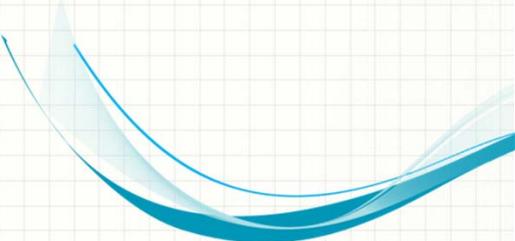


RESTORING LAND-BASED LIVELIHOODS

Frederic Giovannetti
Consultant
22 October, 2014
IAIA 2014 Resettlement Symposium



BRIEF INTRODUCTION

HEARD IN REAL LIFE

- “Don’t make it complicated: we are taking 1,000 hectares for our mine but then there is plenty of land around, look at this, all virgin land, nobody owns it, we just clear the brush, get the land deep ploughed, and then allocate it to affected people. Easy...”

HEARD IN REAL LIFE (2)

- 1999 (oil industry official): “we don’t use directional drilling in Africa, it is too expensive and makes no sense with land as cheap and abundant as it is”
- 2014: onshore projects in Africa routinely use directional drilling to minimise footprint
- *(Directional drilling is a technique that allows to drill multiple oil wells from only one well pad, thereby requiring much less land)*

HEARD IN REAL LIFE (3)

- “Why is it that in South East Asia they get 8 tons of rice per hectare, while here they get only one? We’ll support irrigation and intensification and they’ll thrive with less land. Easy...”

HEARD IN REAL LIFE (4)

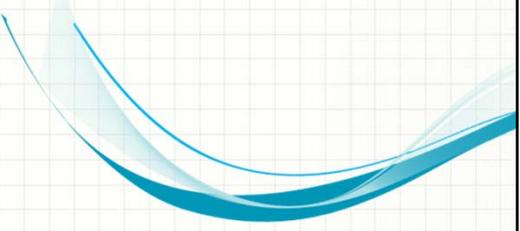
- “Any chance affected people could get a job at the mine?”
- “No, we have our own operational constraints here and we’ll have no jobs for affected people. They have been farmers for ever and won’t adapt to mining or industrial jobs.”

RESTORING LAND-BASED LIVELIHOODS

- Restoring land-based livelihoods is usually based on one or several of the following:
 - Find alternative land to replace land that was taken
 - Intensify production such that the loss of land can be matched by an increase in land productivity
 - Support alternative, non land based livelihoods
 - Support access to employment induced by the project
- This presentation will discuss and illustrate these topics
- Not an exhaustive coverage of the subject but “food for thought and discussion” rather

THE PRESENTER

- Frederic Giovannetti
- Resettlement consultant
- Most experience in Africa and former communist countries of Europe and Asia
- Agronomist by education



THE CHALLENGES OF REPLACING LAND: THE BROAD PICTURE

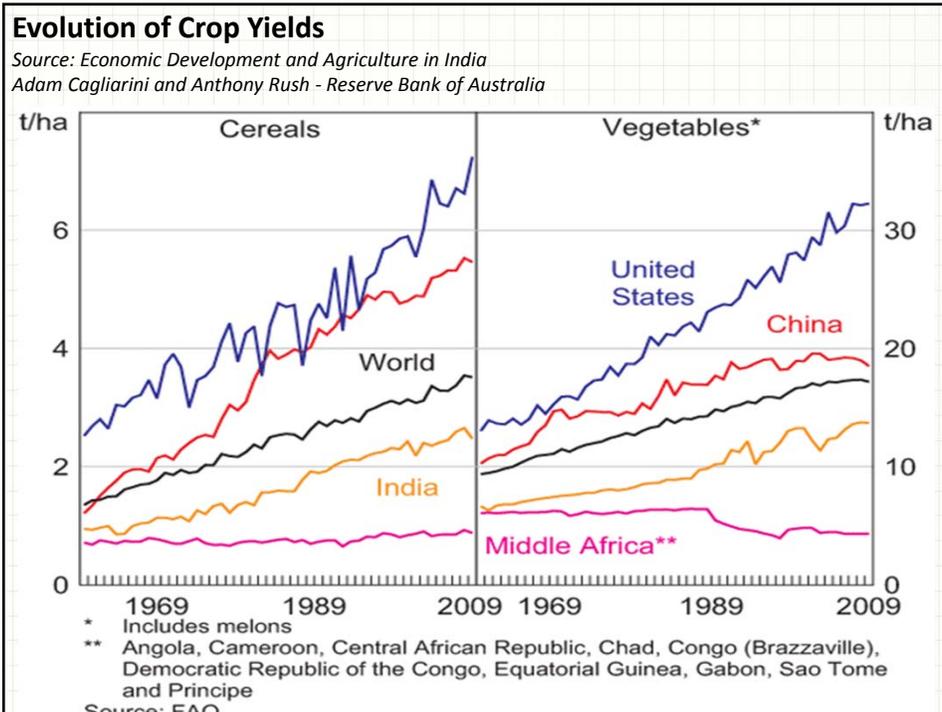


AGRICULTURAL LAND IS SCARCE AND PRICY

- Agricultural land is often perceived as abundant. Replacing what is taken should not be too difficult.
- This may be true in some cases
- But these cases are the exception, and in fact agricultural land is becoming a scarce and expensive resource in most areas of the world, quite difficult for economically displaced people to replace

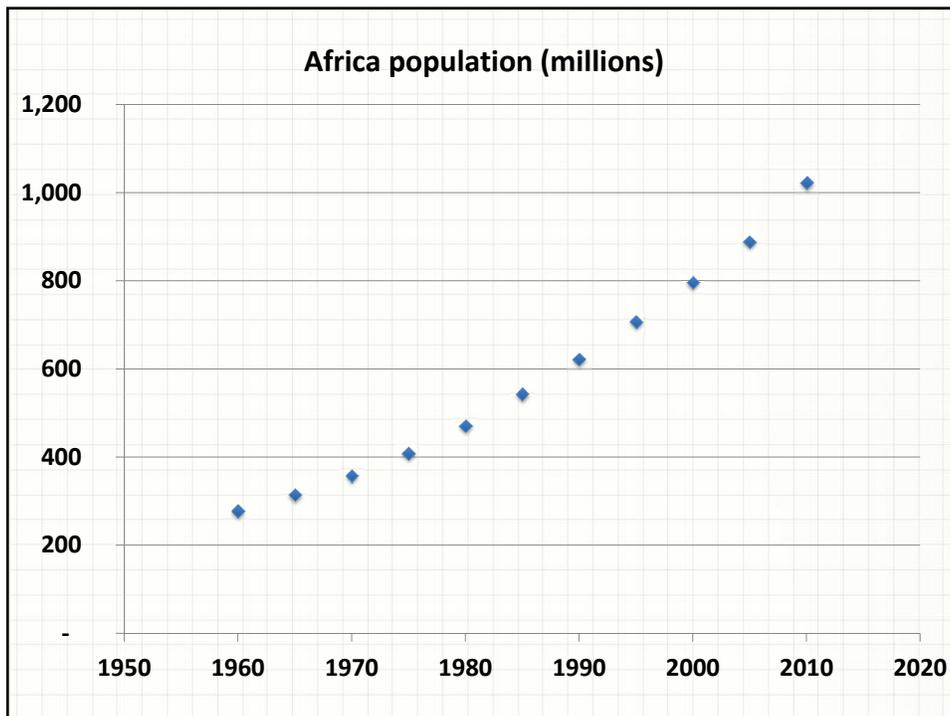
LAND PRODUCTIVITY DOES NOT KEEP-UP WITH POPULATION GROWTH

- Worldwide, yields of cereals have steadily increased in the second half of the 20th century
- However, in many African countries, cereal yields have not progressed over the last 50 years and remain at low levels of about half a ton to a ton per hectare



LAND PRODUCTIVITY DOES NOT KEEP-UP WITH POPULATION GROWTH

- Meanwhile, population is growing
- About ninety million more people every year
- Africa the fastest growing continent



LAND PRODUCTIVITY DOES NOT KEEP-UP WITH POPULATION GROWTH

- Worldwide, use of new technology (varieties, fertilisation, irrigation) has overall allowed agricultural productivity to keep up with the population increase
- This is not true in Africa, yields do not increase and cannot match the population growth: as a result, more agricultural land is needed and the pressure on land is increasing

LAND IS PRICY

- Land acquisition used to be regarded as a marginal element of the cost of developing an extractive or industrial project in developing and emerging economies
- These times are over! With more pressure on land, the value of agricultural land is increasing
- For example, in most former communist countries, farmland has been appreciating at rates of up to 20% per year in the last 10 years
- Values of up to USD 10 per m² for ordinary farmland are now not uncommon, to the point that agricultural land can become inaccessible to local farmers...

The best long-term real estate investment: Farmland

Richard McGill Murphy, Special to CNBC.com
Monday, 24 Mar 2014 | 7:00 AM ET

584 SHARES

16 COMMENTS Join the Discussion



Source: Black Sea Agriculture

Investors continue to buy up farmland like this in Bulgaria as a long-term investment plan.



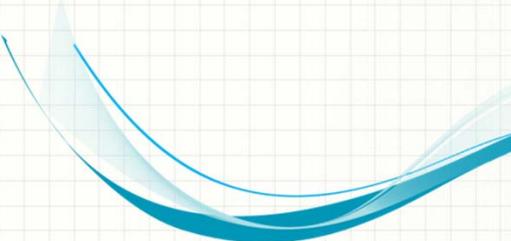
From his office on Broad Street in lower Manhattan, Jeff Notaro oversees a modest portfolio consisting mainly of dirt. Specifically, Notaro's Black Sea

LAND IS PRICY

- Even in relatively low population density African countries, land speculation is becoming a reality, and not only in urban fringes

LAND REPLACEMENT MECHANISMS

- Relying on the market: fine in most industrial countries but not functional in most developing or emerging countries – land is usually not available to affected people in fair willing buyer willing seller transactions
- Relying on traditional land allocation mechanisms: can work in many places in Africa, but can be discriminatory in others
- Project buys land for affected people: can work too but beware of disruption to usual mechanisms
- Review of possible land replacement mechanisms always needed at planning stage, significant facilitation by Project generally required



THE CHALLENGES OF INTENSIFICATION: THE BROAD PICTURE

THE CHALLENGES OF INTENSIFICATION

- Intensification: apply more inputs to produce more by unit of surface
- In the context of economic displacement and livelihood restoration, the objective is to produce the same (or more) overall with less land
- Key techniques include:
 - Irrigation, rather than rain-fed
 - Fertilisation, rather than fallow
 - Improved and homogeneous varieties
 - Mechanisation

THE CHALLENGES OF INTENSIFICATION

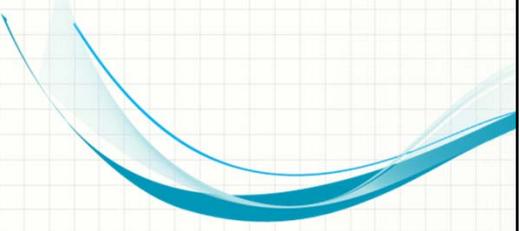
- Most agricultural development initiatives sponsored by governments and aid agencies were based on intensification
- Looking at the history of agricultural development in the last sixty years in Africa, the number of failures is rather impressive...
- As shown before, yields have not increased in the last 50 years

THE CHALLENGES OF INTENSIFICATION

- Why is intensification so difficult? Because there are good reasons why agricultural systems are kept extensive
- Two key reasons:
 - Little economic incentive to produce more – marketing opportunities poor, prices low, competition with subsidised agriculture
 - Risk aversion: agriculture, like other sectors, is about managing risks (climate, pests, diseases) and most farmers in developing countries are risk averse (when you risk losing your harvest because of lack of rain, you are better off if you have spent nothing but your labour)

THE CHALLENGES OF INTENSIFICATION

- Does it ever work?
- Yes it does, if:
 - There is a reward (downstream conditions: marketing, infrastructure, processing)
 - The cost of inputs remains within the risk zone that the farmers will be prepared to accommodate
 - There is long term technical support
 - No mistake made in the early days (all for free), long-term sustainability must drive from kick-off
- Dramatic intensification is rarely sustainable (e.g. drip irrigation, complete shift in crops from food to commercial)



TWO CONTRASTING ILLUSTRATIONS IN THE DR CONGO (TFM) AND THE RUSSIAN FEDERATION (YAMAL LNG)

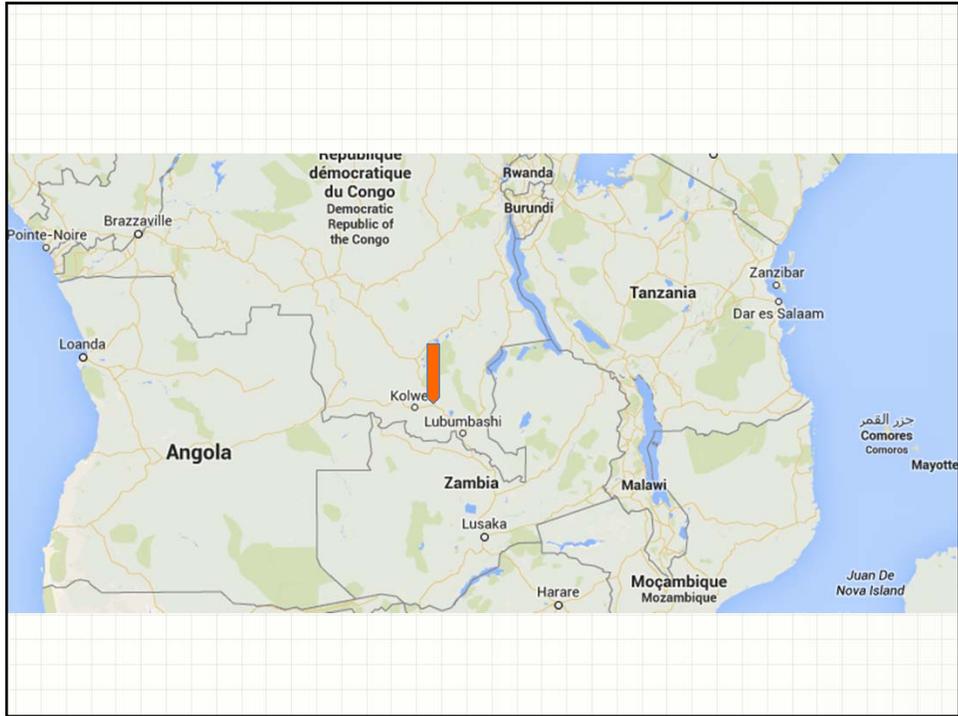


TENKE FUNGURUME MINING, DRC

- Katanga province of the DR Congo
- Large copper mine
- Large footprint (over 5,000 hectares) in what used to be a good agricultural area with relatively low population, attracting “agricultural migrants” from all over Katanga

Tenke Fungurume Operations







TFM: THE CHALLENGES

- About 400 households physically displaced in the first phase (3,000 hectares footprint, three communities), and another 500 economically displaced
- Affected communities were extensively consulted about resettlement sites
- Although a lot of emphasis was put on replacement land, the largest community selected a sub-urban site where little good agricultural land was available, because they wanted a more urban way of life and expected access to employment

TFM: THE CHALLENGES

- Although sizable pieces of land initially appeared to be available, agricultural land that was taken was by far the most fertile in the area
- Also, pressure on land (and other resources) significantly increased as a result of natural population growth and in-migration entailed by the mine: the population of the town of Fungurume increased from about 40,000 in 2004 to about 200,000 in 2014

TFM: THE CHALLENGES

- The thinking behind the livelihood restoration activities was that:
 - Improved agricultural techniques – particularly the use of fertilisers – would match the loss in land quantity and quality,
 - After three years of support (land allocation, fertilisers, technical support), resettlers would be able to restore their livelihoods
- This was not fully achieved and longer support had to be provided
- Even now, 6 years after the move, a number of people in the largest resettler community are still struggling
- The main reasons are (1) that “improved” techniques are not always adopted, and (2) that alternative livelihoods, including employment, did not meet the expectations

TFM: THE CHALLENGES

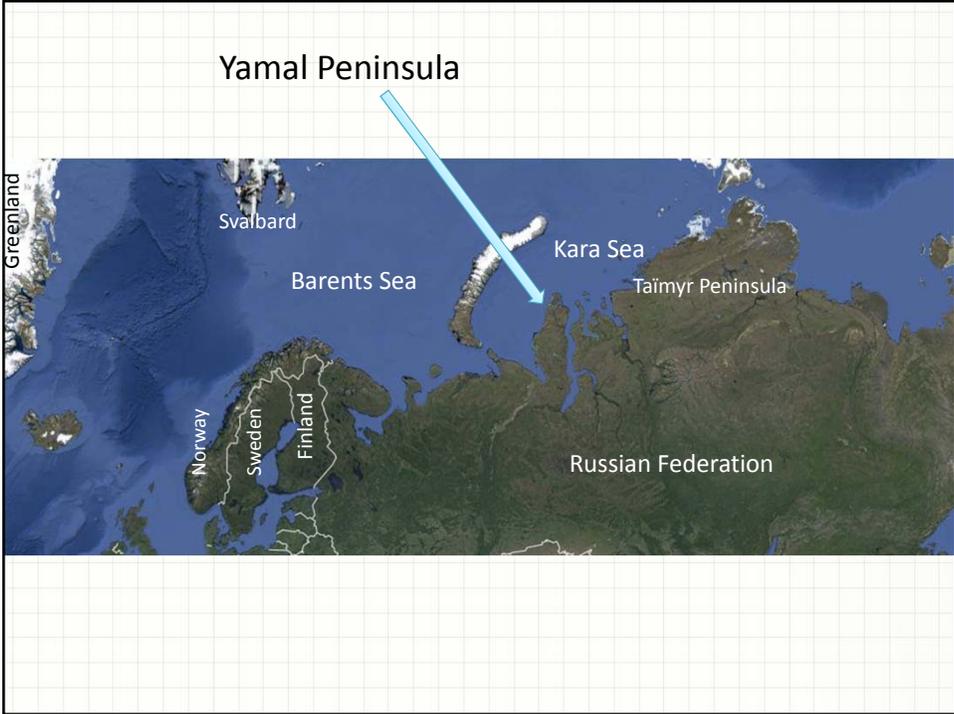
- Another important difficulty came from not fully anticipating the development of the mine beyond the first phase
- In the early planning stages, geologists and mine planners did not quite know what the footprint would be 20 years down the road
- If we had known, we would probably have looked at resettlement sites well away from the mine to avoid the pressure on land from the mine itself, and the pressure entailed by in-migration and population growth

TFM: KEY TAKE-AWAY POINTS

- Intensification requires long term support and associated funding: what is achieved in the usual three to five years of livelihood restoration support may not be robust and sustainable enough
- If the changes brought about by intensification are major (e.g. irrigation), support should be even longer
- Long term image of Project land impacts is critical to the planning of land-based livelihood restoration – this is particularly relevant to mining but may apply to other sectors – in resettlement we need to think longer term than we usually do

YAMAL PENINSULA, RUSSIAN FEDERATION

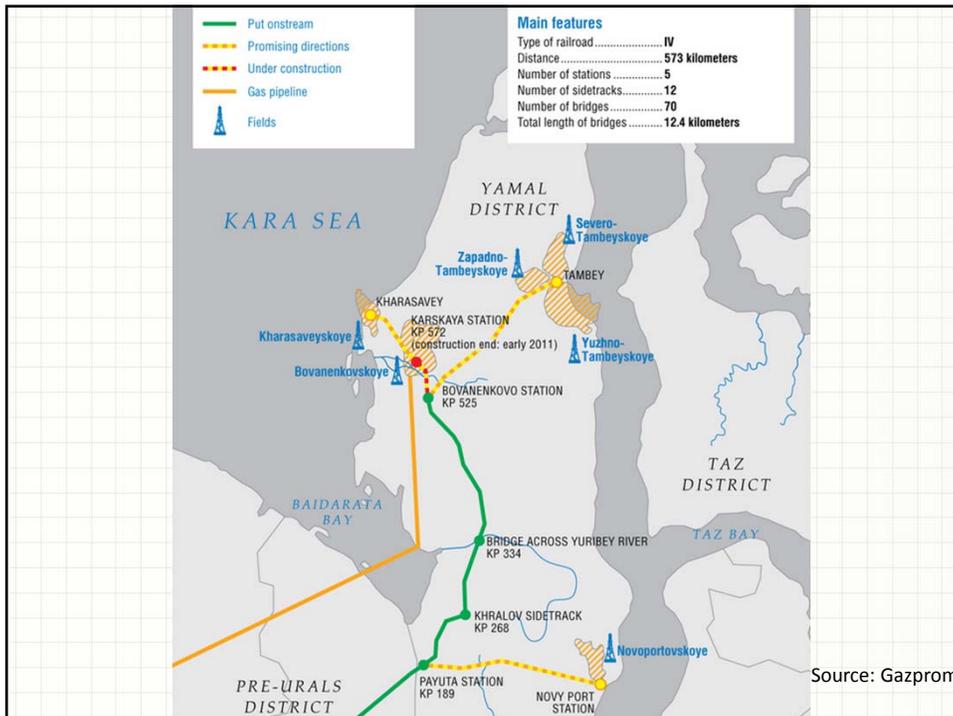
- One of the inhabited territories with the lowest density of population:
 - 120,000 km²
 - 16,000 people (of whom 7,000 live in the administrative centre Yar-Sale)
- Indigenous Nenets: their livelihoods combine nomadic reindeer herding, fishing and hunting



© Jeremy Nicholl



© Jeremy Nicholl



Source: Gazprom



SMALL FOOTPRINT, YET A FRAGILE BALANCE

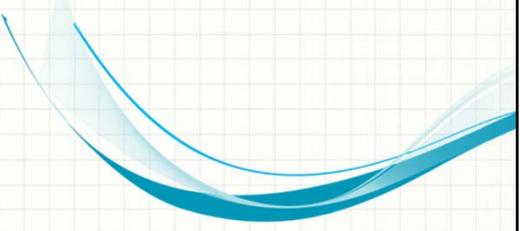
- At first glance, gas projects in Yamal seem to have a modest footprint compared to the immensity of the territory
- But the balance between reindeer density and pasture potential is fragile:
 - Arctic pasture has very limited potential and can accommodate only low reindeer loads
 - Many areas of Yamal are already overgrazed
 - Very high birth rate in Yamal (about 5 children per household)
 - Every family needs about 300 to 500 heads to sustain themselves
 - If loads are already too high now, it is clear that not all families will be able to sustain themselves from reindeer herding in the future

SMALL FOOTPRINT, YET A FRAGILE BALANCE

- The only sustainable future for the IP population of the Yamal peninsula is a combination of traditional reindeer herding and employment in the gas industry and supply chain, even if this will require massive training efforts (which are starting) and may result in cultural changes

KEY TAKE-AWAY POINTS

- A livelihood restoration and land replacement strategy must look at the broader and longer-term demographic and environmental picture
- Even a small footprint in a low population density environment can turn out to be the straw that breaks the camel's (or reindeer's) back



A SHORT SUMMARY AND SOME THOUGHTS



LAND IS SCARCE, LAND IS PRICY

- Land impacts need to be taken very seriously, even where nobody is physically displaced
- Using less land, restoring it and handing it back after it has been used are social imperatives
- The extractive industry will have to adapt its planning and its techniques to the imperative of using less land

LAND REPLACEMENT

- Resettlement site selection to be driven by long term availability of land, including cumulative prospective of extractive land needs
- Mechanisms for replacement of land must be looked at carefully to reach secure tenure

INTENSIFICATION

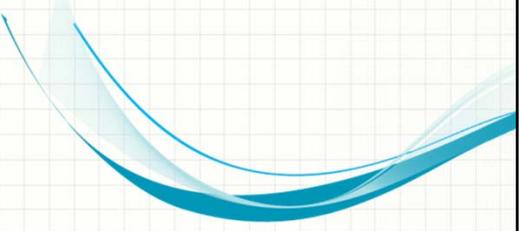
- Intensification can succeed only if downstream conditions are in place
- Risks to farmers must be acceptable and accepted
- Lots of engagement and training required, meaning time and money
- Dramatic intensification rarely works

ALTERNATIVE LIVELIHOODS

- Many rural people in the emerging and developing world have complex livelihood strategies, where agriculture may be predominant but combines with other sources (fishing, trade, extraction,...)
- Understanding of baseline livelihood strategies key to formulating alternatives
- Analysis of risks and gender implications of sponsoring alternatives is important

PROJECT EMPLOYMENT

- And lastly this is my modest message to the extractive industry: too little is done to promote project employment for affected people
- I understand the operational constraints and the cultural issues, but don't tell me that companies and people who can successfully build multi billion projects in challenging countries and challenging environments could not overcome the constraints of offering long term jobs to those whose life they durably affect



THANK YOU VERY MUCH!

**QUESTIONS / DISCUSSION MOST
WELCOME!**