



Section Sciences et Ingénierie de l'environnement Design Project 2010 (semestre de printemps)

Proposition n° 5

Evaluation des risques liés aux pesticides dans le lac Léman Application de la méthode de l'IRGC

Encadrant externe

Christopher Bunting ou Marie-Valentine Florin
christopher.bunting@irgc.org marie.florin@irgc.org
International Risk Governance Council
Chemin de Balexert 9
1219 Genève-Châtelaine
www.irgc.org

022 795 17 30

Encadrant EPFL

Prof. Samuel AREY
samuel.arey@epfl.ch
LMCE
GR C2 514 (Bâtiment GR)
Station 2
1015 Lausanne
<http://lmce.epfl.ch/>

021 693 80 31 – 80 56

Introduction

- Des contacts entre IRGC, un membre de l'IRGC et un membre du conseil scientifique ont été initiés pour définir l'objectif du Design Project, son cadre d'étude et le plan de travail.
- IRGC propose de « briefer » l'étudiant sur l'approche IRGC de gouvernance des risques, pour que celui-ci puisse l'appliquer à un domaine d'application précis (par exemple, la gestion de l'eau dans un bassin de rivière, ou la gouvernance des procédés pour la désalinisation de l'eau). En particulier, les outils que IRGC mettra à disposition de l'étudiant sont :
 - Introduction au IRGC Risk Governance Framework
 - Rapport sur : Risk Governance Deficits.
- En fonction du sujet retenu, IRGC s'efforcera d'établir une coopération avec un membre du conseil scientifique ou un de ses collaborateurs (<http://www.irgc.org/Scientific-Technical-Members.html>)
- A la fin du projet, IRGC souhaiterait recevoir une note d'une vingtaine de pages, rédigée pour répondre aux questions suivantes : 1) liste des risques et opportunités ; 2) état de la gouvernance de ceux-ci ; 3) problèmes actuels, 4) pistes d'amélioration.



Descriptif du projet

The International Risk Governance Council (IRGC) focuses on risk governance of systemic risks. In 2010, it is interested in cooperating with EPFL students in two specific fields related to climate change: energy and the environment. In both cases, it is mainly the assessment and management of the risk, understood in a comprehensive manner (« risk governance ») that matters to IRGC, rather than the risk itself. When focus is on the risk, then possible benefits should be part of the research as well. For more information on IRGC and its work: www.irgc.org

Environment and ecosystems

Climate change impacts on the environment, both positively and negatively. The entire balance of the Earth system may change in the future and governing the risks and opportunities arising from this is a major challenge for policymakers. Among the list of topics of concern and which require improved risk governance are:

- **Loss of ecosystem services/environmental degradation**

Biodiversity is declining and the functioning of ecosystems is under threat in many regions. Experts are seeking ways to slow this process, but ecosystem managers have a hard task convincing industry, policymakers and regulators as well as individuals to change the way they and economic activity impacts negatively on ecosystem services and the environment. Risk governance is often challenged to provide instruments and guidelines to deal with degradation of public goods. Instruments such as *payment for ecosystem services* or *adaptive governance* are mentioned as possible examples for good governance, but need improved guidelines for their implementation.

An interesting topic is how managers of protected areas prepare to adapt to climate change.

Protected areas, such as national parks (including both land-based and marine), are constituted to protect biodiversity, with a view to enhancing nature conservation. Parks must also assess their abilities to *preserve* or *conserve* their environment. As the climate changes, national parks are becoming laboratories for monitoring biodiversity changes and for finding solutions to problems caused to ecosystems by climate change. Globally, the governance of national parks and protected areas is therefore a topic of interest for scientists, governments, industry and the public. Having identified ecosystem services and their values to society, the challenge now is to establish appropriate governance structures for such public goods. It may be most practical to begin with ecosystem services provided by protected areas, which already have a legal basis through their establishment in legislation. Using protected areas to build governance concepts that can be applied to ecosystem services could provide the basis for expanding such governance approaches more broadly, providing significant social and economic benefits.