

Bringing Excellence to Students...



**SchEMS**  
School of Environmental Science and Management

2014 | MSc | BSc | Course Prospectus



## Principal's Message

You are heartily welcome to SchEMS to avail a wider scope of learning opportunities. SchEMS is considered to be one of the best schools of the country which is contributing to higher education of the international standards since 1999.

Life at SchEMS is encouraging, stimulating and challenging. We have made the school a centre of excellence and a blend of academic environment to pursue professional courses and professional career, and a humanistic approach to inspire commitment to society. On the other hand, you will find a balanced blend of classroom learning and its application process.

During your study at SchEMS, you will be with a faculty who cares about you to fulfill your ambitions and dreams.

We provide an ideal environment for study and career planning for each student associated with us and prepare them to be competitive to face the modern world.

“During your study at SchEMS, you will be with a faculty who cares about you to fulfill your ambitions and dreams.”

**Prof. Dr. Ram B. Khadka**  
Founder Principal

## Board of Directors



**Prof. Dr. Ram B. Khadka**  
Founder Principal  
rbkhadka@schems.edu.np



**Mr. Shailendra Guragain**  
Associate Professor / Executive Chairman  
sguragain@schems.edu.np



**Mr. Ajay B. Mathema**  
Associate Professor / Vice Principal  
abmathema@schems.edu.np

## SchEMS

School of Environmental Science and Management (SchEMS) started its journey with Pokhara University since 1999. SchEMS was established by a team of highly qualified and motivated professionals from multidisciplinary backgrounds, and their goodwill and recognition is not only at national level but also at international level.

SchEMS has been conducting Bachelor of Science and Masters of Science in Environmental Management (from 2000), Bachelor of Business Administration (from 2008), Training and Capacity

Building Service, Course on Integrated Mountain Environment, and Research and Consultancy Services. From this year onwards SchEMS is also planning to conduct Executive Master of Business Administration (EMBA).

The main objective of SchEMS is “to prepare skilled human resources base on integrated environmental management and sustainable development in line with the contemporary need of the country in particular and that of the region in general”. SchEMS has close ties with international universities such as of

People’s Republic of Bangladesh, Canada, The Netherlands, UK, USA and Australia.

SchEMS’s dynamic, cost-effective and practical programs offer state-of-the-art information that is tailored to suit the local conditions. The major opportunities and facilities at SchEMS include participatory and interactive teaching activities, scholarships to deserving students, opportunity to involve in research and consultancy works as interns and opportunities for the study in institutions abroad.

## Vision

To become the center of academic excellence

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## Mission

- Develop and transfer knowledge
  - Prepare highly skilled human resource
  - Promote the academic programs with balanced theory and application
  - Build capacity of the professionals, institutions, and individuals
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## Approach

- Undertaking of application-oriented programs
- Bringing in the dynamism into the programs
- Focusing on program that generates solution for and strengthening the society
- Enabling individuals and institutions in optimizing their capacity



# Environmental Management

SchEMS is running environmental management course at the undergraduate and graduate levels. As environmental management is a multi-disciplinary subject, this course gives due emphasis to social, cultural, economical and regulatory aspects of the environment. This way a balanced multi-disciplinary fields of knowledge are integrated to provide a comprehensive working knowledge on environmental management. It is based on scientific theories and principles but focused on application aspects of various tools for solving and managing environmental problems. It integrates all major aspects of biophysical as well as socio-economic environments. The highlights of this program are environmental economics, social science, management, mathematics, policies and laws. EIA, GIS and remote sensing, environmental monitoring and modeling are some of the major tools integrated into the program. Extensive field studies, case studies, projects, term papers, seminars and laboratory analysis is carried out to make the program a practical one.



“At SchEMS, you take your 1st step towards becoming an environmentalist, with a dynamic and supportive faculty by your side.”

Sanjay Kurmi | BSc | 4th Semester



## Program Objective

The main objectives of the environmental management program are to:

- Offer courses and research studies covering fundamentals, tools and advanced courses on environmental management;
- Provide an opportunity for carrying out thesis or research using cross-cutting tools and state-of-the-art information;
- Provide opportunity for students to acquire advanced knowledge on the

subject and enhance individual skills and expertise, and

- Contribute to policy research and support the concerned institutions in the country.

## Career Opportunities

With the enforcement of environmental protection legislation in Nepal, the government agencies at the central, regional and local levels require trained human resources in environmental management. Good career opportunities also exist in INGOs, NGOs and several other statutory and voluntary organizations. The donor agencies involved in development works also need such human resources.





“ It is based on scientific theories and principles but focused on application aspects of various tools for solving and managing environmental problems. It integrates all major aspects of biophysical as well as socio-economic environments.”

# Course Outline (M.Sc.)

M.Sc. in Environmental Management is 60 credit hours, four-semester course to be completed within a period of two years.

**Semester I:** Fundamental Knowledge Course (18 credit hours)

**Semester II:** Environmental Management Tools and Techniques (18 credit hours)

**Semester III:** Specialized Courses (15 credit hours)

**Semester IV:** Thesis (9 credit hours)

## First Year

Semester I		18 Credit Hours
ENV	501	Fundamental of Biophysical Environment (3)
SOC	502	Sociology and Cultural Environment (3)
MGT	503	Environmental Governance, Policy and Legislations (3)
ENV	504	Environmental Engineering (3)
STT	505	Statistics (3)
ENV	506	Environmental Science Practical (Air, Water, Soil and Vegetation) (3)

## Second Year

Semester III		15 Credit Hours
ENV	601	Urban Environmental Management (3)
ENV	602	Climate Change (3)
ENV	603	Watershed Management (2)
MGT	604	Multi-criteria Decision Analysis (2)
RCH	605	Research Methodology (3)
ENV	606	Environmental Science Field Work, Case Study / Term Paper (2)

Semester II		18 Credit Hours
ECO	511	Environmental Economics (3)
ENV	512	Environmental Assessment (IEE, EIA, SIA, SEA) (3)
ENV	513	Ecosystem Service Management (2)
ENV	514	Environmental Management System (LCA, RA, CP, QMS) (3)
MGT	515	Strategic Planning and Conflict Management Consensus building (2)
ENV	516	GIS Application and Remote Sensing (3)
ENV	517	Environmental Science Field Work, Case Study / term Paper (2)

Semester IV		9 Credit Hours
ENV	611	Thesis (9)



# Course Outline (B.Sc.)

The Bachelor Degree in Environmental Management is spanned over a period of eight semesters (four academic years) covering a total of 120 credit hours.

## First Year: Fundamental Knowledge Course

Semester I			16 Credit Hours
ENG	101	General English (2)	
MTH	102	Fundamental of Mathematics (3)	
ENV	103	Introductory Biology (3)	
ENV	104	Introductory Chemistry (3)	
ENV	105	Introductory Physics (2)	
ENV	106	Environmental Geology and Soil (3)	

Semester II			15 Credit Hours
ENG	107	Communication and Technical English (3)	
MTH	108	Applied Mathematics (3)	
ENV	109	Environmental Microbiology (3)	
ENV	110	Environmental Chemistry (3)	
ENV	111	Ecology and Environment Science (3)	

## Second Year: Basic course for Environment Management

Semester III			15 Credit Hours
SOC	201	Environmental Sociology (3)	
ECO	202	Fundamental Economics (3)	
STT	203	Applied Statistics (3)	
ENV	204	Biodiversity and Biotechnology (3)	
ENV	205	Hydrology and Meteorology (3)	

Semester IV			15 Credit Hours
ENV	206	Environmental Resources and Sustainable Development (3)	
ECO	207	Environmental Economics and Trade (3)	
ENV	208	Environmental Engineering (3)	
MGT	209	Environmental Policy, Laws and Conventions (3)	
MGT	210	Project Management (3)	



**Third Year: Environmental Management Tools and Techniques**

Semester V			18 Credit Hours
ENV	211	Sustainable Tourism Management (3)	
ENV	212	Environmental Management System (3)	
ENV	213	Environmental Assessment Techniques (3)	
ENV	214	Environmental Monitoring (3)	
ENV	215	Environmental Governance (3)	
ENV	216	Geo-Information Management (3)	

Semester VI			14 Credit Hours
MGT	217	Comprehensive Environmental Planning and Conflict Management (3)	
ENV	218	Disaster and Risk Assessment Techniques (3)	
ENV	219	Urban Development and Environmental Management (3)	
ENV	220	Integrated Watershed Management (3)	
ENV	221	Environmental Technology (2)	

**Fourth Year: Specialized Courses, Research and Application in Environmental Management**

Semester VII			15 Credit Hours
ENV	301	Aquatic Environmental Management (3)	
ENV	302	Climate Change and Society (3)	
RCH	303	Research Methodology (3)	
ENV	304	Environmental Health and Sanitation (3)	
ENV	305	Emerging Issues, Seminar and Proposal Writing (3)	

Semester VIII			12 Credit Hours
The activities related to thesis work are carried out in this semester. Mid-term progress evaluation and final examination are held.			
ENV	306	Thesis Work (12)	



“I feel very proud to be a part of SchEMS. It helps me to understand the nature of environment through the modern science. Inspiring teachers and its practical knowledge has always been fruitful to me.”

**Nisha Aryal** | BSc | 8th Semester

# Thesis

In the last semester of MSc/ BSc program, each student must carry out an independent research work and prepare a thesis report on the basis of his/her own original research findings. Thesis is compulsory for all students in order to complete the degree in environmental management. The research involves in-depth investigation on the proposed field or area of study with the application of science research methodology. A thesis advisor, a faculty member, or an expert in the related field from in-house or outside, will be appointed for each student.

The evaluation of thesis will be done, both internally and externally. The evaluation is carried out in three stages:

- Proposal writing, defense and plan of work 20%
- Mid-term progress of the research work 20%
- Final defense and submission of thesis report 60%



“The research involves in-depth investigation on the proposed field or area of study with the application of science research methodology.”



“I really enjoyed the course (Environment Management). It was fantastic to be taught by lecturers who are at the forefront of research in respective subjects.”

Sunil Tamang | BSc | 6th Semester

## Further Studies

SchEMS has signed “Memorandum of Understanding” with universities and academic institutions of the region as well as abroad in order to avail opportunities to SchEMS students for further studies. Through these agreements a number of SchEMS graduates and undergraduates have joined the reputed universities and institutions.

Some of these are:

- University of Iowa, USA
- University of Chicago, USA
- Yale university, USA
- Middlesex University, UK
- Manchester University, UK
- Wageningen University, the Netherlands
- Faculty of Geo-Information Science and Earth Observation (ITC), Twente University, the Netherlands
- International Center for Integrative Studies, Maastricht University, the Netherlands
- University of Delaware, USA
- Washington University, USA
- Liverpool University, USA
- University of London, UK
- Aberdeen University, UK
- University of Sydney, Australia
- Independent University, Bangladesh

The understanding with above universities and institutions have been established for collaboration in research, further studies, and student exchange.



### Student Council of SchEMS (SCOS)

SchEMS encourage students to initiate and actively participate in extra curricular and skill-enhancement activities. SchEMS provide guidance to the students and also supports them with required facilities for their endeavors. In this process, SCOS was formed and is actively conducting different interactive programs, which help the students to achieve objectives of learning.



## Facilities

### Library/Resource Center

SchEMS houses an extensive resource library with all basic textbooks and reference materials, accessible to all the students for the completion of their courses. Books are made available in proportionate copies. Furthermore, handouts are also provided to the students as per the requirement. Apart from these, journals, newsletters and others relevant periodicals are subscribed by SchEMS to keep students updated.



### Logistic Facilities

Printing and photocopy facilities are available to the students so that they can perform more efficiently in case they need reference materials for report preparation and others.



### Environmental Monitoring Laboratory

SchEMS activities and researches are supported by and have direct access to the environmental monitoring laboratory, which has comprehensive and sophisticated equipment to carry out lab based analyses. The laboratory is capable of undertaking researches on air, water and soil quality using the most analytical approach. The laboratory also possesses a range of life-based equipment for accurate information, such as pH meter, conductivity meter and stack emission monitors.

### IT Room

Well maintained and updated computer laboratory is available for the students. It is open around the day so that students can use it to develop reports, prepare presentations and perform other tasks. Internet facility is made available so that students can update themselves and make quick correspondence with colleagues as well as faculty members for academic interaction and coordination.

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“SchEMS is where I could boost myself up and come forward.”

Aastha Joshi | BSc | 4th Semester



## Scholarship

International and national institutions are also providing scholarships to the students studying at SchEMS in both Bachelors and Masters programs. SchEMS provides 50 and 25 percent tuition fee waiver to the students ranking respectively first and second in the semester end examination and to diligent students with poor economic status.

“With the enforcement of environmental protection legislation in Nepal, the enforcement agencies at the central, regional and local levels require trained human resources in environmental management.”

“



“SchEMS enhanced my jumbled knowledge into a better understanding about the subject matter, thereby making me confidence regarding my career.”

**Mukta Dahal** | MSc | 2nd Semester

# Fee Structure (M.Sc.)

## First Year

Semester I		
Particulars	Installment 1	Installment 2
Admission Fee & Deposit	14000	-
Tuition Fee	19500	19500
Semester Fee	20500	-
University Fee (A.R.E)	6000	2000
<b>Total</b>	<b>60000</b>	<b>21500</b>

Semester II		
Particulars	Installment 1	Installment 2
Tuition Fee	19500	19500
Semester Fee	14500	-
University Fee (E)	-	2000
<b>Total</b>	<b>34000</b>	<b>21500</b>

## Second Year

Semester III		
Particulars	Installment 1	Installment 2
Tuition Fee	19500	19500
Semester Fee	20500	-
University Fee (A.R.E)	4000	2000
<b>Total</b>	<b>44000</b>	<b>21500</b>

Semester IV		
Particulars	Installment 1	Installment 2
Tuition Fee	19500	19500
Semester Fee	14500	-
University Fee (E)	-	2000
<b>Total</b>	<b>34000</b>	<b>21500</b>

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**Grand Total (including university charges):** 258000/-

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### Note:

- Deposit is refunded only on successful completion of program.
- Field works will be organized as per the requirement of the course. Additional cost of field will be charged in the installment invoice respectively.
- Semester fees comprises: computer and internet services, internal examinations, Co-curricular activities, first aid and so on.



# Fee Structure (B.Sc.)

## First Year

Semester I		
Particulars	Installment 1	Installment 2
Admission Fee & Deposit	14000	-
Tuition Fee	15500	15500
Semester Fee	16500	-
University Fee (A.R.E)	6000	1500
<b>Total</b>	<b>52000</b>	<b>17000</b>

Semester II		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
<b>Total</b>	<b>28000</b>	<b>17000</b>

## Second Year

Semester III		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	17000	-
University Fee (A.R.E)	3000	1500
<b>Total</b>	<b>35500</b>	<b>17000</b>

Semester IV		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
<b>Total</b>	<b>28000</b>	<b>17000</b>



### Third Year

Semester V		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	17000	-
University Fee (A.R.E)	3000	1500
<b>Total</b>	<b>35500</b>	<b>17000</b>

Semester VI		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
<b>Total</b>	<b>28000</b>	<b>17000</b>

### Fourth Year

Semester VII		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	17000	-
University Fee (A.R.E)	3000	1500
<b>Total</b>	<b>35500</b>	<b>17000</b>

Semester VIII		
Particulars	Installment 1	Installment 2
Tuition Fee	15500	15500
Semester Fee	12500	-
University Fee (E)	-	1500
<b>Total</b>	<b>28000</b>	<b>17000</b>

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**Grand Total (Including University Charges):** 406500/-

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#### Note:

- Deposit is refunded only on successful completion of program.
- Field works will be organized as per the requirement of the course. Additional cost of field will be charged in the installment invoice respectively.
- Semester fees comprises: computer and internet services, internal examinations, Co-curricular activities, first aid and so on.

“



“I discovered my hidden potentials here at SchEMS.”

Arun Rai | MSc | 4th Semester



## Application Procedure

### Eligibility (M.Sc.)

The prospective individual with a Bachelor degree in science, forestry, agriculture engineering and other related technical subjects or equivalent from recognized institutions are eligible to enter into the MSc degree course in environmental management. Besides fulfilling the basic academic requirements, candidates should appear in an entrance examination to qualify for the M.Sc. Program.

### Eligibility (B.Sc.)

The prospective individuals with an Intermediate of Science or +2 in science, forestry, agriculture and other related technical subjects or equivalent from recognized institutions are eligible to enter into the BSc degree course in environmental management. Besides fulfilling the basic academic requirements, candidates should appear in an entrance examination to qualify for the B.Sc. program.

### A complete application form

- Certified copy of academic transcript of school level
- Certified copy of academic transcript of intermediate level
- Certified copy of academic transcript of bachelor level (for MSc application)
- Character certificate(s)
- Letter of recommendations from the institutions
- Original migration certificate (can be submitted during or after admission)
- A copy of citizenship certificate

# Faculties

## **Prof.Dr. Ram Bahadur Khadka**

PhD- Ecology,EIA,  
Environmnetal Management  
Aberdeen University and Delhi University

## **Mr. Shailendra Guragain**

EMBA-Project Management &  
Organizational Development  
Pokhara University

## **Mr. Ajay B. Mathema**

M Sc/ME, GIS, Remote Sensing,  
Environmental Engineering,  
Twente University, ITC, the Netherlands

## **Prof. Dr. Tej Kumar Shrestha**

DSc/PhD-Wildlife Ecology  
Tribhuwan University

## **Dr. Chakra Bahadur Khadka**

PhD-Economics  
Tribhuwan University

## **Prof. Dr. Rhiddi Bir Singh**

PhD-Energy and Environment  
Indian Institute of Technology, Delhi

## **Prof. Dr. Khadga B. Thapa**

PhD-Hydrology  
University of Roorkee, India

## **Dr. Suman K. Shakya**

PhD-Applied Natural Science,  
Natural Resources Vienna  
University, Austria

## **Dr. Shambhu P. Kattel**

PhD-Anthropology  
Tribhuwan University

## **Dr. Uttam Kunwar**

PhD-Environmnetal Chemistry  
Strathclyde Scotland, UK

## **Er. G.P. Gorkhaly**

MSc-Infrastructure Planning  
Stuttgart University, Germany

## **Er. Bhai Raja Manandhar**

ME-Environmnetal Engineering  
Asian Institute of Technology, Bangkok

## **Mr. Uttam Sagar Shrestha**

MA-Geography, Demography  
Tribhuwan University

## **Er. Prabin Shrestha**

MSc-Infrastructure Planning,  
University of Stuttgart, Germany  
MSc-Urban Management Planning and  
Finance, Institute of Housing and Urban  
Development, the Netherlands

## **Er. Ashok Tuladhar**

MSc- Structural Engineering,  
Solid Waste Technology  
Technical University of Aachen (RWTH)  
West Germany

## **Mr. Bhupendra Sharma**

MSc. - Environmental Science, MA -  
Sociology and Arthropology,  
Tribhuwan University

## **Mr. Deepak Raj Parajuli**

MSc. Environment  
Kathmandu University

## **Mr. Hari Gopal Shrestha**

MSc-Chemistry  
Tribhuwan University

## **Mr. Ram R. Bhandari**

MPhil-Educational Leadership  
MSc Environmnetal Science and  
Management, Pokhara University

**Mr. Prakash Amatya**  
MSc-Environmental Technology  
(Rainwater Harvesting)  
Tribhuvan University

**Mr. Tirtha Niraula**  
MSc-Physics  
Tribhuvan University

**Mr. Ram D. Yadav**  
MSc-Soil Information System  
Twente University, ITC, the Netherlands

**Mr. Nawaraj Subedi**  
MSc-Geo-information Management and  
Land Administration  
Twente University, ITC, the Netherlands

**Mr. Sushil M. S. Pradhan**  
MSc-Environmental Microbiology  
Tribhuvan University

**Mr. Surendra Lal Shrestha**  
MA-Economics  
Tribhuvan University

**Mr. Jeevan Poudel**  
MA-Anthropology  
Tribhuvan University

**Mr. Madhukar Upadhyaya**  
MSc-Watershed Science  
Tribhuvan University

**Mr. Babu Ram Shrestha**  
MSc-Regional Planning, Germany  
Asian Institute of Technology, Bangkok

**Mr. Sunil Raj Poudel**  
MSc-Environmental Geology  
Tribhuvan University

**Mrs. Mani Gorkhali**  
MA-Mathematics  
Tribhuvan University

**Mr. Laxman Mainali**  
MSc-Environmental Law  
University of Sydney, Australia

**Mr. Jeevnath Lamshal**  
MA-English  
Tribhuvan University

**Mr. Hari Dutta Joshi**  
MSc-Environment Science and Health  
Tribhuvan University

**Mr. Devi Chandra Pokharel**  
MSc-Forestry  
Asian Institute of Technology, Bangkok

**Mr. Rajiv Ghimire**  
MSc- Environment Science  
Tribhuvan University

**Ms. Gauri Shrestha**  
MSc- Statistics  
Associate Professor  
Tribhuvan University

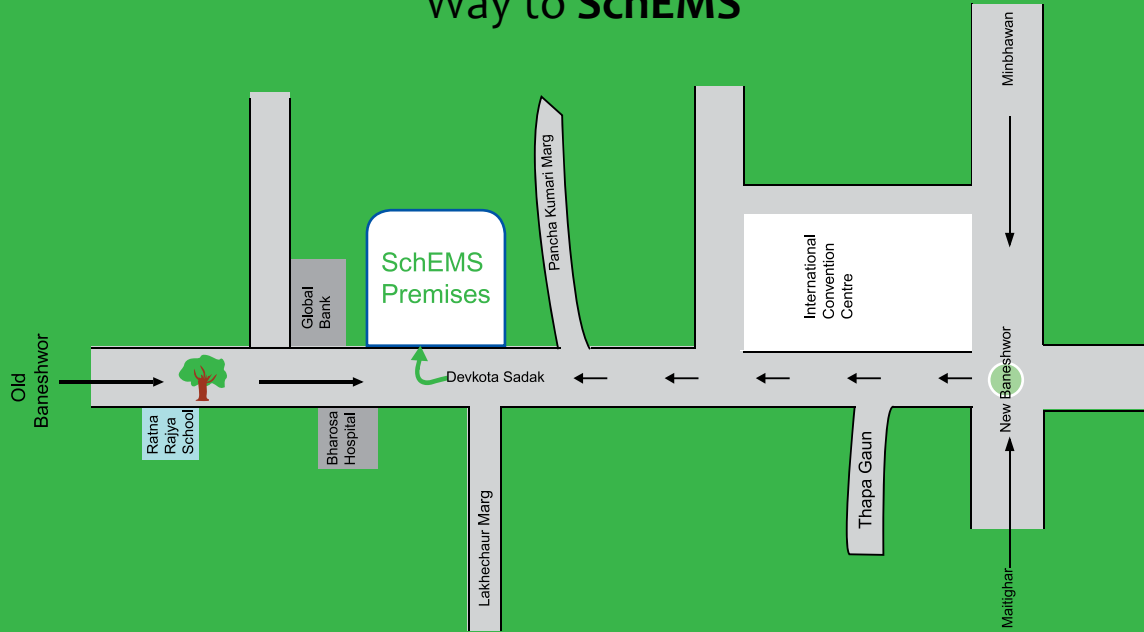
**Mr. Tika Ram Poudel**  
MSc-Geology  
Tribhuvan University

**Dr. Bikram Tamang**  
PhD, Ecosystem Services  
Kiel University, Germany

**Ms. Nawang C. Sherpa**  
MSc- Environmental Management, SchEMS  
Pokhara University,  
MSc- Environmental Science,  
Wageningen University,  
the Netherlands

**Mr. Ajit Shrivastav**  
MSc Environmental Management  
SchEMS, Pokhara University

## Way to SchEMS



**SchEMS**  
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