negative effects to archaeological remains
Slowing/reduction building/monument deterioration.

Stage/activity

- Removal of traffic from sensitive areas such as historic town centres.

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You also find ICOMAS gives another list of possible impacts on the indigenous people related to cultural heritage.

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Intangible Cultural Heritage Impacts

- Effects on continued customary use of biological resources/access to traditional sites;
- Effects on the respect, preservation, protection and maintenance of traditional knowledge, innovations and practices (inappropriate behaviour in certain locations for example);
- Effects on sacred sites and associated ritual or ceremonial activities;
- Effects on the exercise of customary laws.

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So what kind of impact it can have is it can affect the continuity of the customary use of biological resources it can have an impact on the preservation protection and maintenance of traditional knowledge and their innovations. And then it can also affect their sacred sites and it can also influence how they exercise their customary loss so that kind of impact can also happen to indigenous people. So in this particular stage, you also try to find out when you are doing the impact assessment.

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Identification of the Activities associated with the Project

- Land take;
- Amount of excavation;
- Construction methods and programming;
- Details of temporary and permanent works;
- Predicted traffic type and volumes, during both construction and operation;
- Building layout and height.

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You see what kind of activities will have what kind of impact. So there are a lot of project activities like when you are taking the land when you are excavating when you are doing construction so all that can have impact so that those are very key elements when you are doing um EIA. You can arrange all these in a matrix format and then you can also show what kind of positive impact and what kind of negative impact direct indirect impact can happen.

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So there is also guidance provided in that direction so that you can see.

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How do you determine the magnitude also so you can fix it what does the major moderate minor or negligible? So there are other guidelines also which are available.
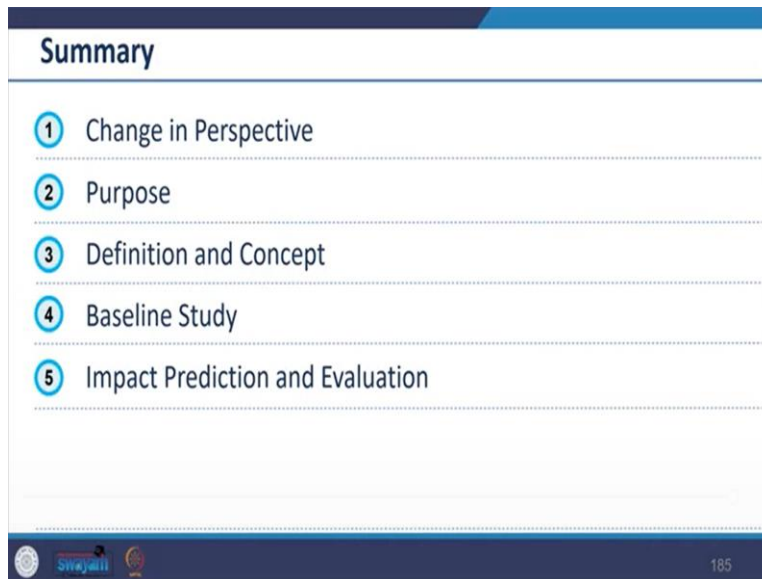
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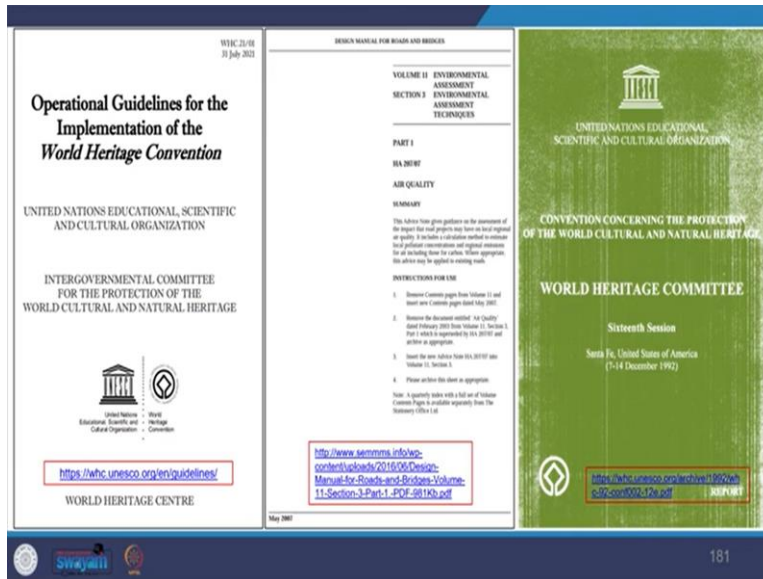
So you can look at the World Heritage site operational guidelines you can also look at the UK design manual on roads and bridges that also gives you on the cultural aspect. Then you have UNESCO World Heritage Committee guidelines also which are there.

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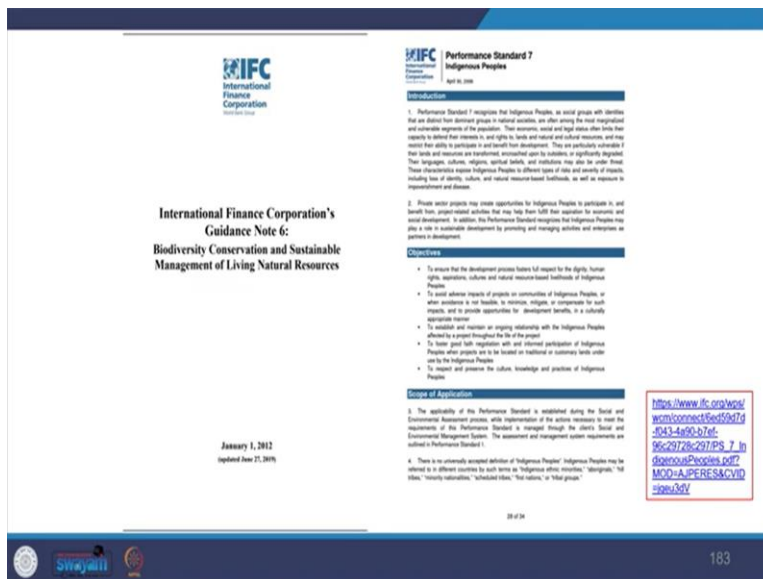
You will also find IFC performance standard seven which gives you information. So we have seen all like or range of things so we will wind up for today.

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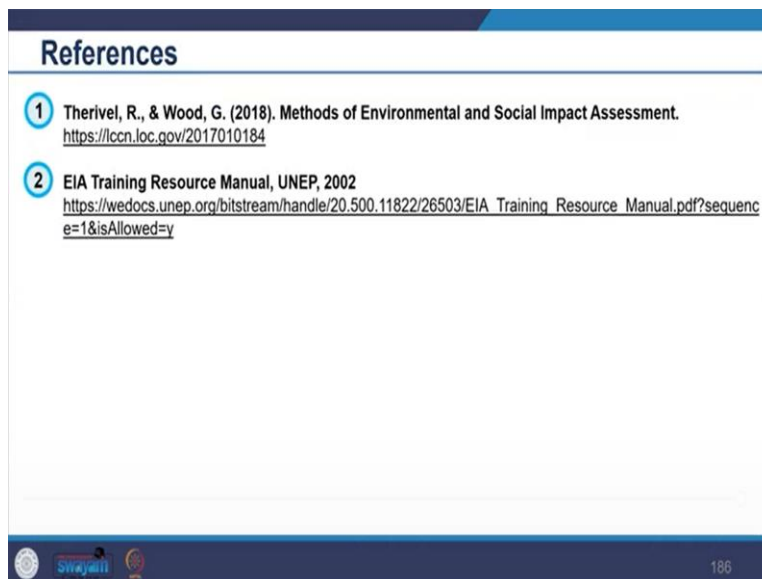
So summarizing what we covered we looked at the change in perspective like how culture was seen before in terms of the assessment we did and then how we looked at different purposes of undertaking cultural assessment. Then we looked at definitions and concepts, then we looked at a range of methods for baseline study what is the purpose of baseline study. Then we looked at different impacts and how we evaluate them how we look at their significance and magnitude and so on. And what range of impacts are there?

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So that was what we covered today this was our key reference for this purpose.

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Suggested Watch and Read

And these are the suggested watch and read.

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So winding up please feel free to ask questions. Let us know about any concerns you have. Do share your opinions, experiences, and suggestions. Looking forward to interacting and co-learning with you while exploring EIA. Thank you.