

Agroecology and Food Security in the Himalaya

ASIA 3010 (3 Credits / 45 hours)

SIT Study Abroad:

India: Agroecology and Food Security in the Himalaya

PLEASE NOTE: This syllabus represents a recent term. Because courses develop and change over time to take advantage of unique learning opportunities, actual course content varies from term to term.

Course Description

This course is an interdisciplinary, experiential learning seminar designed to link the latest in food and nutritional security theory with hands-on, small farming community-based learning in the Himalaya, home to one of the most fragile, important, and bio diverse ecological systems in the world. The Indian state of Sikkim, with its traditional agricultural system and rich genetic pools of biological resources, and as the site of India's first and only organic food production requirement as state policy, is an excellent site in which to engage the challenges of and innovative possibilities for nutritional security.

Agroecology, the new movement around the world focusing on sustainable farming from both food security and sovereignty lens encompasses the traditional integrated agriculture systems in the Sikkim Himalayas. Such small holder based farming are based on agroecological principles and values and is key to providing local food and nutrition security and sovereignty to farming communities including conserving huge pool of agrobiodiversity resources over a multi-decadal time frame. The existing agroecological system in Sikkim provides social, economic and ecological functions to society and is key to providing resilience against climate change and globalization in transition.

The seminar seeks to explore such agroecological systems, principles, its sustainability and linkages with food and nutritional security in the Himalaya. How different anthropogenic factors and changing environmental circumstances impact traditional integrated agriculture and how does that affects local food and nutritional security and food sovereignty of farming communities across the world will be understood from a Himalayan contextual reality. The challenges and opportunities of traditional farming will be reflected in the seminar. In addition, the seminar will impart an understanding of the resilience in community based agroecological practices that can be applied to any part of the world.

Key components of this seminar include homestays and farming-community-based immersive learning, site visits, and facilitated discussions with local farmers and academic experts in the field. In the process, students develop

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new skills and diverse perspectives necessary for understanding the agroecology and its connection to analyzing the sustainability of food production and nutritional security. This seminar prepares students for the Food Security Field Study Project, this program's companion seminar in which students develop an individual and small group project related to food security in conjunction with local community members.

Learning Outcomes

By the end of the seminar, students will be able to:

- Demonstrate understanding of agroecological systems, basic principles and its application in mountain agriculture by collaborating with communities barefoot viewpoints;
- Articulate the multi-functional approach of traditional integrated farming from social, economic, cultural, ecological and sovereign perspectives;
- Consider the opportunities and challenges of globalization and climate change on farming and its future sustenance;
- Engage in hands-on activities such as working on farms, food processing and making agro-based products;
- Demonstrate understanding of opportunities and challenges in the implementation of organic food production requirements of local state policy;
- Articulate the role of gender in conservation and management of local agro biodiversity and food production and nutrition.

Language of Instruction

This seminar is taught in English, but students will be exposed to vocabulary related to program content during meetings, discussions and project engagement with in-country experts and during field visits in different agro-ecosystems across the state.

Seminar Schedule

*Please be aware that the sessions and excursions may vary to take advantage of any emerging events, to accommodate changes in our speakers' availability, and to respect any changes that would affect student safety. Students will be notified if this occurs.

Module 1: Sikkim: Traditional and Integrated Agriculture and Food Culture in the Global Food System (15 contact hours)

This module introduces program goals and the eastern Himalayan region's integrated sustainable agricultural system, a system that allows mountain communities to conserve and manage a diverse pool of genetic resources and sustain Sikkim's unique food culture.

Topics

- Introduction to program goals in the eastern Himalaya
- Sikkim: People, Livelihood, Agriculture, Development, Culture, and Society
- Introduction of key issues of food systems at global, national and state level
- Introduction to Agroecology, its basic principles and values and its application in mid hill small farming ecosystems and its decadal sustenance
- Oral history about the village and its emergence of integrated agricultural systems and its ecological principles
- Transect walk to understand traditional and integrated agriculture systems in Sikkim
- Agriculture: Soil fertility, Sustainable land use, Agroforestry & Livestock
- Agro biodiversity: Food culture & habits

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- Gender and local agro biodiversity conservation and management; women's role in local food and nutritional security

SLS #1

- Student-led synthesis session

Module 2: Agroecology and Traditional and Integrated Agriculture: Field Immersion in Chalamthang Village (13 contact hours)

Chalamthang, in Sikkim's east district, is an agricultural village where students will observe the agroecological practices within the integrated agriculture system in a mid-hill farming ecosystem and understand the land use systems, cropping patterns, soil fertility enhancing practices, water and pest management by small farming communities with their system. . Themes integral to this module include understanding agroecological principles and its practices from various lens; in-situ practices of conserving agricultural biodiversity and the role of gender in food production and processing and in ensuring nutritional security of the family. In addition, students will stay with rural families and actively participate with village families in agricultural work, such as sowing, transplanting, harvesting, making hay mats, and food processing.

Module 3: Food Production and Nutritional Security in Transition Field Excursion to Dehradun-Navdanya's Bija Vidyapeeth (6 hours/3 days & 2 hours debriefing – 11 contact hours)

In Navdanya, located in the foot hill of Himalayas in Uttarakhand state, students through the complementary lenses of agroecology will view sustainability of small farming communities in rapidly globalizing India and mountains. Students analyze various drivers of change, particularly government policies affecting the sustainability of traditional food production systems and food culture and the effort for its future sustenance by Navdanya

Module 4: Climate Change, Globalization and Policy Impacts: Food Production and Nutritional Security in Transition (6 contact hours)

This core module explores in depth the direct impact of globalization, climate change and government policies on agriculture; changes in local ecological conditions; new patterns in cropping and land use; changes in food culture and nutrition; and livelihood transitions

Topics

- Globalization: Indian agriculture and small farmers in mountain communities
- Climate change, agriculture and food security
- Food and Nutritional security
- Sustainability: Food and nutrition diversity in the context of globalization, climate change and conflicting government policies

SLS #2:

Student-led synthesis session

Required Readings

The following is a preliminary list of program readings. A selection of the required readings will be assigned prior to the start of the program.

Chaudhary, P., & Bawa, K. S. (2012). Local perceptions of climate change validated by scientific evidence in the Himalayas. *Biology letters*.

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- Dhakal, T. D (2010). Women's role in biodiversity management in the Himalayas. *Gender Perspectives in Mountain Development. New Challenges and Innovative Approaches. Sustainable Mountain Development.* 57, 16-17. Kathmandu: ICIMOD
- Negi, V. S. (2014). Where have all the small farmers gone! The story of agriculture and Indian farmer. *Focus on the Global South*. New Delhi, pp. 36-44.
- Goodrich, C G (2012) Gender Dynamics in Agro-biodiversity Conservation in Sikkim and Nagaland. In: *Agriculture and Changing Environment: Perspectives on Northeastern India*. Routledge India, pp. 166-183.
- Jodha, N. S. (2000). Globalisation and fragile mountain environment;; policy challenges and choices. *Mountain Research and Development*, 2-4.
- Lappe, M.F (2016). Farming for a Small Planet: Agroecology Now. Great Transition Initiative. Retrieved <http://www.greattransition.org/publication/farming-for-a-small-planet>
- Rai, S. (2013). *People, Society and Culture*. Gazetteer of Sikkim pp.111-156
- Sharma, G., & Acharya, B. K. (2013). Agriculture Systems and Management Diversity. In S. Kharel, & J. W. Bhutia, *Gazetteer of Sikkim* (pp. 225-258). Gangtok: Govt.of Sikkim.
- Silici, L. (2014). Agroecology: What it is and what it has to offer. IIED Issue Paper. IIED, London.
- Subba, J. R. (2011). Land, People and Livelihood. In J. R. Subba, *History, Culture and Customs of Sikkim* (pp. 75-98). New Delhi: Gyan Publishing House.
- Subba, J. R. (2009). Ingenious agricultural heritage systems and sustainable agricultural ecosystems management in Sikkim. In A. Jha; S. Jha, & S. Munjal (eds.), *Biocultural diversity and sustainable development in Northeast India: Status, vision and challenges* (86-123). New Delhi: Readworthy
- Subba, J. R. (2009). Indigenous Knowledge on bio-resources management for livelihood of the people of Sikkim. *Indian Journal of Traditional Knowledge*, 8 (1) , 56-64.
- Subba, T. B. (1989). Agrarian social structure and change in Sikkim. *Social Change*.
- Subba, J. R. (2011). Food and Dress Culture. In J. R. Subba, *History, Culture and Customs of Sikkim* (pp. 121-141). New Delhi: Gyan Publishing House.
- Sundriyal, M., R.C. Sundriyal., & Sharma, E. (2004). Wild plant resources in the Sikkim Himalaya, India. *Economic Botany* 58(4).
- Tamang, J.P., Sarkar, P.K., Hesseltine, C.W (1988). Traditional Fermented Foods and Beverages of Darjeeling and Sikkim-a Review. *J Sci Food Agric*(44), 375-385

Evaluation and Grading Criteria

Description of Assignments:

Active and Meaningful Participation

10%

This includes:

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- **Attendance:** prompt arrival to class and positive presence in class. Attendance is required and all excursions are mandatory. An absence must be discussed and approved by the Academic Director in advance.
- **Active Listening:** paying attention during field excursions, asking appropriate questions, engaging in discussion, sharing comments, demonstrating interest and enthusiasm (this includes body language), exercising critical thinking, note taking, entertaining contradictory perspectives, engaging and acknowledging hosts' presence.
- **Involvement in Class Discussions:** either in small or large groups, sharing knowledge and information. This means challenging yourself to speak up if you usually don't, and allowing others to speak if you are a person who tends to dominate class discussions.
- **Group Accountability:** participating positively as a part of a group during all program activities.
- **Respect:** interacting in a culturally appropriate manner with hosts, SIT program staff, SIT speakers and communities.

Student-Led Synthesis Sessions

20%

Each student participates in the organization and facilitation of at least one synthesis discussion (SLS) session to analyze the lab's key themes and ideas. Students are expected to use SLS sessions as opportunities to critically reflect upon the speakers, readings, and excursions, to articulate personal opinions, and to connect the issues analyzed to the experience of living and studying in India. Students are urged to be creative in approach – they may hold a debate, question and answer session, small group discussion, or develop other creative methods for generating a productive synthesis session.

Journal and Weekly Reflection Paper

40%

3.1 Journal: Students should maintain a daily journal beginning from the orientation and are expected to integrate and synthesize learning from the homestay immersion, project, presentations, readings, excursions and discussions in the journal. The journal is expected to record various observations (objective facts) within the specific focus on the experiential learning, as well as, reflection or reaction on the experience itself. Students should also take notes about the materials discussed in academic session in class and field; homestay learning's about food, including recording the details of food consumed at home and program centre; observation about food grown in home stay or communities' farms; and other non-written material related to the daily observation and experiences of the seminar. Assessment of the journal takes into consideration the spontaneity in note-taking, the quality of the information noted, as well as the details of notes and its accuracy and relevance of the entries in a given context. This journal will be assessed on a weekly basis. The journal should be provided for evaluation in rough, handwritten format. **Typewritten journals will not be accepted.**

1.2. Reflection paper: Students along with the journal should also provide three weekly two-page typed written reflection (single spaced) weekly related to the assigned reading materials. They should critically reflect on assigned reading materials in depth and connect it to their experiential learning to bridge the theory and the ground reality. It is the responsibility of the students to submit the journal and a page of reflection, weekly for three weeks on the time mentioned in the calendar.

Final Essay Exam

30%

This two-hour final essay exam asks students to synthesize learning in the seminar in the form of responses to two essay questions drawn on key seminar themes.

Assessment

Active and meaningful participation in all sessions and field excursions	10%
Student Lead Synthesis Sessions	20%

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Journal and Weekly Reflection Paper	40%
Final Essay Exam	30%

Grading Scale

94-100%	A
90-93%	A-
87-89%	B+
84-86%	B
80-83%	B-
77-79%	C+
74-76%	C
70-73%	C-
67-69%	D+
64-66%	D
below 64	F

Expectations and Policies

Show up prepared. Group learning is fundamental to program design, so you must participate fully. Be on time for all sessions, discussions, site visits and excursions. There are many long days so you must be well rested and have a clear head and have your readings completed and points in mind for discussion or clarification.

Ask questions. Engage speakers and hosts. It is an honor for us to learn from guest speakers and host communities.

Complete assignments on time. Assignments are due by 5pm unless otherwise instructed. Assignments are docked 5% for each day or part of a day that they are late. Contact the Academic Director in advance if health or other issues prevent you from submitting an assignment on time. All assignments must be completed to get a passing grade.

Field Visits. Eight hours in a day are expected to be spent doing field work and visits. You are expected to act appropriately; taking notes, attention, engaging the host through careful listening, eye contact and asking questions. You should refrain from using cell phones, iPods, internet, etc. You are also not allowed to take photographs during sessions but may do so at the end.

Comply with academic integrity policies (no plagiarism or cheating, nothing unethical).

Respect differences of opinion (classmates, speakers, local constituents engaged with on the visits). You are not expected to agree with everything you hear, but you are expected to listen across difference and consider other perspectives with respect.

Please refer to the SIT Study Abroad handbook for policies on academic integrity, ethics, warning and probation, diversity and disability, sexual harassment and the academic appeals process. Also, refer to the specific information available in the Student Handbook.

Disability Services: For information about and support from Disability Services (DS) to facilitate an accessible educational experience, please contact disabilityservices@sit.edu or +1-802-258-3390. Additional information regarding SIT Disability Services can be found on the DS website at: <http://studyabroad.sit.edu/disabilityservices>.

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