

Assessing Impacts on Food Security – EIA, SIA, or both¹?

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Agriculture – a food producing activity - is unique because it both: 1) has an impact **on** the environment and 2) is impacted upon **by** the environment. In respect of the first impact, there already exist *EIA guidelines for FAO² field projects* (Tschirley & Duffy, 2012). However, shouldn't the impact on the environment – and activities that affect the environment for agriculture and food security – not also be accessed? If so, is the evaluation best conducted within the context of an environmental or social impact assessment? Or both?

Per definition, “food security” is achieved “when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life” (FAO, 1996). Food security is complex and multi-dimensional; as defined, it encompasses food availability, access, utilization and stability.³ Clearly, this involves sectors beyond agriculture (which, under the FAO definition includes forestry and fisheries) to encompass others, such as health, education, transport and trade policy.

The first of these four pillars, availability, requires “sufficient quantities of food available on a consistent basis” and as such, requires consideration of the supply of food through *production, distribution, and exchange*. “Production” is generally considered to refer to “production in sustainable ways” and includes considerations of many aspects, one of which is land use and natural resource management. Given that impact assessment is about land use and resource management, the connection between food security, land use and resource management - and thus impact assessment - should be self-evident.

What type of impact assessment should be required? For guidance, one might turn to recent draft World Bank standards for sustainable development (World Bank, 2014). These state that “the environmental and social risks and impacts which the Bank will take into account in its due diligence are project-related and include the following: (a) environmental risks; (b) social risks and impacts including (v) risks or impacts associated with land and natural resource tenure and use, including potential project impacts on... food security” (see, page 16, paragraph 4(b) and page 34, paragraph 26(b)). With that as a starting point, under the World Bank guidelines, such potential impacts are considered within the bonds of social impact assessment.

But is that enough? Why is food security not also to be considered within the context of environmental risk assessment?

¹ EIA = Environmental Impact Assessment; SIA = Social Impact Assessment

² FAO = Food and Agriculture Organization of the United Nations

³ Some definitions use 3 pillars: “Availability:” sufficient quantities of food available on a consistent basis; “Access:” physical and economic access; “Use:” appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation. Other definitions are based on the 5 “A”s: Availability, Access, “Adequacy:” food that is nutritious and safe, and produced in environmentally sustainable ways; and “Acceptability:” access to culturally acceptable food, which is produced and obtained in ways that do not compromise people’s dignity, self-respect or human rights; “Agency:” the policies and processes that enable the achievement of food security.

Consider the irony that while EIA grows in importance, so do concerns over global food security. The earth's population is estimated to grow from about 7 billion today to about 9 billion in 2050 (based on the medium variant), which represents an increase of almost 30% (UN, 2012). This population increase is expected to require an increase in food production of about one half.⁴ This may be a challenging target to meet, given that increased yields based on conventional agricultural practices are largely dependent on non-renewable (fossil-fuel based) inputs and that arable lands are under continuous threat. Agricultural production can only be achieved in one of two ways: greater efficiency, which, setting aside expected efficiency gains from bio-engineering and improvements in technology, requires an increased use of inputs (whether these are non-renewables or organics); or an expanded land use base. Both of these have environmental impacts. Clearly, EIA would be, *prima facie*, an appropriate forum in which to consider food security.

Possible responses vary; one might be that food security is too complex. Another might be that food security is already implicitly addressed within the existing EIA framework that considers the individual elements of soil, water, air, etc. Another possible response might be that if there is an adverse impact on any of these elements, there would be a resulting impact on agricultural capacity or "food production capability."

This presents an opportunity to reconsider EIA and its possible role to effect sustainable food security. One approach might be to categorize prospective projects according to the type of potential impact on food security. One category might comprise government policies and programs with direct or indirect consequences (*e.g.*, agricultural subsidies that create distorted market signals, result in over-supply and international dumping and, consequently, lead to depressed local prices, rural-urban migration and changed food systems patterns). For present purposes, that category will be considered primarily as necessitating trade impact assessment. A second category might comprise agricultural development projects, for example, where new lands may be brought into production. The FAO has recently introduced guidelines to ensure that new and future production is consistent with principles of sustainability and with the FAO Strategic Framework, thus "firm(ly) anchoring in corporate policy the tenets of sustainability and environmental protection" (Tschirley & Duffy, 2012). As several multilateral lenders (*e.g.*, World Bank) require EIA of proposed development projects and some national governments have similar requirements (*e.g.*, *Canadian Environmental Assessment Act*[CEAA], 2012, s. 67), for present purposes, concerns over this second category will be considered as having been addressed.

⁴ Figures vary, ranging between 50 to 70% depending on source. This is due to a larger population accompanied by changes in diet, as more people shift to a meat-based diet; urbanization (see below) is usually accompanied by a shift towards more convenient (which are often meat-based) foods. It is beyond this discussion paper to provide specifics; it is widely recognized that large portions of the world's cereals and soya is used for animal feed; that soy-derived feed may be produced on, or indirectly contribute to expansion on to, cleared rainforest land; that depending on methods of livestock husbandry, production of a pound of meat protein uses many times over the amount of water and land necessary to produce an equivalent amount of vegetable protein. The year 2008 marked the first time in human history that more persons were living in urban settlements than rural areas; by 2030, the number of urbanites will swell to almost 5 billion, with urban growth concentrated in Africa and Asia. One billion people are now living in urban informal settlements and poverty is growing faster in urban than in rural areas. Urbanization frequently displaces the peri-urban agricultural lands that were once supplying these cities with food.

Following the logic of this approach, the third category would comprise projects where agricultural land is being contemplated for uses other than food production. The remainder of the paper will focus on this category, which includes both the individual project, such as a site or a linear development (*e.g.*, pipeline or transmission line) and multiple, smaller projects.

Consider also that the right to food is a basic human right; it is not the right to be fed, but rather, the right to feed oneself.⁵ The right to food, therefore, requires states to provide an enabling environment in which people can use their full potential to produce or procure adequate food for themselves and their families (De Shutter, 2011). How well are governments doing? Consider the Canadian case.

Because Canada is a federated system, its legislative governance is complex. There is no reference to “protection of environment” in Canada’s Constitution and control over natural resources lies with the provinces, with some exceptions (seacoast and inland fisheries). Consequently, Canada has an array of EIA schema across the country. *CEAA, 2012*, is a complex piece of legislation; even the process of determining its applicability is complex. The government’s stated intent in recent reform efforts was to simplify and delineate its application to “major projects” that fall within federal jurisdiction. In addition, each province has its own governing legislation, which varies in terms of when EIA is required. Unlike Ontario, which has enacted specific EIA legislation, in Alberta, the EIA requirements are outlined in the *Environmental Protection and Enhancement Act*. The schedule of activities that likely require EIA are also primarily “large scale” activities. Thus, since EIA is legislatively required for large scale projects at the federal and the provincial levels, it could be surmised that for such projects, any potential conversion of agricultural land use would come under review.⁶

What about smaller projects? The cumulative effect of a number of smaller, incremental activities can be just as “significant” and perhaps more so, than those of a single, major project. Nowhere is this more obvious than the “nibbling effect” of urban sprawl on agricultural lands in peri-urban areas. In the province of Alberta, for example, municipalities are governed by the *Municipal Government Act*, which does require that municipalities of a certain size must prepare a Municipal Development Plan; although municipalities are encouraged to address environmental issues, neither this act, nor any other, imposes any requirements for EIA. Pursuant to the federal *Agricultural and Rural Development Act*, there has been established an inventory of arable lands, the Canada Land Inventory, which assigns capability for agricultural purposes. Generally speaking, land use policies and municipal bylaws tend to reflect that “better” agricultural land be retained for uses related to agricultural production. As is the case in many jurisdictions, land use planning in Alberta is subject to various pieces of legislation and at different levels of governance. The goal here is not to outline those complexities, but to question, in the absence of specific legislated requirements, whether and to what extent EIA would be conducted in land use planning decisions. Of course, EIA is not the only tool available to preserve agricultural lands. For example, the *Alberta Land Stewardship Act* has as its goal “a system for the conservation of private lands

⁵ 1948 *Universal Declaration of Human Rights* (Art. 25) as part of the right to an adequate standard of living; 1966 *International Covenant on Economic, Social and Cultural Rights* (Art. 11); General Comment No. 12 – non-binding interpretation; 1999.

⁶ In the case of a proposed site development, presumably the EIA process would preclude selection of prime agricultural land; in the case of linear developments, it is not as clear.

having environmental, natural ... or agricultural values...” and transfers from the municipalities to the provincial cabinet the power to make over-riding land use decisions.

Presumably these or similar complexities around land use planning also arise in other jurisdictions, as planning decisions frequently take place at different levels of governance. Part of this may be “since those most knowledgeable about local conditions are the persons working and residing in the community, it makes sense that much of the planning and regulation should occur at the local level” (Laux, 2002). However, this can result in a lack of cohesiveness and difficulty in achieving broader goals. This should prompt the question of where (and how) EIA is currently used within the system of land use planning and whether it should be given a more predominant role, rather than be limited to major projects. It is a noteworthy reminder that EIA is not intended to prevent development or changes in land use; instead, it is to enable authorities to make decisions about such matters with full understanding and acceptance of the consequences. Decisions that potentially affect food security, then, are ones where such clarity should be paramount.

This should be the case not only for domestic projects, but also those carried out in other states. As was noted above, international lenders typically include requirements for the conduct of EIA in such cases, particularly where new lands are being brought into production.

In the coming years, it is hoped that EIA might be retooled as a (better) vehicle, perhaps in partnership with SIA, to encourage sustainable development while ensuring food security for future generations.

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