Training course on Ecosystem Services Valuation in Infrastructure Planning

Professional Development Training Course Outline

Category	Civil Engineering and Infrastructure Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Infrastructure development, while crucial for societal progress and economic growth, often overlooks the profound value of the natural environment and the essential services it provides. Ecosystem services are the myriad benefits that humans freely gain from the natural environment and from properly-functioning ecosystems, such as clean air and water, pollination of crops, climate regulation, flood protection, and recreational opportunities. Traditional infrastructure planning frequently externalizes the costs associated with the degradation or loss of these services, leading to unsustainable outcomes, increased long-term societal costs, and diminished well-being. Recognizing and quantifying the economic, social, and cultural value of these services is paramount for making informed decisions that integrate environmental considerations into infrastructure planning, moving beyond mere impact mitigation to truly sustainable and regenerative development. This necessitates a fundamental shift in how projects are conceived, evaluated, and financed, ensuring that the full spectrum of benefits and costs are accounted for. Training Course on Ecosystem Services Valuation in Infrastructure Planning is meticulously designed to equip with the specialized knowledge and practical skills required to identify, assess, and value ecosystem services in the context of infrastructure planning. Participants will gain a comprehensive understanding of various ecosystem service typologies, different valuation methodologies (e.g., market-based, revealed preference, stated preference), and the application of these techniques to real-world infrastructure projects. The curriculum will delve into cutting-edge approaches for integrating ESV into cost-benefit analyses, environmental impact assessments, and strategic planning processes. Through a blend of theoretical instruction, hands-on valuation exercises, and in-depth case studies of successful ESV applications globally, attendees will develop the expertise to conduct robust ecosystem service valuations, communicate their findings effectively to diverse stakeholders, and advocate for nature-inclusive infrastructure solutions. This course is indispensable for professionals committed to fostering a more holistic approach to infrastructure development that recognizes and safeguards the invaluable contributions of nature to human well-being and long-term sustainability

Programme Curriculum

Training Course on Ecosystem Services Valuation in Infrastructure Planning

Introduction

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Course Objectives

Upon completion of this course, participants will be able to:

1. Define ecosystem services and their various categories relevant to infrastructure planning.
2. Understand the conceptual framework and importance of Ecosystem Services Valuation (ESV).
3. Analyze the impacts of infrastructure projects on the provision of ecosystem services.
4. Apply various economic valuation methodologies for different types of ecosystem services.
5. Conduct baseline assessments of ecosystem services at infrastructure project sites.
6. Integrate ESV into cost-benefit analysis (CBA) and multi-criteria decision analysis (MCDA) for infrastructure.
7. Explore the role of ESV in Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA).
8. Formulate strategies for designing infrastructure that enhances or restores ecosystem services.
9. Navigate policy, regulatory, and institutional frameworks supporting ESV in planning.
10. Evaluate the economic benefits and costs of investing in nature-based solutions for infrastructure.
11. Utilize relevant software tools for spatial mapping and valuation of ecosystem services.

12. Analyze case studies of successful ESV applications in diverse infrastructure projects globally.
13. Advocate for the mainstreaming of ecosystem services into infrastructure decision-making processes.

Target Audience

This course is essential for professionals seeking to integrate Ecosystem Services Valuation into infrastructure planning:

1. Environmental Economists: Specializing in natural resource valuation.
2. Environmental Managers: Assessing and managing environmental impacts of projects.
3. Urban & Regional Planners: Integrating natural capital into land-use planning.
4. Civil Engineers: Involved in infrastructure design and project evaluation.
5. Policy Makers: Developing sustainable development and infrastructure policies.
6. Sustainability Consultants: Advising on environmental accounting and natural capital.
7. Project Managers: Overseeing infrastructure projects with environmental objectives.
8. Researchers & Academics: Studying ecosystem services and their valuation.

Course Duration

5 Days

Course Modules

Module 1: Introduction to Ecosystem Services and Their Value

- Define ecosystem services (ES) and their classifications (provisioning, regulating, cultural, supporting).
- Understand the concept of natural capital and its relationship to human well-being.
- Discuss the limitations of traditional economic accounting in valuing nature.
- Explore the rationale and benefits of Ecosystem Services Valuation (ESV).
- Overview of global initiatives and frameworks for ESV (e.g., TEEB, IPBES).

Module 2: Impact of Infrastructure on Ecosystem Services

- Analyze how different types of infrastructure projects impact various ecosystem services.
- Discuss habitat loss and fragmentation impacts on supporting and regulating services.
- Explore pollution impacts on provisioning and regulating services (e.g., water quality).
- Understand the concept of "ecosystem disservices" from poorly planned infrastructure.
- Identify key ES vulnerabilities at infrastructure project sites.

Module 3: ESV Methodologies: Market-Based Approaches

- Learn about direct market pricing methods (e.g., market price method, productivity method).
- Understand indirect market pricing methods (e.g., avoided cost, replacement cost, damage cost).
- Discuss the application of these methods for valuing provisioning services (e.g., timber, water supply).
- Explore the use of cost-benefit analysis (CBA) in incorporating ESV.
- Analyze the strengths and limitations of market-based valuation.

Module 4: ESV Methodologies: Revealed Preference Approaches

- Understand revealed preference methods: travel cost method (TCM) for recreation.
- Explore hedonic pricing method (HPM) for valuing environmental amenities (e.g., property values).
- Discuss the application of these methods for valuing cultural and regulating services.
- Learn about data requirements and statistical analysis for revealed preference methods.

- Analyze case studies using TCM and HPM in infrastructure-related contexts.

Module 5: ESV Methodologies: Stated Preference Approaches

- Define stated preference methods: contingent valuation method (CVM) and choice experiments (CE).
- Understand how to design and conduct surveys for stated preference studies.
- Discuss the elicitation of willingness-to-pay (WTP) and willingness-to-accept (WTA).
- Explore the application of CVM and CE for valuing non-market ecosystem services.
- Analyze the strengths, limitations, and potential biases of stated preference methods.

Module 6: Integrating ESV into Infrastructure Planning

- Learn how to incorporate ESV findings into Environmental Impact Assessment (EIA).
- Discuss the role of ESV in Strategic Environmental Assessment (SEA) for infrastructure policies.
- Explore the use of ESV in Multi-Criteria Decision Analysis (MCDA) for project selection.
- Understand the application of ESV in designing nature-based solutions for infrastructure.
- Formulate recommendations for integrating ESV into project feasibility studies.

Module 7: ESV for Nature-Based Solutions (NbS) in Infrastructure

- Understand how NbS enhance ecosystem service provision in infrastructure contexts.
- Discuss the valuation of services from green infrastructure (e.g., stormwater management, air purification).
- Explore the economic benefits of coastal protection by natural ecosystems (e.g., mangroves, reefs).
- Learn about valuing biodiversity benefits from ecological corridors and wildlife crossings.
- Analyze case studies where ESV justified investment in NbS for infrastructure.

Module 8: Policy, Governance, and Future Trends in ESV for Infrastructure

- Review national and international policies promoting ESV in planning and development.
- Discuss institutional frameworks and challenges in mainstreaming ESV.
- Explore the role of natural capital accounting and ecosystem service markets.
- Understand the use of ESV in green financing and investment decisions.
- Identify future trends and research needs in ESV for infrastructure, including digital tools.

Training Methodology

- **Interactive Workshops:** Facilitated discussions, group exercises, and problem-solving activities.
- **Case Studies:** Real-world examples to illustrate successful community-based surveillance practices.
- **Role-Playing and Simulations:** Practice engaging communities in surveillance activities.
- **Expert Presentations:** Insights from experienced public health professionals and community leaders.
- **Group Projects:** Collaborative development of community surveillance plans.
- **Action Planning:** Development of personalized action plans for implementing community-based surveillance.
- **Digital Tools and Resources:** Utilization of online platforms for collaboration and learning.
- **Peer-to-Peer Learning:** Sharing experiences and insights on community engagement.
- **Post-Training Support:** Access to online forums, mentorship, and continued learning resources.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call +254769199797

Certification

Upon successful completion of this training, participants will be issued with a globally recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

- Participants must be conversant in English.
- Upon completion of training, participants will receive an Authorized Training Certificate.
- The course duration is flexible and can be modified to fit any number of days.
- Course fee includes facilitation, training materials, 2 coffee breaks, buffet lunch, and a Certificate upon successful completion.
- One-year post-training support, consultation, and coaching provided after the course.
- Payment should be made at least a week before the training commencement to Fineskill Training Center account, as indicated in the invoice, to enable better preparation.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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