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RSB Guidelines on water rights and social impacts

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Contact Detail : RSB - Roundtable on Sustainable Biomaterials
International Environment House 2
7-9 Chemin de Balexert
CH- 1196 Chatelaine (Geneva)
Switzerland
web: http://www.rsb.org
email: info@rsb.org

Note on the use of this document

These guidelines help operators to a) understand what existing water rights exist for local stakeholders and b) how their operations may impact on these rights. They are to assist operators to better understand the types of social impacts that might occur when linked to water impacts. It is of particular relevance during the initial planning phase of project development as it is easier to prevent issues from arising. However, they apply equally to existing projects where it can be established that such rights have been removed.

Possible water impacts should be considered in all biofuel operations as water impacts are often experienced off-site. If a Water Assessment is triggered in Principle 9, then these guidelines will be particularly relevant.

These guidelines should be used in conjunction with the RSB Water Assessment Guidelines [RSB-GUI-01-009-01 (version 2.0)]. The Land Rights Guidelines for principle 12.b should also be consulted as there is substantive overlap of land and water rights issues.

The guidelines may equally be used by the auditor and other actors involved in the verification of compliance, in order to get a better understanding of key-aspects to be considered during certification process.

This document is not a basis for verification of compliance and audits of operators. No aspect of this document is normative. It is intended to help and advice operators on best practise.

These guidelines were developed in collaboration with:
Graham von Maltitz
CSIR South Africa
P.O.Box 395
Pretoria 0001
gvmalt@csir.co.za

Acknowledgments:
Marcus Colchester, Forest People Programme

Oversight and editing was carried out by
Elisa Calcaterra, Manager, Transparency and Social Affairs and Annie Sugrue, Consultant, Social Affairs, RSB

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1. Introduction

Water rights are a combination of formal water rights and the right to water. These formal rights are often, but need not be, linked to land rights. Water rights can differ for different types of water resources, with rights to rainfall capture, ground water extraction and stream extraction potentially differing. Different types of water use may also have different rights attached to it such as the rights for using water for irrigation versus household consumption versus livestock consumption versus industrial use. In addition there are basic human rights to access water, and these rights should be considered separately and in addition to the formally allocated rights.

What distinguishes water rights from land rights is that water impacts can be both on-site and off -site. In other words people adjacent to or downstream from the plantation or processing plant may have their water rights infringed by the establishment of the biofuel project.

Assessing water rights should take place in all situations where the screening tool has indicated that they may be an issue.

- **Criterion 9.a Biofuel operations shall respect the existing water rights of local and indigenous communities**.

Criterion 9.a of the water principle of version 2 of the RSB **Principles & Criteria for Sustainable Biofuel Production** focuses on the protection of existing water rights. The social aspects of water are embedded in the overall aspects of water management, but ensuring that they are adequately addressed requires special consideration.

The following minimum requirements as applied to the criterion are:

- *The use of water for biofuel operations shall not be at the expense of the water needed by the communities that rely on the same water source(s) for subsistence.*

This requirement makes it clear that biofuel projects must not result in the loss of the basic human right to water. In addition it requires that where water is used for other subsistence level activities such as agriculture, the biofuels project should not have a negative impact on the water used for these activities. These impacts could be both on, or downstream from the biofuels operation.

- *The Participating Operator shall assess the potential impacts of biofuel operations on water availability within the local community and ecosystems during the screening exercise of the impact assessment process and mitigate any negative impacts.*

What constitutes subsistence water use?

Small scale cash- crop agriculture that supports only subsistence level livelihoods can be considered as a subsistence level activity in addition to subsistence agriculture where most of the crop is for household consumption, i.e. the sale of crops by small scale farmer is considered a subsistence water use. Other non-agricultural subsistence level water use activities such as brick making should also be considered subsistence activities.

This minimum requirement requires the operator to conduct a baseline assessment of water use patterns and to determine if the biofuel operation is likely to have any negative impact on these patterns. Provision is made that if there is a potential negative impact that mitigation measures can be put in place to offset the impact. This requirement should is applicable to all people living in proximity of, or downstream from, the development who may be negatively impacted. Though not specifically stated in this requirement, but implied through the next requirement, free, prior and informed consent should be used when considering mitigation options, even if the mitigation option appears to be more favourable than the current situation of the community members involved.

- *Water resources under legitimate dispute shall not be used for biofuel operations until any legitimate disputes have been settled through negotiated agreements with affected stakeholders following a free, prior and informed consent (as described in 12b and its guidance) enabling process.*

As with land, if there is a legitimate dispute over water rights then a potential solution requires free prior and informed consent.

Where the screening tool has triggered the need for a water risk assessment based on the loss of water rights, the following must be done:

- *identify downstream or groundwater users and determine the formal or customary water rights that exist;*
- *evaluate and document the potential impacts of biofuel operations on formal and customary water right;*
- *respect and protect all formal or customary water rights that exist through the Environmental and Social Management Plan (ESMP) to prevent infringement of such rights. No modification of the existing rights can happen without the Free, Prior and Informed Consent (as described in 12.b and its guidance) of the parties affected.*

A legitimate dispute is any dispute in which an affected individual, incorporated body or group asserts that their rights, interests or negotiated agreements have been violated either previously or by the operator or a state agency that has permitted the operation.

The principle uses the terms formal and customary water rights. The term customary is however defined in different ways in different contexts and countries. In some countries customary use is formally recognised in formal legislation, whilst in other countries it may have no formal recognition. For the purpose of the RSB, customary water rights should be seen as covering all existing water users and uses that are not covered by formal rights. Customary rights can be well formalised in some communities, and some circumstances, but can also relate to non-formalised accepted and established practice and informal use in other situations. Customary rights also develop and change over time. A broad definition of customary rights should be applied to criterion 9.a, even in countries which use a very narrow definition of customary rights (e.g. in Guyana, from a legal perspective, customary rights only apply to members of the Amerindian community). For the purposes of the RSB, customary rights should cover all existing water users as is implied by the criterion identifying both indigenous peoples and local communities. Note that some customary use may only take place at specific times of the year or even possibly only during certain years (such as during droughts).

Access to water is considered by many to be a basic human right, and this is entrenched in some national legislation as well as in some global conventions. The United Nations Committee on Economic, Social and Cultural Rights No. 15, 2002 states that the human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights. The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. In no instances should a biofuels project result in the denying of individuals this basic right to water.

Water use rights should be distinguished from the right to water.

- A **water right** is the right to take and use water subject to the terms and conditions of the grant. It is a formal or informal entitlement, which confers on the holder the right to withdraw water.
- **Water-use rights** can be conferred through an administrative process of water allocation, such as licensing, though in many situations there may be no formalised administrative allocation.
- **Water allocation** is the process in which an available water resource is distributed (or redistributed) to legitimate claimants.
- **The right to water** is a basic human right to have access to sufficient and palatable water.

> What constitutes Free, Prior and Informed Consent?
>
> This issue is covered in detail in the RSB Guidelines for Land Rights, section D (RSB-GUI-01-012-01 Version 2.1) and the same set of criteria should be applied to water.

The granting of rights as referred to above can be formal in either or both of legal or customary structures, but may also be considered as customary from a history of unchallenged use. Biofuel projects need to both ensure that the water use rights are protected, but also should not result in any reduction in the right to water.

Water rights in many situations are linked to land rights. This may be formalized or informal. This potential linkage should be considered when investigating land right issues. However, even where individuals do not have formal or informal land rights, they may still have formal or informal water use rights, especially as it relates to basic human needs or stock watering. In situations where an operator gets legal water rights linked to their land rights, they must still ascertain if their operation will impact on informal or customary water rights.

No existing water user should be worse-off (from a water access perspective) as a consequence of a biofuels project. In addition free prior and informed consent should apply if an existing water user's access to water will change as a result of biofuel operations. The RSB Screening tool guides operators in the assessment of whether further action is required to achieve compliance with Principle 9.a. These guidelines provide guidance on how to do so in case the screening tools shows that operators need to conduct a water assessment and the mitigation of negative impacts.

The sections below will assist the operator in better understanding the types of impacts that his operation might have on water access, and how to ascertain if impacts are likely.

2. What is unique about water and water access?

Water impacts are relatively unique in that:

- Water impacts can relate to both impacts on the plantation site as well as impacts far removed from the project site.
- Water is transient. People do not own the water, but rather the right to use the water.
- Impacts can be experienced by communities adjacent to the project and/or downstream from the project. Communities upstream of the project are unlikely to be impacted unless they on occasion are reliant on the downstream water resource (e.g. for seasonal watering of livestock)
- Water is often a limited resource, if water is limited, then one user having greater access tends to mean that other users have less access (see section on closed and open catchments in RSB Water Assessment Guidelines [RSB-GUI-01-009-01 (version 2.0)]).
- Plants use water, and changing the crop cover can have water access impacts. This may be in either or both surface and ground water.
- The impacts may only be felt during some periods of the year. Low flow of rivers is often a critical issue.
- Water impacts may change between years, with drought years having impacts that might not have been experienced during normal years. Some users may only make use of specific water resources during drought years.
- Water impacts relate to quality, quantity and seasonality of access.
- The nature and severity of impacts will be situation dependent, though the biggest impacts may take place in water stressed catchments in relatively arid areas. Both surface water and ground water need to be considered.
- Tradeoffs sometimes need to be made between upstream and downstream water use.
- Water access varies greatly between different locations. In some instances households have access to piped water at their homes, whilst in other situations community members have to collect water from rivers, wells or communal boreholes.
- Once identified, water impacts may be easily mitigated in many situations.
- Water impacts could have trans-boundary impacts, with impacts being felt far downstream in a different country.
- Groundwater and surface water are linked.
- Where water is being extracted for irrigation or other commercial uses (either by the biofuel project or other water users) this will add complexity to the water allocation process.

3. How should the catchment be defined for assessing water impacts?

In hydrological terms, a catchment has a very specific meaning. I.e. it is the area in which all water drains into the same river system. For the purposes of assessing water related social impacts, it is only specific areas of the catchment that are of concern. Areas upstream of the biofuels project are unlikely to be affected (though ground water could be affected for a limited distance upstream); area to the side of the project may be affected, especially in relation to groundwater impacts. It is streamflow and ground water downstream of the project that is most

likely to be impacts. The distance over which downstream impacts can perpetuate will be very situation specific. In most instances effect will be limited to a small sub-catchment, and once other streams merge with the stream from the biofuels sub-catchment impacts will be diluted. The distance downstream that needs to be investigated is the distance to which no further significant[1] impacts are likely to be observable.

Impacts are most likely in water stressed environments. In regions with high rainfall where there is no seasonal water stress, downstream impacts are unlikely. Equally if the nature of the land use change is unlikely to change the hydrological regime then downstream impacts are unlikely. In both these cases the catchment of importance for the study can be limited to community members directly adjacent to the project.

Where irrigation is involved or where the biofuel crop is likely to transpire more water than the vegetation it replaces, or if any potential water pollution is contemplated then the area of the catchment of concern will extend sideways and downstream from the project site. This is especially important in areas with seasonal water stress. In such situations advice from a competent land use hydrologist should be sought to determine the likely boundary of significant impacts.

Keep in mind that may catchment impacts only occur during the dry times of the year, or during drought years. The defined catchment must be based on likely impacts during these extreme conditions.
The hydrological catchment may well be a different spatial area from social catchments used for assessing other social impacts such as food security.

4. Understanding how a biofuel project can impact on the social aspects of water use and access

The following are impacts that a biofuel operation may have on social aspects of water access and use. Though the list attempts to be fully inclusive, developers must ensure that unique aspects of their situation do not result in additional impacts. These issues are summarized in table 1.

1) Physical access to water

Biofuel projects can inhibit community's physical access to water resources, either for human use or for livestock. This can be through a number of mechanisms including:

- Preventing access to water resources on the biofuel plantation such as rivers or wells,
- Cutting off travel routes that traversed the biofuel plantations to access water resources on the far side of the plantation.
- Impacting on the depth of the water table, and hence drying up wells or making pumping of water more difficult or costly

[1] To be significant, impact in this social context would be any situation where community members had reduced access to water as a consequence of the biofuels activity compared to the amount of water they where accessing prior to the biofuels activity. This impact is most likely during lo flow periods.

- Reducing stream flow, or in a worst case scenario drying up rivers during the low flow period.

2) Reducing the amount of available water in the catchment

Extraction of water for biofuel processing plants is likely to have relatively limited impact on availability of water resources, although there may be exceptions; as a result this water use should not be ignored. It is the growing of the biofuel feedstock that is likely to have the largest water availability impacts.

Land use change – i.e. moving from existing land use to a biofuel crop – can have an impact on water availability. This could be related to both dry land or irrigated crops. Fast growing trees such as eucalypts are well known to transpire large amounts of water which can both lower the water table and/or reduce stream flow. This stream flow impact is most likely during what are termed low flow periods and it is quite common that rivers that were previously perennial can be completely dried up during these periods as a consequence of land use change.

Irrigation of biofuel crops will almost certainly have impacts on groundwater and stream flow. Extracting water from rivers will reduce the stream flow, whilst pumping borehole water is very likely to drop the water table.

As a simple guideline, a crop that transpires more water in a year than was being transpired by the landscape it replaced is likely to reduce the total available groundwater and/or river water. How important this impact will be will depend on the climate and where the plantation is located on the river system, and the degree to which other water user's water requirements are being met. In high rainfall areas this may result in a trivial impact with no social consequence. Similarly, extracting proportionally small quantities from a large river near its mouth may have limited impact on the river flow or the human and environmental services it supports.

However, increasing transpiration in a water limited catchment could have large impacts on catchment hydrology, especially if this is at the source (or top) of the catchment. Irrigation will almost always result in increased evapo-transpiration and hence reduce overall catchment water availability. Deep-rooted fast-growing trees are also likely to have a high water demand. At a catchment level, water allocation to biofuel projects needs to be a strategic decision dependent on the overall water availability (see the water impact assessment guidelines reference RSB-GUI-01-009-01). However, even if there is available water allocations at the catchment level, there could still be local level impacts to local communities and this need to be assesses independently from the catchment level water allocation assessment.

It is important to note that land use change impacts can affect both surface and ground water. Numerous hydrological models are available that can give a good indication of likely hydrological impacts as a consequence of land use change. Impacts will be both crop dependent as well as dependent on the climate, topography and soils of the actual project location. It is advisable to get the services of a qualified hydrologist to develop the hydrological models if they are needed as these tend to be complex and need specialist input.

3) Impoundment of water courses.

Where extracting water for irrigation or other industrial applications requires constructing a dam on the river, there are likely to be downstream hydrological impacts. Having an impoundment can ensure year round access to water. Depending on how water releases are managed, this could have devastating impacts to other water users, especially during low-flow periods. However if managed responsibly it could have access benefits by ensuring sustained low flows and hence community access to water.

Table 1. Summary of the types of water quantity impacts that can be envisaged from biofuel projects, the type of impact and where the impact will be experienced and the cause of the impact.

Method of water depletion	Nature of the impact	Which communities will be affected	Cause of impact
Impoundment	Change in volume of stream flow	Downstream communities	Extraction for irrigation
	Change in seasonality of stream flow	Downstream communities	Extraction for irrigation
	Changes in low flow	Downstream communities	Extraction for irrigation
	Changes in flooding.	Downstream communities	Impoundment
Stream diversion / pumping from stream	Change in volume of stream flow	Downstream communities	Extraction for irrigation
	Change in seasonality of stream flow	Downstream communities	Extraction for irrigation
	Changes in low flow	Downstream communities	Extraction for irrigation
Access	Access to rivers on the estate	Adjacent communities	Loss of access
	Access to wells on the estate	Adjacent communities	Loss of access
	Traversing rights to wells or rivers outside of the estate – both human and cattle	Adjacent communities	Loss of traversing rights
Stream flow impacts from land cover change	Change in volume of stream flow	Downstream communities	Land cover change / change in evapo-transpiration
	Change in seasonality of stream flow	Downstream communities	Land cover change / change in evapo-transpiration
	Changes in low flow	Downstream communities	Land cover change / change in evapo-transpiration
Groundwater impacts from land cover change	Increased depth of water table	Adjacent communities Upslope communities Downstream communities	Land cover change / change in evapo-transpiration
Ground water impacts from extraction	Increased depth of water table	Adjacent communities Upslope communities Downstream communities	Pumping for irrigation

4.1 Special considerations where water is used for subsistence irrigation

The RSB standard makes specific reference to water rights as applied to subsistence activities. In catchments where downstream water users are engaged in subsistence agriculture, the developer will need to ensure that biofuel production will not negatively impact on the water volumes and quality needed for the subsistence agriculture. Water allocation rules for subsistence agriculture can range from totally informal access to customary practices that have evolved over hundreds if not thousands of years. The operator needs to familiarize themselves with the customary rules that are in place.

Subsistence use should be seen as covering subsistence agriculture as well as small scale cash-crop production and any other subsistence level water dependent activities.

4.2 Understanding how biofuel projects impact on social aspects of water quality

Biofuels may impact on water quality in a number of ways. Land use transformation may result in increased erosion and hence increase the turbidity of water. Fertilizers and pesticides may leach into the groundwater or be washed off into rivers. Reduced levels of streamflow can have direct impacts impact on water quality as pollutants are not diluted or flushed from the system. Biofuel processing plants may well impact on downstream water quality if any pollutants enter the river system.
The biofuel operator would need to ascertain the extent to which their operation will increase runoff and or erosion, the extent to which fertilizers and pesticides would leach into streams, changes in stream-flow , and the possibility of any other pollutants (including organic matter) entering the rivers or ground water. Hydrological models and erosion prediction models may assist in this regard.

Any project that involves putting a dam on a river should ensure that a full social and environmental impact study (SEIA) is undertaken. This is often a legal requirement in the country, but even if not, a full study should be undertaken as there are is a high likelihood of hydrological, biodiversity, environmental and social impacts.

5. Mapping water rights

Formal water rights must be determined. This needs to start by reviewing national legislation. It is important to understand how water rights are allocated and to what extent these are linked to land rights. Holders of formal water rights to the property on which the biofuel plantation (or processing plant) is to located must be identified. If these rights are linked to the land rights then this can be done in combination with the land rights process. If there are existing water rights in addition to the land rights then these need to be identified. If there is a water management agency this needs to be consulted.

Informal and customary water rights are best assessed through a community mapping process. Unlike land rights, these rights may have a limited spatial component, and more important is the identification on the individual people or groups of people who have the usage rights. The process needs to identify both the people who have rights to water on the biofuel plantation as well as the people below or adjacent to the plantation or processing plant who may be impacted by the plant. A skilled facilitator should be used in undertaking this process. Spatial mapping using GPS and GIS software may be used to map the location of wells, boreholes, irrigated fields and other extraction activities. Be sure to consult with marginalized groups such as woman, and people who may only occasionally use the water such as transhumant pastoralists.

6. Monitoring and mitigating water impacts

6.1 Setting a baseline before project establishment

The baseline assessment should be conducted on all communities affected by the proposed biofuel project i.e. any community members currently resident on the land earmarked for the project and communities downstream from the project. The establishment of a baseline is required in order to appraise the situation prior to the establishment (or at, or just after) of the operation. Those operations established before a baseline was undertaken, should carry out a combined baseline and impact assessment using retrospective questions to assess impacts. Comparable date would then be available to the operator in the subsequent impact assessment.

The spatial range over which the baseline needs to be applied will depend on the nature of the terrain, the extent of likely impacts and current mode of water access. The baseline must extend as far as impacts are expected to be manifested, keeping in mind that both stream flow and groundwater might be impacted. This might require the investigation to extend as far as the catchment boundary, but could be considerably less if it can be clearly demonstrated that long distance significant[2] impacts are unlikely.

Three key issues need to be ascertained:

1) The nature of formal and informal rights that exist in the area. The actual rights will need to be documented.
2) The current level of access to water taking into consideration quantity, quality and seasonality. This needs to cover both household use as well as issues such as allocations to crop irrigation.
3) An estimation of likely impacts.

A scoping exercise with key informants will give a quick overview of water issues and can guide further in-depth assessment. Since water collection is typically a woman's job, the scoping must include focus group meetings with women from the local communities. In many cases it is the poor who have restricted access to water articulation and who are therefore more reliant on rivers and other communal water sources and their perspective must also be represented.

[2] To be significant, impact in this social context would be any situation where community members had reduced access to water as a consequence of the biofuels activity compared to the amount of water they where accessing prior to the biofuels activity. This impact is most likely during lo flow periods.

Full determination of baselines will require household level questionnaires. Water questions should form a part of the overall social baseline exercise and need not be a study in its own right, unless there are location specific issues of customary rights that need capturing. The RSB household questionnaire [RSB-GUI-01-006-02 (version 2.1)] has a minimum set of basic questions regarding water rights, but the exact nature of questions needs to be determined through site specific scoping as the nature of water access can vary extensively. The questionnaire can be found on the RSB web site with the other RSB ESIA guideline documents. Other techniques including focus groups may also prove useful in the establishment of the baseline.

The types of questions that need to be asked are:

- What is the main drinking water source for the household? This could range from it being on tap in the house from a municipal supply, to the community fetching it from distant rivers or wells.
- How far is the main water source from the household?
- Who collects most of the water in the household?
- How much time is spent by the household collecting water each day?
- What do you do with the water to make it safe to drink?
- If there is a period in the year when water is not available from the normal source, where do you get water when this is the case?

The use of key informants or group participatory sessions may be used to gain additional useful data on water issues. Types of questions that may help understand the household water supply better might include:

- Explain how water is accessed by households in this community?
- Do all members have the same access, or are some members reliant on different water resources?
- Who has the right to access which water resources? Ask if this differs for household water, livestock water and irrigation water.
- If this access right to water is not free to the entire population, ask for each water use identified above, how do you access this right to water?
- What is the quality of the water? This may be a subjective question based on the suitability of the water for human consumption.
- Is water available on all days during the week? (In many water reticulation schemes water may only be available on certain days. This administrative aspect of water availability is different from the seasonal availability of water investigated in the next question).
- Are their periods in the year when the normal water source is not available?
- Where do they access water in periods when the normal source is not available?

6.2 Mitigating impacts

Water impacts can be easily mitigated in some situations. For instance the plantation may be able to supply a borehole and pump (which they maintain) to compensate for a water source that is lost on the plantation. This may provide an opportunity for the company to show a

positive contribution to the community development of the area. Understanding what water rights or access is being lost is a prerequisite for developing alternative mitigation strategies. These strategies do, however, require free and prior informed consent. The developer must not simply assume that their mitigation will be acceptable to the community. This mitigation strategy must be captured in the *Environmental and Social Management Plan (ESMP).*

6.3 Monitoring social impacts

Social impacts can be monitored against the baseline through reapplying the baseline questionnaire and any other necessary techniques. At this stage, the operator is therefore carrying out an impact assessment against the baseline.

The first impact survey should be carried out between 6 and 18 months after the full establishment of the operation or 12 to 24 months after the first baseline is conducted. Those operations established before a baseline was undertaken, should carry out a combined baseline and impact assessment using retrospective questions to assess impacts. Comparable date would then be available to the operator in the subsequent impact assessment.

Biofuel operations should conduct an impact assessment survey by reapplying the baseline questionnaire and any other technique after 5 years if they are a small operator, 4 years if they are a medium operator and 3 years if they are a large operation.

A participatory process with a representative group from the local villages or a sentinel survey may be sufficient to ensure that no major problems are being encountered in between impact assessments, with a more detailed survey only being deemed necessary if the participatory process suggests that negative water impacts are being experienced. During monitoring additional questions around the perception of the community to its access to water as a result of the operations should also be asked.

From an audit perspective the auditor needs to have convincing evidence that community member's water access has not been disadvantaged due to the biofuel project. If consultations were held with the community evidence that these issues were covered is critical. Consultations must involve all relevant stakeholders including the poor and women. Alternate proxy measures may also be appropriate such as monitoring of the depth of the water table as well as monitoring stream flow from rivers exiting the plantation if there is any reason to believe that the plantation or processing facilities are impacting on either of these water sources.

Water quality in boreholes and streams should be monitored for nutrient loading, silt loading, basic oxygen demand, and pesticides that could have originated from the plantations.