

ECOLOGICAL CONVERSION AND SOCIO-ECONOMIC DISCERNMENT

Séverine Deneulin and Yvonne Orengo

ONE OF THE CENTRAL ARGUMENTS of Pope Francis's encyclical *Laudato si'* is that one cannot address environmental degradation without also addressing human and social degradation (n.48). As he puts it in an often-cited passage:

Today ... we have to realize that a true ecological approach *always* becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear *both the cry of the earth and the cry of the poor* (n.49).

Laudato si' calls for an ecological conversion at all levels of society—self, family, workplace, neighbourhood, church, city, region and state—to stop and redress socio-environmental degradation.

The term 'ecological conversion' was first coined by Pope John Paul II in 2001.¹ In a public statement of 1990 he had already argued that the ecological crisis was primarily a moral crisis and a lack of respect for life.² More recently, following the Synod for the Amazon, Pope Francis has introduced the expression 'ecological sin' into the theological vocabulary. The final document of the synod defines this as,

... an action or omission against God, against one's neighbour, the community and the environment. It is sin against future generations, and it is committed in acts and habits of pollution and destruction of the harmony of the environment.³

¹ John Paul II, general audience, 17 January 2001, n. 4.

² John Paul II, message for World Peace Day, 1 January 1990.

³ Final document of the Amazon synod, 'The Amazon: New Paths for the Church and for an Integral Ecology', n.82.

Turning away from ecological sin, or embarking on a process of global ecological conversion, requires ‘profound changes in “lifestyles, models of production and consumption, and the established structures of power which today govern societies”’.⁴

We would like to unpack these arguments in relation to two areas of socio-environmental degradation—the Atacama region in northern Chile and the Anosy region in southern Madagascar—focusing on the relationships between discernment, ecological conversion and structures of power, and deriving implications for how we might all practise discernment as citizens given our connection to these places through globalisation. Both contexts illustrate strikingly how the deterioration of the earth is inseparable from the deterioration of people’s lives and, most importantly, the decline of their political voice. The paradox is that the socio-environmental degradation in both places is driven by green intentions: substituting petrol cars for electric cars in Chile, and offsetting biodiversity loss in Madagascar.

Discernment in the Socio-Economic Realm

Mark Rotsaert has argued that discernment is a universal practice which is not confined to the Ignatian spiritual tradition; it is, ‘a human capacity as old as humanity itself’.⁵ For him discernment is about pondering and reasoning with ‘the horizon that is God’. In the same special issue of *The Way*, however, C  cile Renouard proposes to extend the relevance of the practice of discernment to those who do not share Christian—or any religious—beliefs. She argues for a collective discernment among Christians and others that bears on the means of achieving ecological transition, given that the end is undisputed.

How might the practice of discernment so understood be meaningful for socio-economic policy? Could the ‘horizon that is God’ be left out

Pondering and reasoning within the horizon that is life and love

of the picture or take another form acceptable to those who reject the existence of God? One way of achieving this might be to substitute ‘the horizon that is life and love’—especially love for nature and compassion for the most vulnerable. How could such pondering and reasoning within the horizon that is life and love manifest itself in collective socio-economic decision-making?

⁴ *Laudato si’*, n.5, quoting John Paul II, *Centesimus annus*, n. 58.

⁵ Mark Rotsaert, ‘Spiritual Discernment: The Horizon That Is God’, *The Way*, 58/4 (October 2019), 99–110, here 99.

Social Choice Theory

The works of the Indian economist and philosopher Amartya Sen on collective decision-making and social choice theory offer us some particularly useful tools. Social choice theory is a field in economics that deals with the question of how to make collective decisions, such as about which rules should guide international trade, regulate the movement of people, capital or goods, or govern carbon emissions and so on.⁶

In democratic societies such decisions are made through a deliberative process. People elect their representatives, who debate in a parliament and make decisions by voting following the debate; and debate also occurs in society at large. All citizens get to ponder and reason in one way or another whether decision A is better than decision B. And this involves having some criteria to judge what constitutes 'better'. Is the decision to build a third runway at Heathrow Airport better than not building it? Is investing in solar energy better than investing in wind energy, and are they both better than nuclear energy? How do we rank these alternative courses of action?

A first contribution that Sen makes is to say that we do not need to wait until we can reach a decision on ranking before taking action. For example, is 'having a carbon-pricing through market mechanism' better than 'regulating and banning certain carbon activities'?⁷ Some people may rank alternative A as better than B, and others vice versa, but there is a danger that the outcome of this disagreement—alternative C, doing nothing—is worse than either. Sen argues that, in such cases, leaving the alternatives unranked is not unreasonable; it 'may even be a common outcome of reasoned analysis of ethical and political evaluation'.⁸

A second contribution from Sen—and this is where love and life come in—concerns the framework used to rank situations or alternative courses of action. Sen has long objected to using income as information in comparing economic situations. Brazil, might seem to be in a better position if it increased its gross domestic product per capita by exporting more soya, beef and timber, but after bringing information about environmental degradation into consideration, can one conclude that Brazil would actually be better off as a country and that Brazilians would

⁶ Amartya Sen, *Collective Choice and Social Welfare* (London: Penguin, 2017), x.

⁷ Sen, *Collective Choice and Social Welfare*, 461.

⁸ Sen, *Collective Choice and Social Welfare*, 458.

live better lives? Instead of using incomes to judge whether situations are better or worse than others, Sen has argued for introducing information about the types of lives that people live as basis for making value judgments and ranking alternative courses of action: whether people are able to avoid hunger and lead a healthy life, take part in the life of a community, relate to the world of nature, relate to their ancestors, or have a sense of place and belonging.

A third contribution is a strong emphasis on giving *reasons* for valuing A over B, and on bringing these reasons into critical scrutiny in dialogue with others.⁹ For example, if Britain considers renewing the Trident nuclear weapons programme as a better use of  3 billion than improving NHS mental health facilities, what are the reasons for this position, and do they stand critical examination? An attitude that Sen highlights is that of accepting responsibility towards others, and especially the most vulnerable and those who suffer.¹⁰ One can see here some clear parallels with Pope Francis's words in *Evangelii gaudium* about avoiding a 'globalisation of indifference', 'being incapable of feeling compassion at the outcry of the poor, weeping for other people's pain' (n.54).

Sen's work in social choice theory suggests an interpretation of discernment in the socio-economic sphere based on three characteristics: decision-making in the absence of any 'best' option; the use of information about the quality of people's lives, including their relationship to nature, to rank different courses of action; and giving reasons for one's decisions which do not ignore the cry of the earth and the poor. The conduct of such discernment in specific circumstances also brings to light a fourth characteristic: analysing the structures of power at work and examining one's place within them.

Lithium Extraction in Northern Chile¹¹

Lithium is a key component in batteries, such as the ones powering our mobile phones, laptops, power tools and, most importantly, electric cars, as well as batteries used in the storage of renewable energy.¹² The

⁹ Sen, *Collective Choice and Social Welfare*, 466–467.

¹⁰ Amartya Sen, 'The Contemporary Relevance of Buddha', *Ethics and International Affairs*, 28/1 (2014), 15–27, at 23–24.

¹¹ This section is based on research by S  verine Deneulin for an interdisciplinary case study designed for postgraduate students at the University of Bath. She visited the Atacama region in August 2019 to collect primary data.

¹² See the market report by the mineral resource consultancy firm Roskill published in July 2019 at <https://roskill.com/market-report/lithium/>.

market in electric cars, in particular, has surged in recent years as a means to achieve the green transition. The growing demand for lithium generates, however, a cry of the earth and of the poor that is often silenced or left unarticulated in public debates in Europe.

Nearly 60 per cent of the world's lithium reserves are found in what is known as the lithium triangle, a series of salt lakes between Bolivia, Chile and Argentina, where it is extracted from brines.¹³ Chile has the best quality reserves and cheapest extraction processes, because the Chilean government has strictly controlled lithium production since the late 1970s, for a variety of reasons. Given soaring global lithium demand, the Chilean government is under intense pressure from international investors to relax regulation and increase quotas, with serious consequences locally.

The area where lithium is extracted, in the Atacama desert region in northern Chile, is home to one of the country's nine officially recognised indigenous groups, the Atacameños. The main town is San Pedro de Atacama, which has about 10,000 residents but, since the *New York Times* advertised the town as one of the top fifty places to visit in the world, it received around 300,000 tourists a year until the coronavirus pandemic.¹⁴ There are serious concerns about the negative



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Lithium mine in northern Chile

¹³ See Elizabeth Gonzalez, 'Explainer: Latin America's Lithium Triangle', *Americas Society/Council of the Americas* (17 February 2021), at <https://www.as-coa.org/articles/explainer-latin-americas-lithium-triangle>.

¹⁴ Matthew Bloch and others, '52 Places to Go in 2017', *New York Times* (4 January 2017), available at <https://www.nytimes.com/interactive/2017/travel/places-to-visit.html>.

impact of this tourism such as overcrowding and problems with water use and waste disposal.¹⁵ Local residents who live on the outskirts of the tourist centre often suffer water cuts for several hours a day so that tourists can have water.¹⁶

The biggest water users are, however, not the tourists but the two lithium-extracting companies (Albermarle and Sociedad Quimica Chilena, or SQM), which have licences to operate in the nearby salt flat.¹⁷ There is no official independent body to monitor water use, so estimates vary. According to one, every second the two companies extract 2,000 litres more than the natural capacity for regeneration (water in the desert comes from aquifers supplied by melting ice higher up in the Andes).¹⁸ Another study estimated that 70 per cent of the water use in the region goes to the mining sector, 17 per cent to agriculture and 13 per cent to human consumption.¹⁹

And lithium is not the only mineral extracted. The Atacama region supplies most of Chile's copper, which is the country's main export and a major source of government's revenues. The production of an electric car requires more than four times as much as copper as a fossil-fuel powered car, and copper extraction is particularly water-intensive.²⁰ In that regard, the Anglo-Australian company BHP, which operates the largest mine in the world in Atacama, has announced it will stop taking the water from the salt flat for its copper mine from 2030 onwards and use a desalination plant with water pumped directly from the ocean.²¹

¹⁵ 'Es San Pedro de Atacama un destino tur  stico sustentable?', *El Diario de Antofagasta* (12 August 2019), at <https://www.diarioantofagasta.cl/regional/san-pedro-de-atacama/107323/es-san-pedro-de-atacama-un-destino-turistico-sustentable/>.

¹⁶ Personal communication from Francisco Mondaca, Council of Atacame  os Peoples, 15 August 2019.

¹⁷ Albermarle is a US company. SQM is Chilean, but the Chinese company Tianqi has now acquired nearly a quarter of its shares. See Ernest Scheyder, 'Tianqi Says Happy "For Now" with Stake in SQM: President', *Reuters* (10 July 2019), at <https://uk.reuters.com/article/us-lithium-electric-tianqi-lithium/tianqi-says-happy-for-now-with-stake-in-sqm-president-idUKKC1TB20K>.

¹⁸ Data taken from Ben Heubl, 'Lithium Firms Depleting Vital Water Supplies in Chile, Analysis Suggests', *Engineering and Technology* (21 August 2019), at <https://eandt.theiet.org/content/articles/2019/08/lithium-firms-are-depleting-vital-water-supplies-in-chile-according-to-et-analysis/>.

¹⁹ Figures are for 2017, taken from 'Atacame  os exigen una mayor protecci  n de las aguas del salar', *Chululus: Revista de San Pedro de Atacama* (8 October 2018), at https://www.chululo.cl/pages/recortes2.php?id=10102018_023118.

²⁰ See Cecilia Jamasmie, 'Impact of Electric Cars in Medium-term Copper Demand "Overrated", Experts Say', *Mining.Com* (12 April 2018), at <https://www.mining.com/impact-electric-cars-medium-term-copper-demand-overrated-experts-say/>.

²¹ See Cecilia Jamasmie, 'BHP to Supply Water for Escondida Mine from Desalination Plant Only' *Mining.Com* (4 February 2020), at <https://www.mining.com/bhp-to-supply-water-for-escondida-mine-from-desalination-plant-only/>.

Given the rising global demand for lithium, in 2017 the Chilean government gave Albermarle a licence to triple its quota until 2043.²² This is putting an even greater strain on water availability in the region. There is, to date, no hydrological model for the salt flats (*salares*), except those computed by the mining companies themselves.²³ The plant and animal life of the salt flats is already affected by water scarcity.²⁴ The local population is being forced to abandon agriculture as a livelihood as it has become harder to grow crops and breed animals. Those who cannot make a living from tourism have to migrate.²⁵

The relationship between locals and the mining companies is complex. Residents are represented by the Council of Atacameños Peoples, which in 2014 signed an agreement with Albermarle to receive 3 per cent of their revenues from sales of lithium. This is the first case in Chile of a mining company distributing part of its revenue to a local community. It is the community itself which can decide how to spend the money. There are, however, concerns about who belongs to this 'community' and how representative it is, and about whether the extractive company should be supporting local projects (such as a football pitch or tourist facilities), while at the same time having such a negative and irreversible impact on the ecosystem of the region.²⁶ Some local activists have started to speak of an 'eco-colonialism of lithium' and of 'zones of sacrifice', to convey the idea that these communities are paying the price for the green transition.²⁷

Current conservation efforts are concentrated, as a matter of urgency, on stopping the new exploitation of salt flats and restricting the quotas of the two existing operating companies. There are also efforts to introduce a special 'law of salt flats', as salt flats fall neither under the current wetlands nor aquifers legislation; they include both

²² See Dave Sherwood, 'A Water Fight in Chile's Atacama Raises Questions over Lithium Mining', *Reuters* (18 October 2018), at <https://www.reuters.com/article/us-chile-lithium-insight/a-water-fight-in-chiles-atacama-raises-questions-over-lithium-mining-idUSKCN1MS1L8>.

²³ Personal communication from Ramón Balcázar, director of the environmental NGO Fundación Tantí, 21 August 2019.

²⁴ Sherwood, 'A Water Fight in Chile's Atacama'.

²⁵ Grace Livingstone, 'The Farmers Who Worry about Our Phone Batteries', *BBC News* (15 August 2019), at <https://www.bbc.com/news/business-49355817>.

²⁶ Personal communication from Ramón Balcázar, 21 August 2019.

²⁷ The idea of 'zones of sacrifice' originates from Diego di Risio and others, *Zonas de sacrificio. Impactos de la industria hidrocarburifera en Salta y Norpatagonia* (Buenos Aires: América Libre, 2012), available at <https://opsur.org.ar/wp-content/uploads/2012/05/Zonas-de-sacrificio-impactos-de-la-industria-hidrocarbur%C3%ADfero.pdf>.

but the composition of the ecosystem is different from either.²⁸ In February 2019, an Observatory of the Andean Salt Flats was created, whose aim is to protect the environment and human rights in the area, and there are plans to revise water legislation, and deprivatise it, in the new Chilean Constitution that is being drafted.²⁹

How might the practice of discernment look in such a context? What would ‘pondering and reasoning with the horizon that is life and love’ entail here? One can already draw the conclusion that there is no ‘best’ course of action for someone living elsewhere. Should one buy a new low-carbon-emission petrol car instead of an electric car? Should one volunteer one’s skills, or simply stand in solidarity (in whatever form that might be expressed) with Chilean activists as they try to stop new extraction licenses being granted? Or should one start raising awareness about the negative consequences of the shift from petrol to electric cars as a means to achieve the green transition?

There is one clear conclusion, though: our rising demand for lithium is affecting the ability of people who live in the region where it is mined to do and be what they value, such as living in close relationship to the land of their ancestors. This land will soon be uninhabitable if the current level of water extraction continues. Whatever course of action we decide upon, whether at the individual or collective level, it cannot remain indifferent to the cry of the Andean salt-flat ecosystems and of the local populations who make a living out of the land. This cry is multiplied throughout the planet wherever minerals are extracted—in Latin America alone, there are an estimated 250 conflicts in relation to this industry with local populations.³⁰

Ilmenite Extraction in Southern Madagascar³¹

Over 80 per cent of the rural population of Madagascar are subsistence farmers. They are wholly dependent on natural resources for survival, and identify themselves through their connection to the land of their

²⁸ Personal communication from Ram  n Balc  zar, 21 August 2019.

²⁹ See *Observatorio plurinacional de salares Andinos*, at <https://observatoriosalares.wordpress.com/>; Javiera Mart  nez, ‘It Could Be a Blow to Mining: Chile Voted for the Protection of Territories, Water and Women’, *London Mining Network* (19 May 2021), at <https://londonminingnetwork.org/2021/05/it-could-be-a-blow-to-mining-chile-voted-for-the-protection-of-territories-water-and-women/>

³⁰ See the Observatory of Mineral Conflicts in Latin America, at <https://www.ocmal.org>.

³¹ This section is based on Yvonne Orenge’s two decades of involvement with local communities in southern Madagascar, and her research and advocacy work around the evolution of the QMM mine.



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QMM ilmenite mine, Anosy, Madagascar

ancestors (*Taninadraxana*). Madagascar contains one of the richest ecosystems on the planet: some 85 per cent of the species living there are unique to the island. It is also one of the poorest countries in the world, with 77 per cent of the population estimated to live in multidimensional poverty: not only economically poor but deprived of at least a minimum level of education, health and standard of living.³²

The country has been host to international conservation organizations for decades. Policies to protect the island's natural heritage have led to significant commitments in the 1990s to expand its system of environmentally protected areas. But, reflecting a worldwide trend towards liberalising economies and facilitating foreign investment, at the same time Madagascar liberalised its investment policies to stimulate economic growth and provided incentives for international extractive companies to invest in the country. The Malagasy government at the time essentially defined 'the environment' as a new sector for generating revenue from activities such as private conservation, ecotourism and pharmaceutical research.³³

³² See *United Nations Development Programme, Human Development Reports: Madagascar*, at <http://www.hdr.undp.org/en/countries/profiles/MDG>. For more information about how the multidimensional poverty index (MPI) is calculated and the situation of poverty in Madagascar, see 'Global MPI Country Briefing 2019: Madagascar', *Oxford Poverty and Human Development Initiative*, at https://ophi.org.uk/wp-content/uploads/CB_MDG_2019_2.pdf.

³³ See Amber Huff, *Black Sands, Green Plans and Conflict: Structural Adjustment, Sectoral Reforms and the Mining–Conservation–Conflict Nexus in Southern Madagascar*, IDS Evidence Report 183 (Brighton: Institute of Development Studies, 2016), 23.

One of the largest and most controversial mines to advance under Madagascar's policy reforms was the ilmenite operation of the Anglo-Australian mineral company Rio Tinto in the Anosy region on the south-east of the island, one of the poorest areas of the country where 91 per cent of people are living in multidimensional poverty.³⁴ The mine is operated by Rio Tinto's local subsidiary QIT Minerals Madagascar (QMM), and extraction began from the coast's mineral sands in 2009.

As a condition of World Bank funding, QMM was required to mitigate the environmental impact of its activities, which will remove 6,000 hectares of littoral forests. In 2010, in partnership with the International Union for Nature (IUCN), Rio Tinto made a global commitment to a biodiversity strategy of 'net positive impact' (NPI).³⁵ This strategy pledges to leave local ecosystems where minerals are extracted better off because of mining activities than they would have been otherwise. In order to achieve Rio Tinto's NPI targets in Madagascar, QMM claimed three 'biodiversity offsetting' zones in the Anosy region. Biodiversity offsetting is premised on the idea that it is possible to compensate for damage to land, forest and biodiversity in one area by protecting or creating an area of the same or similar value somewhere else.³⁶

Antsotso is one of the villages that sit within a QMM offset zone, some 50 km north of the mine, in the nationally protected forest of Tsitongambarika. As a result of the QMM offset, hundreds of Antsotso villagers have been denied access to the forest resources on which they have depended for generations. Their traditional practice of growing manioc in the forest, which could yield enough harvest each year to sustain the community for two, was halted. Food production that had once been close to home, secure and productive, was now forced on to a hot, sandy and windswept beach where the community could not

³⁴ See Rowan Moore Gerety, 'Mining and Biodiversity Offsets in Madagascar: Conservation or "Conservation Opportunities"', *Mongabay* (30 August 2009), at <https://news.mongabay.com/2009/08/mining-and-biodiversity-offsets-in-madagascar-conservation-or-conservation-opportunities/>; 'Global MPI Country Briefing 2019: Madagascar', 9.

³⁵ Gerety, 'Mining and Biodiversity Offsets in Madagascar'.

³⁶ See Friends of the Earth and the Andrew Lees Trust, *New Frontiers, New Tricks: New Threats to People and Nature from Biodiversity Offsetting Linked to Mining and Development* (London: Friends of the Earth, 2019). The idea that biodiversity destruction can be 'offset' is based on a series of assumptions about how nature can be quantified and costs placed upon it; see Sian Sullivan, 'After the Green Rush? Biodiversity Offsets, Uranium Power and the "Calculus of Casualties" in Greening Growth', *Human Geology*, 6/1 (2013), 80–101, at 95.

produce more than two months' food supply. Villagers who cut trees for pirogues in order to fish were criminalised and fined, and their boats were destroyed.³⁷

The biodiversity offsetting scheme was introduced without informed consent. Villagers complain that they were lied to and misled. They had been told they would be engaged in helping to protect the forest, would be paid for tree-planting activities and receive other benefits. Asity, a local NGO affiliate of BirdLife International, which manages the offsetting scheme with QMM funding, did not deliver what it promised. Only a few people were employed in planting and there were no payments for the work of nurturing and watering the trees, only for planting them. As one Antsotso villager testified: 'Asity has forbidden us to use the forest because it will be a protected area. If we use it we have to pay a fine. But how can they talk about money with us? We don't have any.'³⁸ To compound their problems, the Malagasy environmental regulator has told the community they have no rights to compensation for their losses and should negotiate with QMM for help.³⁹ Robbed of their land, forest access and food security, villagers have fallen into conflict about how best to address the situation.

After some negotiation with QMM, a rice-growing project was introduced. However, the lowland areas where villagers are expected to grow rice are of poor quality, and they only know cultivation on hillsides. Villagers complain they do not know how to produce rice harvests in these poor quality lowlands. For global investors, the mine's biodiversity offset has given the company green credentials. But the local community has been left without food and without its traditional livelihood. As a villager put it:

We understand the importance of protecting the forest. But they should have started the projects to help us grow food before stopping us from using the forest. Otherwise we are left with no food and this is a problem.⁴⁰

³⁷ Jutta Kill and Giulia Franchi, *Rio Tinto's Biodiversity Offset in Madagascar Double Landgrab in the Name of Biodiversity?* (World Rainforest Movement, 2016).

³⁸ Kill and Franchi, *Rio Tinto's Biodiversity Offset*, 16.

³⁹ Meeting between the ONE (Office Nationale pour l'Environnement) and Antsotso villagers at Iabokoho in October 2017.

⁴⁰ Kill and Franchi, *Rio Tinto's Biodiversity Offset*, 11. See also interviews with villagers conducted in 2019, in Malavika Vyawahare, 'Raze Here, Save There: Do Biodiversity Offsets Work for People or Ecosystems?', *Mongabay* (28 February 2020), at <https://news.mongabay.com/2020/02/raze-here-save-there-do-biodiversity-offsets-work-for-people-or-ecosystems>.

Local residents have very little, if any, resources to challenge or change this situation. They are subject to unequal structures of power. The alliances that Rio Tinto/QMM has built with the Malagasy government and with international conservation NGOs mean that actions are often taken unilaterally or without full consultation and consent, and consequently can have profound, irreversible and negative effects on the lives of the local community. The company's social engagement practices have been criticized for the way they aim to pacify and neutralise dissent and contestation, rather than empower locals or respect their rights and entitlements.⁴¹

The government owns 20 per cent of the QMM mine, and conservation NGOs including Conservation International, BirdLife International, Asity and the IUCN are partners in QMM's conservation programme. The resulting powerful corporate–state–NGO nexus closes off the space where citizens might claim or advance their rights.⁴² Madagascar's poor track record on transparency and governance further curtails citizens' rights and equitable dialogue.⁴³ The ensuing isolation and disenfranchisement felt by villagers is palpable. Despite their heavy reliance on natural resources, the poorest have no voice in decisions made. They have little power to influence policy, control resources or enjoy legal protection in the face of large-scale investment.

It is hard to reconcile how a programme that is internationally lauded for protecting the environment can carry such a heavy price for local people. We are confronted here with another 'zone of sacrifice' like the lithium case in the Chilean Atacama region. The personal cost to Malagasy villagers for delivering Rio Tinto's green credentials is never measured, their well-being is not valued, nor are they adequately compensated for their losses, and they are silenced whenever they raise their concerns. For example, when solidarity actions with international activists exerted pressure on QMM to address Antsotso's rights and food security problems, villagers were cautioned by QMM

⁴¹ See Amber Huff and Yvonne Orengo, 'Resource Warfare, Pacification and the Spectacle of "Green" Development: Logics of Violence in Engineering Extraction in Southern Madagascar', *Political Geography*, 81 (August 2020).

⁴² See Amber Huff, Yvonne Orengo and Barry Ferguson, 'State-Corporate Alliances and Spaces for Resistance on the Extractive Frontier in Southeastern Madagascar', ERPI International Conference: Authoritarian Populism and the Rural World, 17–18 March 2018, available at https://www.tni.org/files/article-downloads/erpi_cp_3_huff_et_al.pdf.

⁴³ See the Transparency International Index for Madagascar at <https://www.transparency.org/country/MDG>.

staff to end their relations with external agencies: ‘polygamy is forbidden’, they were told (meaning, ‘if you want our help you must only work with us’).⁴⁴

Socio-Economic Discernment and Social Justice

These two cases offer stark evidence in support of *Laudato si*’s argument that all environmental questions must also integrate questions of social justice. In the Atacama, the salt flats are drying and ecosystems are dying because of the lack of regulation and monitoring and, most importantly, because the voices and rights of the local people have not been taken into account in policy decisions. In Anosy, mining destroys forests while locals are forbidden to access vital resources for their survival and livelihood. What makes the two cases even more tragic is that both populations are sacrificed in the name of environmental protection and ‘progress’. The people of the Atacama lose their livelihoods for the sake of the green transition from petrol to electric cars, and the people of Anosy for the sake of corporate biodiversity offsetting.

All environmental questions must also integrate questions of social justice

Both situations also reveal the deepening crisis over competing interests in natural resources and demonstrate that reconciling them may appear almost impossible. Consumers have needs for certain resources to sustain their lives and thereby create demand. Some institutions seek good investment returns to sustain their activities, which mining companies provide. There are governments that require revenues from mineral exports and royalties from mining companies to finance public services. For example, in some Latin American countries such as Bolivia and Ecuador most of the social progress and reduction of multidimensional poverty this century has been financed in most places by revenue from the extraction of natural resources.⁴⁵ In contrast, the failure to deliver social services in Africa on the back of significant extractive revenues is a cause for concern.⁴⁶

⁴⁴ Fieldwork report from Trano Aro Zo, local human rights organization in Anosy, to the Andrew Lees Trust in January 2018.

⁴⁵ See Diego Sánchez-Ancochea, ‘The Surprising Reduction of Inequality during a Commodity Boom: What Do We Learn from Latin America?’, *Journal of Economic Policy Reform*, 24/2 (2021), 95–119.

⁴⁶ See Anthony Bebbington and others, *Governing Extractive Industries: Politics, Histories, Ideas* (Oxford: OUP, 2018); Rosemary Thorp and others, *The Developmental Challenges of Mining and Oil: Lessons from Africa and Latin America* (London: Palgrave Macmillan, 2012).

How can we enjoy and ensure a dignified life for all without losing the biodiversity on which every living creature depends? Which actions should we take for this to happen? Going back to the four characteristics of discernment in the socio-economic sphere, a first answer to that question is that whatever course of action we take, there is no ‘best’ action. Second, our actions demand compassion for the most marginalised and love of nature as their horizon. Third, it follows that our actions need to be based on an assessment of what is happening to the poor and marginalised and the earth on which they live. Are the people in the Anosy and Atacama regions more, or less, able to live lives that they value—feeding themselves on manioc from the forest and fishing with wooden boats in the sea, or making a livelihood from animal breeding and taking care of the land their ancestors have given them—as a consequence of our actions? Fourth, our attitudes and actions can reinforce the structures of power: who defines what ‘development’ or ‘progress’ means and how to pursue it?

As the two cases have illustrated, local people are often voiceless, collateral damage in the onslaught of powerful interests that advance a specific understanding of what ‘development’ and ‘progress’ mean. In Anosy, the head of the QMM social programme was overheard to express her frustration at villagers’ lack of cooperation with the company’s agenda, saying that the villagers did not want the ‘gifts of development’ that the mining company had to offer.⁴⁷ In the Atacama, with some revenues from Albermarle being redistributed for local community spending, it is easier for opposition to the extractive activities to be dismissed or criticized, given the ‘gifts’ received.

The challenges are extremely complex, but the final document of the Synod for the Amazon offers some hopeful ways forward:

We may not be able to modify the destructive model of extractivist development immediately, but we do need to know and make clear where we stand, whose side we are on, what perspective we assume, how the political and ethical dimension of our word of faith and life are transmitted.⁴⁸

The actions proposed include disinvestment campaigns—shareholders can positively influence corporate policies—and commitments to

⁴⁷ Huff and Orenge, ‘Resource Warfare, Pacification and the Spectacle of “Green” Development’, 10.

⁴⁸ Final document of the Amazon synod, n. 70.

alternative goods and energy resources that do not rely on the destruction of the environment and people's livelihoods.⁴⁹

Making decisions with the horizon that is life and love, especially considering the most vulnerable and the earth, may seem challenging. However, having the power to make such decisions and the freedom to embrace options can already be recognised as a privileged position, especially when we take time to reflect upon and empathize with the plights of indigenous villagers in Antsotso and the Atacama. The Ignatian spiritual tradition has developed many tools over centuries to 'make decisions with the horizon that is God' in our personal lives. Further work critically needs to be done to take that discernment beyond individual decisions to collective decisions at all levels of society so that the cry of the poor and the earth may be responded to adequately. The process of global ecological conversion of the Church demands this of us.

Séverine Deneulin is director of international development at the Laudato Si' Research Institute, Campion Hall, University of Oxford, and associate fellow in international development at the Oxford Department of International Development. Her research is in the area of ethics and public policy. She is also visiting associate professor at the University of Bath in the professional doctoral programme in policy research and practice.

Yvonne Orengo is director of the Andrew Lees Trust and has jointly worked with Publish What You Pay (UK and Madagascar) as well as Friends of the Earth (UK) to maintain pressure on Rio Tinto urgently to provide safe drinking water to affected communities, manage waste waters, improve transparency and communicate openly with local communities. She has a MSc in international development from the University of Bath.

⁴⁹ The Church of England, for example, is investing only in companies that comply with the Paris Climate Agreement, see 'Church of England Restricts Investment in Companies That Don't Meet Its Climate Standards', at <https://www.churchofengland.org/news-and-media/news-and-statements/church-england-restricts-investment-companies-dont-meet-its>.