Expert Review of the Frieda River Limited Sepik Development Project Environmental Impact Statement: Socio-economic Impacts (Chapters 9 and 12; Appendix 13).

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Key Issues

- The Socio-economic Impact Assessment identifies wide scale social impacts affecting culture, identity and security.
- The project will result in a loss of Indigenous autonomy.
- The Socio-economic Impact Assessment fails to assess cumulative social risk.
- The Socio-economic Impact Assessment fails to consider social licence and free, prior and informed consent.

Outline

This expert review of the Sepik Development Project Socio-economic Impact Assessment is divided into four parts:

1. Background to Social Impact Assessment (SIA)
2. Social Impact Assessment in the Sepik Development Project SIA
3. Assessment of the Sepik Development Project SIA
4. Conclusion

The approach taken in this expert review is not to seek to refute the findings of the Environmental Impact Statement (EIS) socio-economic study point by point. It is the view of this expert review that SIA is no more than a planning tool designed to meet legislative requirements, and should not be confused with actual social science. To argue point by point with the study is to give it a status it does not deserve.

To explain this, first, the SIA approach used in the Frieda River Sepik Development Project Environmental Impact Statement Socio-Economic Assessment (Sepik Development Project SIA) is examined in a wider context of the history of SIA.

Next, this expert review looks at the Sepik Development Project SIA in detail, examining the process used in the assessment, which is based on the work of Frank Vanclay. (Vanclay et al 2015)

Following that, this expert review briefly introduces the work of Ulrich Beck (Beck 1992) on risk and my own work on basic human need (Barcham 2012). This is both to provide a critique of the methodology of SIA, and to shed light on the actual potential impacts of the project.

Finally, this expert review makes a concluding statement about the adequacy of the Sepik Development Project SIA, as requested by the expert brief provided to me by CELCOR.

I have prepared this report in accordance with Division 23.12 of Part 23 of the Australian Federal Court Rules and the Expert Evidence Practice Note including the associated Annexures ("Practice Note"). I have read the Practice Note and agree to be bound by it. In particular, in accordance with clause 2 of the Expert Witness Code of Conduct, this report has been provided on the basis that I have a paramount duty to provide advice impartially on matters relevant to my area of expertise.

1. Understanding Social Impact Assessment

Mines, dams, roads, power lines, pipelines, airports, river and sea ports all have large effects, or "impacts", on what is around them. For this reason, governments all over the world have laws to regulate the construction and operation of large infrastructure. Since the 1970s, industries have been forced to consider not just profit to shareholders or how many jobs would be created, but also the other, negative effects of their activity.

These laws have led to the growth of environmental impact assessment as a field of work. As well as identifying impact, assessment also considers how to reduce the impact, called "mitigation", and how to measure and monitor impacts. Before these laws were in place from the 1970s, only the economic aspects of a project needed to be considered (Palsey 2019).

The most noticeable effects that concerned people were the physical effects on the landscape, water and air, including the effects on plants, animals, ecosystems and human health. Later it was also realised that there were social effects as well.

Social impact assessment was formalised in the United States starting from 1969 (Burge and Vanclay, 1996:62) and in Australia in 1974. The Commonwealth *Environment Protection (Impact of Proposals) Act 1974*, states that:

> "environment" includes all aspects of the surroundings of man, whether affecting him as an individual or in his social groupings.

In Papua New Guinea, the *Environment Act 2000* refers to Operational Procedures, including at section 53(2), which regulates environmental impact statements. The published guideline for proponents preparing an Environmental Impact Statement requires that "the developer must submit an Environmental Impact Statement that provides a full documentation of all environmental and social issues", and include a socio-economic assessment (DEC 2004).

These laws and guidelines recognise that large industrial projects not only affect people physically, but they also have the effect of changing society.

In response to this, in the field of industrial project management, practitioners began to talk about delivering the "triple bottom line" of economic, environmental and social benefits in project planning (Elkington 1997). For project planners, a way to standardise measurement of social outcomes became desirable. SIA has grown from these beginnings.

This background shows that SIA is a planning tool, and not a developed field of social studies. It uses a simplistic methodology that proposes social "impact pathways" (Vanclay et al 2015:45) to try to assess effects and manage risks, guided by the requirement to meet the standards of the relevant legislation and planning documents.

In contrast, sociological and anthropological disciplines use established intellectual frameworks such as communicative action (Habermas 1984) or modernity (Giddens 1990) to understand social systems and how they are affected by outside interventions. These frameworks have developed over centuries of study, specifically to aid our understanding of complex, dynamic human societies.

2. Socio-Economic Impact Assessment of the Frieda River Sepik Development Project: Description.

The Sepik Development Project SIA employs a process using the standard of the International Association of Impact Assessment (IAIA). The approach to SIA of the IAIA is based primarily the work of Frank Vanclay (Vanclay 2003; Vanclay et al 2015). Vanclay has made a significant contribution to standardising an approach to SIA. In Vanclay's view, "SIA is…an impact prediction mechanism and decision-making tool" to be used in "regulatory processes", as well as "contributing to the ongoing management of social issues throughout the whole project development cycle (Vanclay 2015:iv)". Based on Vanclay's work, the International Principles for Social Impact Assessment (Vanclay et al 2015) considers four phases of SIA:

1) Understanding issues.
2) Predicting, analysing and assessing likely impact pathways.
3) Developing and implementing management strategies.
4) Designing and implementing monitoring programs (Vanclay 2015:7)

The definition of issues in the Sepik Development Project SIA is based on a long history of investigating communities in the project area. Much of this is contained in the earlier Environmental Inception Report prepared for the Papua New Guinea Department of Environment and Conservation (Xstrata 2009).

Using this "baseline" information, to simplify the process of identifying "impact pathways" the Frieda River Sepik Development Project is divided into "catchments", meaning affected areas. Each catchment area is subject to different conditions, requiring separate treatment. Some people will be displaced entirely.

Others will be close to a new port or airstrip. Some areas will experience in-migration or there might be an opportunity for a new market at a road junction. Good or bad, all of these things have social consequences.

Having created this mindmap of areas and the different potential impacts of each aspect of the project, the Sepik Development Project SIA applies a risk matrix to these. Every impact pathway is assessed for two things: how likely it is to occur; and how bad it is if it happens. So an event that is rare, but catastrophic, like a dam wall collapse, gets a medium rating. A risk that is very likely but not too awful, like increased sedimentation, also gets a medium rating.

Consequence	Likelihood				
	Almost Certain	Likely	Possible	Unlikely	Rare
Critical	Very high	Very high	High	High	Medium
Major	Very high	High	High	Medium	Medium
Moderate	High	Medium	Medium	Medium	Low
Minor	Medium	Medium	Low	Low	Very low
Negligible	Medium	Low	Low	Very low	Very low

A matrix for assessing the significance of risk (Frieda River Ltd 2019:9-6)

Across the three social categories identified in the mindmap - livelihoods, culture, and personal and community well-being - all threats, 60 in total, are assessed at least as medium in impact after mitigation measures are applied. Six are rated high or very high.

For each threat or risk that is identified, a mitigation measure to manage the risk of bad things happening is applied. The necessary extent of the proposed management and mitigation measures is very large. From bank accounts, procurement procedures and contracts to community development, training and capacity building, the list of things the company will do to try and manage the threats and risks of the project for people in the area is very long.

There is a similar long list of benefits that might flow from the project. These relate mainly to new or improved infrastructure, particularly roads, and the economic opportunities from improved transport and communication. Industrial training and employment are also highlighted.

Finally, the SIA considers the "residual impact", what effects will be left "following the assumed effective implementation of mitigation measures" (Frieda River Ltd. 2019:9-30). That is, the final risk assessments, all medium or higher, are applied *after* the programmes to reduce risks are put in place. Even if everything goes to plan, the social risks, taken together, are still large.

3. Assessment of the Sepik Development Project SIA

The Importance of Risk

Sepik communities should be very concerned by the findings of the SIA.

The list of threats and risks associated with the project is long. Similarly, the list of mitigation measures is long. Included in this list of mitigation measures is the complete relocation of four villages. The SIA considers the social impact to be mine construction movement, and the solution is to relocate people. The social impacts of the relocation are not adequately considered.

Similarly, some mitigation measures are complex, for example establishing a landowner company able to bid for contracts and a preferential bidding process. This complexity increases the risk of the failure of the proposed mitigation measure.

The length of these lists of risks and measures is the reason for not taking the approach of refuting each line item. Such refutation is certainly possible. For every impact and pathway in the mindmap that makes up the assessment findings, an alternative scenario can be imagined; another reason why a particular consequence will or will not occur.

Where the SIA fails is in not considering society as a complex and dynamic whole. Change in the culture, identity and lifeways of a people is not like an engineering problem with a solution. However, SIA treats it in this way as a consequence of its roots in project planning.

This failure means that the Sepik River Project SIA does not give an accurate representation of the potential social outcomes of the project. What is the social outcome of inundation of sacred heritage by a tailings dam? What is the social impact of knowing that the future includes the possibility of catastrophic failure of project infrastructure? The SIA does not help us address these realities because the methodology is not capable of this.

Risk

A better approach based on social science is to look more closely at the largest social impact the project will have: the introduction of both new *levels* and also a new *type* of risk into the lives of Sepik people that comes with the introduction of industrial society.

The Sepik Development Project SIA considers the cumulative impact of physical aspects of the project, but social effects also accumulate. And it is the accumulated level of risk that is the most prominent feature of the assessment. *Every* threat is rated as medium or above in its impact *after* mitigation measures are applied. The accumulated social risk, that is, the possibility that society will change in a bad way, is very large, even with the proposed mitigation plans.

Benefits

Of course, there is also a list of social benefits for the project. Those social benefits also arise as a result of the introduction of industrial society into the Sepik. But what may look like a benefit may not carry with it a social good.

Looking at monetary wealth, for example, it is what a person does with money that makes for a good or bad outcome, not having the money in the first place. The assessment suggests that as well as some good things, more money can also lead to:

> contested landownership (and) can place strains on social relations within and between communities. The distribution of cash to beneficiaries…can promote changes to traditional lifestyles and systems of governance. Cash incomes can also be allocated to gambling activities and the consumption of alcohol and drugs, with the potential to lead to increased public and domestic violence (Frieda River Ltd. 2019:9-20).

Money itself is not a social benefit. It is what people do with the money that matters. Do they use it in a positive way or not? The decision people make depends on them as a person *and* whether or not they live in a healthy society. But if your society is being subject to more and more new risks, it is hard for it to be healthy.

Risk affects Social Health

Risk means there is a loss of security. Security is a class of basic human need. Risk, meaning a loss of security, is in that class. Meeting basic humans needs is necessary for society to be healthy. A less secure society is less able to meet its basic needs and is likely to be less healthy than a more secure one. As society becomes less secure, uncontrollable conflict, violence and poor individual mental health increase (Barcham 2012:170).

Identity is another class of basic human need. To know who one is, and have a sense of one's place in the world, is essential to being human (Barcham 2012:170). Identity comes from culture and its practices. As society loses cultural practices, individuals lose identity (and the other way around; this is called a dialectic relationship – a change in one automatically produces a change in the other).

The Sepik Development Project SIA identifies threats to culture and the likelihood of "accelerated change to cultural identity and traditions" (Frieda River Ltd. 2019:9-4). Recall that the risk of this is rated medium. Cultural identity and tradition will be at much greater risk than they are now, likely leading to loss of identity and a less healthy Sepik society. It is the view of this expert that as a result of the critical consequences for the health of Sepik society from the loss of "cultural identity and traditions", coupled with the high likelihood of this occurring, this risk should be rated as "high".

Three Types of Risk

More fundamentally, the technical approach of the assessment ultimately fails because it treats social risks in the same way as project managers treat physical and engineering risks. The approach does not recognise different kinds of risk. While people have risks in their lives now, for example from flood or crocodiles, these risks are of a different type to the social risks associated with this project.

Industrial society generates benefits, and also risks and threats. What kind of social transformation will take place can be understood by looking more closely at the kinds of risk.

In this expert review, increased risk itself is understood as the main driver of social impact. German sociologist Ulrich Beck unpacked the social implications of risk and how they are changing in the modern world (Beck 1992).

Beck shows us that there are risks from industrial society that are part of industrial society itself. Beck was the first to associate human-induced climate change with this kind of risk.

In Beck's view, there are three kinds of risk, shown in Table 1. Across the top of the table are three kinds of societies with different kinds of risk. On the left, before the introduction of modern, industrial society, risks are from natural events and are essentially uncontrollable. So called "acts of God".

Next, in industrial society, the culture, called "modernity", sets out to limit environmental risk through, for example, assessment, mitigation and monitoring. Society takes the view that risks can be and are being managed in order to achieve the benefits of a modern lifestyle. The socio-economic assessment of the Frieda River Sepik Development Project is an example of a plan for a project that generates risk and the attempts to manage that risk.

Thirdly, there is the risk society, "reflexive modernity". These kinds of risks are imposed by the society, and are unlimited in the sense that it is impossible to ensure that the risk can be contained and managed over space and time.

The recent events at Basamuk Bay (ABC 2019) are an example of this type of risk. The damage that has allegedly been caused by the mine operations and the recent spill is now outside the ability of people to contain the impact. It is now an uncontrolled risk for that whole coast, a risk that has been imposed by the needs of modern, industrial society.

	Pre-modernity	Industrial society (Modernity)	Risk society (Reflexive modernity)
Type of risk	Dangers, natural catastophes	Risks at the workplace, accidents	Artificial catastrophes, self-imposed risks
Dependence on individual's decision	**No** (gods, demons)	**Yes** (driving, flying, workplace are in the individual's choice)	**No** (collectively taken decision, lifestyle is imposed on the individual)
Scope of destruction	People, countries, cultures	Limited by space, time, social boundaries	Unlimited 'accidents'
Calculation of destruction	Uncertain; politically irrelevant, regarded as external fate	Calculable uncertainty (likelihood, level of destruction known, compensation available via insurance)	Very small/no likelihood level of destruction infinite: no calculation possible
Responsibility	External fate	Rules of assignment	Yes and No: organized irresponsibity

Characteristic features of the risk society (adapted from Beck 1988: 121–22 in Matten 2004:380).

Risk, Social Licence and Responsibility

Beck shows that as well as the type of risk, there are other characteristics of the risk society that affect decision making and responsibility, as shown down the left-hand side of Table 1.

The imposition of risk society has implications for people's autonomy and ability to participate in decisions that will affect them over the entire life of the project and beyond. More and more decisions that affect people's lives will be made by someone else, someone far away. More decisions will be imposed rather than made locally (Beck 1988 in Matten 2004:381).

Social Licence

It is quite clear from the Sepik Development Project SIA that risks for some people in some areas are much greater than for others. In this context, it is important to note that unlike the "wealth distribution" plan included in the assessment, there is no equivalent risk distribution plan. For this reason, inequality of outcomes, it is essential for all affected people to seek to reach consensus in their views, and then clearly demonstrate what social licence is given, if any; and also their free, prior and informed consent, and how that will be demonstrated.

It should be be noted that neither the words "social licence" nor the word "consent" appear anywhere in the socio-economic assessment. As well as being

the first two "key background concepts" in social impact assessment (Vancaly et al 2015:v), the ability to withhold social licence and having access to the ability to make a free, prior and informed choice are human rights (UNFAO 2016) that should be applied. This is not considered in the SIA

It should also be noted that at the time of the publication of the SIA, negotiations with the four villages subject to relocation were not complete. To that extent, the SIA is also incomplete.

The PNG Department of Environment Guideline for Conduct of Assessment and Preparation of Environmental Impact Statement requires that in assessing the viability of a project the proponent must provide "information on the extent of landowner and/or resource owner support, including a copy of the formal written approval of their consent," (DEC 2004:3). This is absent from the SIA.

Responsibility

Uncontrollable risk also has implications for the allocation of responsibility. The issue of who is responsible for destruction of commons like air and water, or socially, culture and identity, is open. Current institutions and existing value systems are incapable of dealing with these issues at the same time as the traditional boundaries of social interactions get weaker or are no longer valid. This results in what Beck calls "organised irresponsibility" (Beck 1988 in Matten 2004:318).

Overall, what this analysis of risk points to is the rapid and complete transformation of Sepik society as people in the region know and practice it today. In order to exercise their traditional autonomy, Sepik people must have the opportunity to give or withhold social licence and consent. Consent must meet the standards for being free, given before commencement, and based on prior knowledge. Consent is not merely agreeing for the project to proceed. Consent means knowing and accepting that the project is accompanied by uncontrollable risks and that this will change the basis of Sepik society.

4. Conclusion

Based on the foregoing, below are specific responses to the issues I was requested to address in my expert brief.

Was the assessment appropriate and sufficient?

The basic weakness of the Frieda River Sepik Development Project Socio-Economic Impact Assessment is that the process employed treats society like an engineering problem. Society is not a machine.

This project will affect society in many different ways, which the SIA sets out to map and then either develop measures to support or mitigate good and bad outcomes. Looking at the scale of the proposed project and its impacts as described in the SIA, they are so big that, in my opinion, the whole of Sepik

society will be affected. Some people will be dispossessed of their land, and everything in it, and relocated. Others will be beside a bigger road with large trucks going past. These kinds of physical changes are certain to come with the project. That these changes will affect society is also certain. Other changes are about the movement of people, accommodation towns, and much more.

The list of effects and impacts, threats and risks has sixty items, listed under headings of "livelihoods", "culture" and "personal and community well-being" (Frieda River Ltd. 2019:9-4). These kinds of impacts go to the core of life.

It is my opinion that the process employed by the proponents is not adequate to the task of assessing social impacts of this magnitude. The basic proposition that the social effects of a project of this enormous scale and complexity can be known and mitigated by good planning and social programs is false.

What are the likely impact arising from the project, bearing in mind proposed mitigation measures

At the beginning of the Executive Summary, the Frieda River Sepik Development Project is described as "transformative" (Frieda River Ltd. 2019:3). If it proceeds, there is no doubt that it will change the region forever, perhaps in some good ways for some people, but also in bad. Transformation means complete change and no going back.

Yet, neither the SIA, nor any other chapters of the EIS, deal with procedures for affected people's consent or for how to gauge social licence among Sepik communities.

To try to make a contribution to understanding how this project might impact society, and as an example of a critique of SIA, this expert review of the SIA uses the work of sociologist Ulrich Beck on risk in society, and my own work on basic human need in development, which employs the work of Jurgen Habermas.

The sociology of Beck and Giddens shows that when the structure of society changes from traditional to modern to reflexively modern, people lose autonomy. The loss is in the *changed structure* rather than the actions of people. That is why it is impossible to mitigate.

To help see the big picture of change in society, this expert review briefly introduces these ideas to show:

1. That meeting basic human need affects social health. Those needs include needs in classes of our physical needs as well as needs for security, identity and autonomy.
2. That the scale of the project, and the cumulative social risk it represents, make the social risks uncontrollable; and that this uncontrollable risk is generated by the project, not the people, and not an act of God.

3. This change in the social structure, to one with uncontrollable risk, has the consequence of damaging Sepik people's cultural identity and autonomy.
4. As a result of this risk, the human rights principles of:

- being able to demonstrate a social licence;
- seeking the free, prior and informed consent of the population should be applied.

Recognition of these rights is absent from the Frieda River Sepik Development Project Socio-Economic Impact Assessment.

Other relevant opinion

In closing, the documented evidence about the negative social effects of mining in Papua New Guinea (Waide 2011; Shearn 2014; Human Rights Watch 2011) should be a matter of great concern to Sepik people. The scale of this project is colossal, as great as all others in Papua New Guinea combined (Mudd in Fletcher and Peni 2019:13).

The poor record of corporate behaviour, environmental degradation, and the bad social effects of industrial projects in Papua New Guinea must be a caution sign for Sepik communities. There is no reason to think that the Sepik Development Project will be any better or different to other projects that have had disastrous consequences. While you control the source of your livelihood, you are in control. Let go, you are not.

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