



**Friends of
the Earth
Scotland**

Credit Where it's Due : The Ecological Debt Education Project



Environmental Justice

No less than a decent environment for all;
no more than a fair share of the Earth's resources



CREDIT WHERE IT'S DUE
THE ECOLOGICAL DEBT EDUCATION PROJECT



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Development



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the Earth
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CREDIT WHERE IT'S DUE - THE ECOLOGICAL DEBT EDUCATION PROJECT

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Contents

	page
Chapter 1. Introduction	4
1.1 How to use this book	4
1.2 So what is ecological debt?	5
1.2.1 Background of ecological debt concept	5
1.2.2 Accruing ecological debt	6
1.2.3 The argument for ecological debt	6
1.2.4 What can we do about ecological debt?	7
1.3 Popular education and ecological debt	8
1.3.1 Why ecological debt?	8
1.3.2 Why education?	8
1.3.3 What is popular education?	9
1.4 The story so far	10
1.4.1 What has using a popular education approach actually meant?	11
 Chapter 2. Case Studies	 13
2.1 Local action	13
2.1.1 Jubilee Scotland	13
2.1.2 Local Exchange Trading System (LETS)	13
2.1.3 Slow Food Movement	14
2.1.4 Trade Justice Movement	15
2.1.5 Summary	15
2.2 International action	16
2.2.1 Bananas: what's left for future generations?	16
2.2.2 Uganda's Bujagali hydro-electric plant	19
2.2.3 Effects of modern agriculture in India, Vision 2020	21
2.2.4 Mining in Northern Canada	23
2.2.5 Ecuador: Indian groups sue Texaco Oil	25
 Chapter 3. Resources	 27
3.1 Instructions	27
3.1.1 How to use this toolbox	27
3.1.2 What do the resources cover?	27
3.1.3 What approach is taken?	27
3.2 Game 1 - Debt Accumulation	28
3.3 Game 2 - Tobacco Links	39
3.4 Game 3 - Development Digressions	49
3.5 Game 4 - Debt Tableau	51
3.6 Game 5 - Axeman Game	56
 Chapter 4. Finding out more	 58
4.1 Ecological Debt Information	58
4.2 Popular Education Information	59
4.3 Other useful organisations	59

1. Introduction

“ The cumulative responsibility of industrialised countries for the destruction caused by their production and consumption patterns is called the ‘ecological debt’ ”

(FoEI website: www.foei.org)

My introduction to the Ecological Debt Education Project was as a student looking for a placement for my community education course. On approaching Friends of the Earth Scotland I was told that there might be something I was interested in – did I know anything about ecological debt? “Well...” I said, “not really, but I can imagine what it might be”. My initial assumptions were correct but I can safely say now, two years later, that I had little idea of how my involvement in the Ecological Debt

Education Project would deepen and strengthen my understanding of the relationship between community, democracy and the environment and the role popular education has in creating the space to allow communities across the globe to take control of their environments and lives. This handbook is designed as an introduction to the subject of ecological debt for community activists and workers. In many ways it reflects what we have learned from working with the idea in communities in Scotland.



Sasol refineries in Sasolburg

Credit: Groundwork, FOE South Africa

1.1 How to use this handbook

The first section of the handbook explains the idea of ecological debt and tells the story of how we have been working with the idea throughout communities in Scotland over the past couple of years. We have collected together a series of case studies in Chapter 2 which provide real life examples of how ecological debt can accrue. You will be directed to these case studies at stages where the example can help you understand a point being made. We have included these examples because one of the fundamental things we have learnt in the past couple of years is that people find it quite difficult to understand that the North has a debt to pay to the South without relating the idea back to real stories. Chapter 2 also includes a series of local case studies of people and organisations that are doing things which we believe show a recognition of our ecological debt and which begin to repay that debt.

Another important thing we have learned is that the precise reason we want to work with the idea of ecological debt, i.e. because it is such a powerful idea, is the exact same reason why people often feel helpless about what they can do to address the kinds of problems that the issue highlights. The local case studies in chapter 2 as well as chapter 3 of the handbook are designed to help readers past that point of helplessness. Chapter 3 includes a section of educational resources that can be used to raise awareness of the idea of ecological debt with groups, including exercises which help the group work through how they might take action based on their new learning.

1.2 So what is ecological debt?

'Environmental space', a key concept in Friends of the Earth for the last few years, is an idea which combines fairness and sustainability. A vision of living within our environmental space is one where all people have the opportunity to live comfortably without denying the rights of those around them during both the present and the future.

In asking people to engage with the idea of ecological debt, a frequent response is that it is too negative, that concentrating on the problems of the past doesn't deal with the problems of the present or the future. It is possible that this response comes from a weariness in people that take an interest in the environment, deriving from the individualistic emphasis of the environmental movement in past years. The concept of the North having accumulated an ecological debt to the South through its history of looting and exploitation is vitally important to our understanding of how to move towards the fair and sustainable vision that the true application of environmental space depicts. In the North we have been exceeding our environmental space of many resources for centuries, creating an ecological debt. In order to move towards a goal of living within our environmental space, we need to recognise and address the complicated social, political, economic and environmental web we have weaved by our over-consumption. We can recognise this, by acknowledging and repaying our ecological debt.

The next couple of pages will outline the ways in which the North has accrued an ecological debt to the South, and the ways in which our over-consumption has not only affected the environment, but every aspect of the daily lives of people of the South. This will make it clear why it is only through addressing the consequences of past and present North-South relationships that we can begin building a just and sustainable future.

1.2.1 Background of ecological debt concept

The concept and term ecological debt came from a growing recognition in the 1980's by various Southern analysts of external debt, that the repayment of third world financial debt was having a destructive effect on the natural environments of these countries¹. A set of 'Strategies for Action' was presented to the Earth Summit in Rio in 1992 with the intention that international organisations would act on them in the proceeding years. The strategies never were addressed, however the work on ecological debt continued in organisations such as Acción Ecológica in

¹ John Dillon (2001) the History of the Ecological Debt Movement, paper presented at the Benin conference 2001

Ecuador and Friends of the Earth International.

1.2.2 Accruing ecological debt

A variety of examples can be given of ways in which an ecological debt can be accrued. They are outlined briefly below, but for a fuller understanding of their implications for people's lives in the South refer to the case studies in Chapter 2.

LOOTING - In the past many natural resources such as gold were taken from the South without any payment being made to the country from which they were taken. People in the South are now starting to ask for recognition for the wealth that has been taken from them.

DAMAGING NATURAL ENVIRONMENTS - Many of the things consumed in the North come from the South, be it food or oil or wood. The production and removal of these items often leaves a raft of damaged environments that are never returned to their original state. Moving oil about the world is a clear example; where the oil spills near the point of removal it damages the local environment and so consequently the livelihoods of the people that live in those environments. Further examples of this type of ecological debt can be found in the case studies on Texaco in Ecuador (section 2.6), or the banana case study (section 2.2).

OVERUSE OF GREENHOUSE GAS SINKS - Taking the environmental space idea, we are all entitled to a fair share of the capacity of the earth to absorb greenhouse gases. At present, the North is over using its fair share and the effect of this overuse, namely climate change, is being felt by everybody in the world, not just those that are reaping the benefits of the overuse. Additionally, the greatest effects of a warming planet are going to be felt by the South.

DUMPING TOXIC WASTE - Many toxic wastes that are banned in the North are shipped to the South to be disposed of. Once again, the North is benefiting from the processes that create these wastes, but expects the South to cope with the negative outputs.

BIOPIRACY - One of the great wealths of the world is its biodiversity, much of which can be found in the South. Biopiracy occurs when traditional knowledge about the properties of particular plants is used for the development of modern pharmaceuticals. These are subsequently patented, so that any further use of the pharmaceutical brings financial benefit only to those that patented the drug. None of the financial benefits of this process go to the people who had stored the original knowledge about the properties of a plant for centuries.

1.2.3 The argument for ecological debt

The above are all powerful examples of the way in which the environments of the South have been exploited for the benefit of the North and in that sense they constitute the ecological debt. The knock-on effect of stopping the processes that underpin these exploitations could have a powerful effect on the capacity for countries in the South to build an economically, and environmentally sustainable future for themselves. At present many countries in the South have very high poverty levels and are being forced into patterns of high export economies in

order to pay off rising financial debts, creating ever more ecological debt.

If the North were to recognise its ecological debt then there would be a commitment to stop accruing more debt, which would require a change in consumption levels, leading to some freedom for the South from the effects of high consumption patterns. However the recognition of an ecological debt would also lead to its repayment. This repayment would give the South the capacity to start building a sustainable future.

Repayment of the ecological debt is a thorny issue. In trying to reach a value for the ecological debt, it is tempting to give it a financial value, which could then be demanded from Northern countries. However, organisations such as Acción Ecológica suggest that this model of repayment does not counter the underlying processes that create the ecological debt. Acción Ecológica argue that forms of repayment have to be developed which both stop the ecological debt accruing as well as repay what debt already exists. Examples of this would include the cancellation of the financial debt of the South, or that damaged environments are actually cleaned up by the companies that created the mess, or even that companies that do damage to natural environments are taken to court for the damage they have done.



Esmeraldas is a town in Ecuador which has suffered extensively from oil spillages.

1.2.4 What can we do about ecological debt?

The following quote comes from a paper by Martin Rocholl, Director of Friends of the Earth Europe 'From Environmental Space to Ecological Debt – A European Perspective'.

“Imaging yourself as a Friends of the Earth local group member somewhere in Europe. Saturday afternoon you are standing behind an information stall in the pedestrian area of your town, as a part of a campaign against a road building project.

One day your local group receives a letter, asking you to join the global campaign on ecological debt. Well, you ask yourself, what can I do? If such a campaign shall be a success, it must amount to more than an exercise in theory. Campaigners have to convince the general public in Europe to accept the ecological debt accumulated towards the South.

That is not an easy task. Should you go to people and tell them: “Even though you did not realise it, over the years you have taken from people in the South and a pay-back is right and just” . Obviously, this would not be a highly successful strategy. How then would we raise the subject of ecological debt in Europe?”

The following few pages explain how Friends of the Earth have been raising the subject of ecological debt in Scotland over the past few years.

1.3 Popular Education and Ecological Debt

1.3.1 Why ecological debt?

Friends of the Earth is well known for its environmental campaign work – making sure real changes happen in the way environmental problems are dealt with. As argued earlier, ecological debt is one of the most important environmental ideas to emerge in recent years, providing an analysis of and solutions to the most pressing environmental problems of our time. In summary, that analysis tells us the following key points:

- a sustainable future requires all nations to live within their environmental space, yet many nations, primarily in the North, are exceeding their environmental space of many resources. The North has exceeded its environmental space for centuries and as a result has accrued an ecological debt to the South
- global environmental problems like climate change are being experienced by the whole world, yet are mostly created by the North
- the North has been getting richer and consequently more powerful as a result of its free use of natural resources
- the South struggles to maintain sustainable economies or lifestyles largely because of their powerless position in relation to the North
- to create an environmentally sustainable future we must address development issues at the same time – the two cannot be separated
- recognising the ecological debt, stopping its accumulation and repaying it, will both reduce the environmental impact of the North and allow the South to use its environmental space with freedom, so contributing to a sustainable future in both environmental and developmental terms.

By raising awareness of the concept of ecological debt, we are hoping to implement the processes by which that debt might be repaid, so creating an equitable and sustainable future.

1.3.2 Why education?

It is appropriate that Friends of the Earth Scotland, considered by many to be the most effective and cutting-edge environmental campaigning organisation in Scotland, is working with the idea of ecological debt. It is perhaps not so clear why we have chosen to use an educational approach to achieve our aims with regard to our work on ecological debt.

At the heart of the answer to this question is our choice of educational methodology – popular education and the tradition of community work in Britain that this connects to. As noted, Friends of the Earth Scotland prides itself on its successful campaign work, creating real change to local environments and the people that



live in them. This applies equally to the community work that we do. Using an approach called popular education, we are putting action and change at the heart of the educational process.

1.3.3 What is popular education?

.....promoting democratic access to the exploration of ideas and to debate about what counts as worthwhile knowledge.....¹

The methodology of popular education has its roots in the work of a Brazilian educator, Paulo Freire, and in the literacy work he did with peasants in Brazil in the 1960's. Through this work Freire developed a way of teaching that put learning in the context of the student's everyday experiences, with extremely successful results. Although popular education has its roots in literacy work, it has since been applied to a variety of educational contexts.

Additionally, although the term has come to be associated with relatively recent developments in Latin America, it has strong resonances with both the radical tradition in British adult education and the distinctively Scottish interest in promoting democratic access to the exploration of ideas and to debate about what counts as worthwhile knowledge¹.

Perhaps the best way of explaining why we are using a popular education methodology on the ecological debt education project is to focus on what popular education aims to achieve and set this alongside what we are trying to achieve with the project.

The aim of the ecological debt education project is to raise awareness of the concept of ecological debt project in Scotland. We do not, however see awareness raising as an aim in itself. We hope that people will take action as a result of a new understanding of Scotland's relationship to the South. It is this process of action and reflection that is in the foundations of popular education. By seeing learning as being a constant process of reflection on what we see around us and action that is defined by that new understanding, popular education is an educational methodology that can liberate students from the forces that had previously served to stop them taking action to improve their lives. However this liberating process can only happen if the educator works in a way which does not replicate the social processes in the wider world. If the educator tries to force their understanding of the world on the students, through a pre-determined model of knowledge, then they are not allowing the students to understand their world any better. They are instead just replicating the power relations in the wider world by forcing the students to see their world in a certain way. Using a popular education approach the educator works alongside the students to facilitate their exploration of their world. A fresh interpretation of the world can then move into taking action on the basis of that interpretation.

The other key aspect of the Ecological Debt Education Project is working with people who are suffering environmental injustices in Scotland. In the course of telling people about the project, some have asked why we are working with these groups; surely they are the ones least able to do anything about the problem of ecological debt? The reason we are is because we believe they are the groups with the most capacity to understand the global injustices that are creating the

¹From the 'Statement of intent' agreed by the Popular Education Forum for Scotland - see Crowther et al 1999.

ecological debts. Using a popular education methodology, we hope to build understanding and solidarity between communities of struggle in Scotland and abroad. We are not trying to work with individuals for them to take personal responsibility for the problem of ecological debt, we are trying to build a fuller understanding of the connections between our lives here and those in other places. With this new understanding people in Scotland can begin to act on the world to change it. Friends of the Earth Scotland has many years experience of working with communities that are experiencing environmental injustice and in that time we have learnt that central to communities' campaigns is the desire to make the world a bit fairer – with the ecological debt project we are taking these convictions and stretching them beyond Scotland's boundaries to try and make the relationship between the North and the South a little fairer.

Popular education starts with people's everyday experiences and seeks to widen their understanding of what constitutes that experience. The ecological debt project is trying to raise awareness of the way in which our everyday lives are connected through various social and economic processes to the lives of people all over the world, often in a way which serves to benefit those in the North and not those in the South. Popular education is clearly an obvious method through which to make those links. By working with people in Scotland who are suffering environmental injustices we hope to foster an understanding of the kinds of injustices that occur on a global scale and build solidarity between communities here and abroad.

This has just been a brief summary of the roots of popular education to try and explain why we are using it in our work on ecological debt. For more information on popular education see 'Finding out more' at the end of the handbook.

1.4 The Story so Far

To place our popular education work on ecological debt in context it will prove useful to look a little wider, at the international campaign on ecological debt.

As noted earlier, the idea of ecological debt was presented to the Earth Summit in Rio de Janeiro in 1992. When the idea was not taken up, the work on it fell away for a while. However, in 1999, an organisation called Acción Ecológica in Ecuador, which was then a part of Friends of the Earth International, relaunched the campaign. We at Friends of the Earth Scotland have been building links with this organisation since we started our work on ecological debt in 2001 and in 2002 I went to visit them. These are some of the important things we found out about the campaign in our research and in our visit.

We have drawn inspiration from the work in Ecuador, using their suggestions and research to guide our work in Scotland. We discussed in the last section why we were using a popular education approach to work on ecological debt. What will be outlined here is what that has actually meant in practice.

1.4.1 What has using a popular education approach actually meant?

- It has meant engaging with groups' interests – finding out a bit about their com-

- The aims of the international campaign on ecological debt are to, first of all, stop ecological debt being created. Secondly, responsibility for the debt has to be allocated; in some ways this was achieved through the Kyoto protocol. Once we have identified who is responsible for the debt, they must then show recognition of the debt and repay it.
- The ecological debt campaign has become reasonably strong in the South with alliances developing between ecological debt creditor nations.
- The campaign has been mostly information gathering so far, building up case studies of how ecological debt accrues and establishing who is responsible for repaying the ecological debts.

munity beforehand.

- We worked with groups in Falkirk, Edinburgh, Dundee and Elgin, who were focused on a range of personal and local issues such as sustainability, financial debt, poverty, conservation and asylum and who were made up of both adults and young people

- It has meant developing ways of presenting the idea of ecological debt that will draw on those interests
 - We began to translate the ideas into educational resources to use with the groups we made contact with. The final versions of these resources have been included in the handbook. Finding our way from the ideas in our heads to the resources you see now was a story in itself though!

Perhaps the resource we put most of our research ideas into was the debt accumulation game, the card game in section 3.2. One evening a group of the volunteers and staff sat down with a pile of paper, cards, beans, pens and flipchart and began to explore how the accumulation and possible repayment of ecological debt could be represented in a game for 4 people. We learnt a lot that night about our so far unspoken assumptions and views about ecological debt.

Such as how far back do we go? ... who has Scotland been taking from? ... where do Southern countries take their resources from when their fair share has been taken away? ... who owns these resources? ... should every country be allowed the same amount of resources?

Eventually we came up with a game that we were all confident would draw out people's instinctive understanding of ecological debt but would also stretch their assumptions in the same way we had been stretching ours over the past few months.

- It has meant taking a local issue and as a group, widening our understanding of it, then as a result, adapting our understanding of the meaning of ecological debt.

- Starting from the interests of each group, we set out our understanding of what ecological debt means, using the ideas drawn from the literature we had read, but adapted to address any particular questions the group had. We used the educational resources to begin to take the basic ideas we had presented and the interests of the group and stretch our understanding of what ecological debt means to us at a local level in Scotland. Of course the nature of popular education means that we weren't only stretching the understanding of the groups we were working with, we were also stretching our own understanding. These new perspectives were built into the rest of the project.

- It has meant building action from reflection – what have we achieved?

- A set of resources that reflect the interests of groups in Scotland that we have worked with. We are confident that these can be taken out to other groups as we have also tried them out with other community workers and activists and adapted the resources according to their comments.

- Links with groups in Ecuador have and continue to be developed. At the time of writing we are in the process of arranging a visit of two Ecuadorian community environmental activists who are coming to Scotland to share their environmental justice experiences.

- Although the work is still in an early stage we believe we are building solidarity and a genuine understanding of how our lives in Scotland relate to those in the South.

2 Case Studies

2.1 Local Action

Although we have touched briefly on it in other parts of the handbook, it seems appropriate to now address the issue of repaying the ecological debt.

We discussed earlier in section 1.2 ‘So what is ecological debt?’ the theoretical ideas around the repayment of ecological debt. These case studies are designed to provide examples of what can be done and what is being done to recognise, halt and repay the accrued debt, at a practical level in Scotland.

As noted earlier, a core issue that emerged for people trying to engage with the idea of ecological debt was a feeling of helplessness in the face of such a complex situation.

The case studies can be used as stand alone motivational pieces, or in conjunction with the educational resources. To find out more about any of the organisations/actions described, see the “Finding out more” section at the end of the handbook.

2.1.1 Jubilee Scotland

The Jubilee Debt movement campaigns for the cancellation of the financial debt of countries in the South. We made the link between financial debt and ecological debt earlier in the handbook: forcing countries to repay these financial debts contributed to the continued accruing of ecological debts by financial creditor countries. Clearly, campaigning to have their financial debt cancelled will contribute to the North’s repayment of its ecological debt.

The current campaign is ‘Face Up To World Debt’ where people take photographs of themselves in a Face Up to World Debt Poster (it has a hole in it for your face!) and send them as a photo petition to their MPs.

Local groups are integral to the national campaigns. For instance the Edinburgh local group gathered a whole pile of photo petitions on an event on the Forth Road Bridge. Involvement in local groups can come in different forms – some people join the committee and help organise local events, others get involved in the linking projects with Jubilee South organisations (the Edinburgh group has a link with Jubilee Kenya) and others show their support through writing to their MPs (financial debt issues are still dealt with at Westminster).



The writer George Monbiot supporting the latest Jubilee campaign.

Credit - Vicki Clayton

2.1.2 Local Exchange Trading System (LETS)

Can you remember all the times when you have had to get someone round to fix your boiler, or check your plumbing and you had to wait in all day because they couldn't specify what time of day they could arrive (always seems to be 4.55pm!). Well by joining a LETS scheme, if you don't have time to wait in you

can get somebody else to wait for you. And you wouldn't have to pay them, you would just have to do something for somebody else sometime. 'What has this got to do with ecological debt?' I hear you ask. LETS schemes (of which there are many across the world) are alternatives to global trade mechanisms. These trade mechanisms encourage the crazy practice of things like shipping potatoes from Sweden to Italy to be scrubbed clean before shipping them back again to Sweden to be sold. Getting involved in a LETS scheme could help reduce your community's impact on the rest of the world.

Speaking to one of those involved in the Edinburgh LETS scheme we discussed this link between the everyday practice of LETS and the positive effect it could have in reducing the North's impact on the world. Whilst there is recognition of this global context within the movement, perhaps the beauty of the scheme is the fact that people use it because it works for them as well as the rest of the world. In striving to find alternative ways of running our lives that reduce our impact on the South we need to find ways that work in practice as well as in good intention.

2.1.3 Slow Food Movement

As the world's biodiversity in food products shrinks, the Slow Food Movement is working to preserve it. The movement has groups in 47 countries and as a whole aims to "counter the degrading effects of industrial and fast food culture that are standardising taste, and promotes the beneficial effects of the deliberate consumption of nutritious locally grown and indigenous foods".

One of their core projects is the Ark of Taste, a project which aims to identify foods that are indigenous to certain cultures yet are being pushed out by more commercial, mass-produced food products. Examples range from breeds of poultry to cheddar cheese. Whilst the movement as a whole works to counter the effects of globalisation on what we eat and how it is produced, it is certainly a movement that people can get involved in at a local level.



The Slow Food Movement in Scotland holds a range of events which nearly always involve a good deal of very tasty food, but which also contribute to the wider aims and impact of the movement. Getting involved could mean helping setting up events for kids where they get the chance to cook with (and eat) locally produced foods with professional chefs, or setting up tasting events, with local cheeses, meats, herbs or beers. The beauty of the movement is its ability to connect with what we are losing in our own culture i.e. healthy food that is prepared using knowledge that has been passed through generations. This reconnection can then be used to raise awareness of the wider changes that are happening in terms of food production and the effects of this on peoples' lives all over the world.

Clearly this is an invaluable contribution to the campaign for the recognition and repayment of the ecological debts of the North.

2.1.4 Trade Justice Movement

Trade between different countries is clearly a key aspect of how the ecological debt accrues and is therefore an obvious issue to tackle if you want to do some-

thing about this ecological debt. However, once you start getting your head into some of the issues, or even just the endless acronyms (WTO, IMF, GAT...) it might seem a bit daunting to think about tackling them.

There is a very active grassroots campaign to achieve justice in trade rules. The Trade Justice Movement is supported by a range of organisations one of which is the World Development Movement (WDM). I spoke to one of the members of WDM's local groups about this issue of getting and staying motivated in the face of such a complex situation. What I found out was that people find that clearly broken-down information on specific issues can really help you get involved in new campaigns – it probably helps to remember that while the problems we are fighting can sometimes seem insurmountable for people 'on the ground', there are a lot of people across the world working on the same issues. Solidarity between these groups can be tremendously powerful. Campaigners also find it useful to try and stay quite organised. Start with the important issues, but break them down until you can find a manageable set of outcomes for your group, then break them down again so that each member of the group can take a little bit of responsibility. The local group this campaigner was a member of, also found that balancing this kind of organised approach with inspirational events, like inviting speakers to your meetings can be a successful way of staying motivated.



Credit: david@thomsonphoto.co.uk

2.1.5 Summary

Hopefully this brief collection of case studies provides a range of examples of the ways in which people in Scotland can and do get involved in actions to stop the accumulation of ecological debt as well as begin paying it back, without feeling like they have the weight of the world on their shoulders. What is common to all these examples, which range from what kind of food you eat to tackling world trade rules, is the strength that can be found from working alongside others in Scotland and in other countries. Indeed central to the work we have been doing so far in Scotland has been the building of links between communities in Scotland and Ecuador.

2.2 International Action

These case studies are key examples of the ways ecological debt accrues and the impacts it can have on people's lives. You can use these alongside either the information at the beginning of the handbook or with the educational resources

to draw out understanding in workshops.

2.2.1 Bananas: what's left for future generations?¹

Britain's most popular fruit is produced in the tropical Americas, the Caribbean and West Africa. But, despite its associations with paradise and the Garden of Eden, the production of bananas over the last century has left a toll of ecological damage for which present and future generations are forced to pay.



Credit: Banana Link

Tropical forests cleared for ever: because of the climate needed to grow bananas on a commercial scale a new plantation almost always takes the place of primary tropical rainforest, some of the most biodiverse regions on the planet. By definition, once these forests are cleared, the diversity cannot be re-created.

Water-courses diverted or disrupted: when a modern large-scale plantation is established the natural water-courses – streams and rivers – are diverted to form a grid of irrigation canals. When heavy rains arrive, as they do with increasing unpredictability and force, the artificial irrigation systems cannot take the volumes of water and serious flooding is the result. In the past, the heavy rain-water bloated natural water-courses and flooding occurred, but with far less serious consequences than in recent years. Many people attribute the increasing unpredictability and force of the rains to climate change.

Deluge of pesticides killing nature and people: the heaviest ecological debt which conventional banana production is leaving for others to pay is from the vast array of chemical pesticides in daily use. Due to the intensive monoculture plantations which are extremely susceptible to pests and disease, everything from the roots to the leaves to the fruit itself – before and after harvesting – is treated with pesticide. Nematicides, pre- and post-harvest fungicides, insecticides and herbicides cost the producer far more than the labour-force. Bananas are the biggest chemical-consuming crop after cotton, using over 400 different combinations of agrochemicals. On average, up to 44 kg of active substances are applied per hectare per year on the banana plantations, nearly twenty times as much as in any intensive crop production in Europe. It is estimated that as much as 85% of this misses its target. The Earth College in Costa Rica has calculated that 90% of the estimated 11 million litres of fungicide, water and oil emulsion applied each year to the banana production regions is lost. The use of most of these is severely restricted in developed countries, due to their high acute toxicity. Needless to say, there is almost no flora or fauna to be found on or near commercial banana plantations. One of the few species found everywhere is the vulture.



Credit: Banana Link

Pollution from chemical and plastic waste: In seven out of eight samples of sediments from one of Costa Rica's main rivers, scientists detected levels of Chlorthalonyl, Chlorpyrifos, Terbufos and Ethoprop which drastically surpass the permissible levels established by the European Union for drinking water. But people living in the area

¹ Thanks to Banana Link for providing the original banana case study. Additions have been made to highlight recent developments in the banana story.

have no choice – all their water is contaminated with pesticides. In Ecuador, women can be seen washing clothes in the pesticide-soaked drainage ditches.

The effects on both river and marine fish, sea-turtles and coral reefs are drastic and well-documented. People describe rivers as “running blue”... with the chlorpyrifos-soaked plastic bags which cover all stems of bananas for the last 12 weeks before they are harvested. The Earth College in Costa Rica has estimated that for every ton of bananas shipped out of the country, 2 tons of waste is left behind, including mountains of these plastic bags.

But the bags are not the only major waste hazard – 84% of the waste produced in banana production consists of material that cannot be composted because it is contaminated with pesticides. Despite the rhetoric of some banana companies, recycling of waste remains at an appallingly low level.

Soils rendered useless with heavy metals: After years of intensive banana monoculture – usually 30 or 35 – the soil has become so laden with chemical residues, especially heavy metals, that companies are forced to abandon the land or face rapidly declining productivity. This land, which has lost its nutrients well before it becomes so contaminated, is then rendered virtually sterile for years.

The problem with monocultures: Standardised monocultures of a few high-yielding varieties are threatening all banana crops on an international scale. This is due to epidemics of soil-borne fungi to which almost all varieties of bananas are susceptible. The fungi infest fields to the extent that growers run out of ‘clean’ land and their livelihoods are ruined.

These fungal diseases not only threaten the existence of the bananas we find in our shops (generally belonging to the same Dwarf Cavendish variety – hence the problem), but also threaten the other 85% of all bananas grown: those grown by tropical smallholders as a staple food. There are more than 300 varieties worldwide, ranging from the tiny Lady Finger to the giant Red Makabu and the "square banana", which tastes more like a pear.

0.5 billion people in Asia and Africa depend on bananas, and in Uganda, bananas are grown on a third of all cultivated land, consumption being 50 times higher than in Britain. They are essential to their diet due to the calorific content.

Bananas have been bred for thousands of years by transplanting cuttings, as all edible forms of bananas are seedless hence sterile. This means there is very little genetic diversity in bananas, giving them decreased resistance to pests and diseases. This is exacerbated due to cash crop monocultures grown for consumers in the North, and as a result of pests developing resistance to fungicides, which have been applied heavily since the 50s.

MORE INFORMATION.....

Ref. New Scientist 18 Jan 2003

Links: www.pesticideinfo.org www.panna.org/panna

www.epa.gov/iris/subst/index.html

Pretty J, Regenerating Agriculture, 1995

www.bananalink.org.uk

2.2.2 Uganda's Bujagali hydro-electric plant

At the time of publication of this handbook, AES had decided to withdraw from the Bujagali Dam, calling into question the future of the project. This recent development serves to highlight many of the reasons we have included the Bujagali Dam as a case study. In this example the highlighted problems of the project have eventually threatened its future. However, this is just one example of the way dams built and run by large companies can affect local communities and environments.

The construction of large dams is a major factor in the accumulation of ecological debt. So far between 40 and 80 million people have been displaced by large dams, of which there are 45,000 worldwide. These projects rarely bring the benefits they promise and the rural poor are generally the hardest hit.

One of such projects is the controversial 200 megawatt Bujagali hydroelectric plant, which is to be built on the Victoria Nile in Uganda. Its construction is forecast to cost \$520m. If it continues as planned, the plant, with its dam and reservoir, will drown the Bujagali Falls, one of the country's most spectacular sites of outstanding beauty and cultural heritage.

Applied Energy Services (AES), a multi-billion dollar US corporation and the largest independent energy corporation in the world, has been fighting for the Bujagali contract since 1994. AES is involved with more than 125 power plants worldwide. If it goes ahead, this will constitute the largest ever foreign investment in East Africa. In December 2001, the World Bank's private investment department, the IFC, agreed to provide \$225m for the dam, even though it classifies the plant as a 'high risk' project. Various European credit agencies have since withdrawn their support but the plans continue, due to the pressure exerted by the Ugandan prime minister and US government. Right from the start the project has been accused of being unfair and fundamentally flawed; the negotiations have been surrounded by secrecy and allegations of corruption. The controversially high construction costs will make the Bujagali dam twice as expensive as a comparable dam in central India. The electricity generated will be sold to the Ugandan Electricity Transmission Company for an agreed period of 30 years, which is projected to be the life-time of the dam.

Opponents of the dam, of which there are many, believe that the hydro-electric plant will only add to the burden of external debt of Uganda, which is one of the poorest and most highly indebted countries in the world. This will encourage further reliance on foreign aid, cash crops and export industries. The country will face payments of between \$20m to \$40m a year, due to high interest rates, and electricity costs could double within 7 years. However, 97% of Ugandans do not even have access to electricity, and according to the World Bank itself, less than 7% of Uganda's total population would be able to afford unsubsidised electricity. Much of the power is expected to be exported to Kenya, principally for the use of industry.

THE ECOLOGICAL IMPACT

Many valuable natural habitats rich in wildlife will be destroyed in the construction of the plant, which will involve large areas of deforestation and the submersion of valuable forest, wetlands and island habitats. Highly productive agricul-

tural land will also be lost. The effects of the dam on the river are yet unknown; there are already 2 large dams nearby and Bujagali is one of 6 new dams the government intends to commission. The hydrological effects of dams have sometimes even stopped rivers from meeting the sea or caused severe coastal erosion. Optimistic calculations regarding electricity generation have not taken into account that, due to climate change, the area is susceptible to extreme drought and there may be insufficient water flow in the dry season. It is also likely that excessive growth of aquatic plants in the reservoir behind the dam will use up the oxygen, killing fish.

THE SOCIAL IMPACT

Indigenous people will be involuntarily resettled to new areas, which are likely to consist of unsuitable, marginal land, not adapted to human activity. According to an A.E.S. assessment the plant will permanently displace 820 people and directly affect the livelihoods of 6,800, many of whom will doubtless end up in city slums, as has happened in countless similar cases backed by transnational corporations worldwide. The loss of natural resources on which the local people depend for survival will destroy not only the environment but also their livelihoods: the many fishermen of the area who depend on fishing for both subsistence and income will have to face up to the depletion of fish stocks. The break up of these communities will bring about the loss of cultural traditions and practices in which they are embedded, and of knowledge and skills related to the land (e.g.. fishing and agricultural practices), which have been passed on from generation to generation.

However, it is not only the local people who will be affected: the impact of increasing Ugandan debt will affect the whole nation. The investment in this project will reduce any available funds for sustainable energy alternatives. More affordable energy with less devastating costs to the people and environment could be obtained through cheap geothermal power, smaller hydro projects or wind and solar renewables. However, these opportunities will be lost if all funds are used elsewhere. Similarly, less money will be available for basic services such as health care and education facilities. The dam will also cut revenue to the Ugandan economy through tourism, by drowning the Bujagali Falls and the surrounding white water rafting area, valued for its important cultural and touristic value.

SUMMARY

The implications for ecological debt are enormous: in addition to the direct impacts on the local ecology, for a project that will last at the most 30 years, the impact will long outlive the dam itself. The effects on the marginal land to be used for the resettlement of the displaced people, the impact on the land to be used for industry and intensive cash cropping to repay the financial debt which will be accumulated by Uganda, the effects of pollution from related activities and the heightened risk of earthquakes and floods must all be taken into account. On a wider scale, the ecological debt also includes the disproportionate emissions of greenhouse gases and the use of more than the fair share of the Earth's capacity for carbon absorption and other environmental services.

2.2.3 Effects of modern agriculture in India

The ecological debt accumulated as a result of transnational corporations taking control of traditional rural economies is clearly illustrated in the case of Andhra Pradesh, a state in southern India, with a population of approximately 75 million people. This is an area rich in agricultural tradition where sustainable farming is being replaced with intensive agricultural practices, bringing devastating effects to both the environment and the local population.

Despite the harsh conditions of Andhra Pradesh, traditional farmers have used their ecological knowledge to carry out low-impact subsistence farming which has been sustained for centuries. Mixed cropping where several crops are grown together, provides a nutritionally diverse diet and more resilience to pests and extreme climate conditions. A wide diversity of local crop varieties have resulted from generations of seed-saving and main staples include varieties of millet, sorghum and pulses, which are suitable to the semi-arid climate.

However, as in most countries of the South, sustainable small-scale farming methods continue to be replaced with less sustainable systems since the advent of so-called 'Green Revolution'-style agriculture, with its emphasis on high-yields through the use of agri-chemicals, high-yielding hybrids, mechanisation and monocultures.

Central to the changes in Andhra Pradesh is a recently developed programme called Vision 2020. This is a large-scale development scheme, backed by an extensive loan from the World Bank and the UK's Department for International Development (DfID), the branch of the government responsible for promoting sustainable development and eliminating world poverty. DfID has proposed £65m, two-thirds of its aid budget for India, for this programme. The programme focuses on transforming the state into an international centre for genetic engineering and information technology. Andhra Pradesh's current emphasis on small and medium-scale farming (predominantly for subsistence) will be shifted to intensive, export-oriented agriculture in which biotechnology corporations, such as Monsanto and Syngenta, play a large role. Experimentation with GM in countries of the South is extremely controversial since many countries of the North are rejecting the cultivation of GM crops in their own countries.



Local farmers protesting in India against Vision 2020

THE ECOLOGICAL IMPACT

The shifting of production from subsistence crops suitable to local conditions to export crops like high-yielding varieties of rice and cotton, which are more demanding in terms of irrigation and agri-chemicals, has had devastating effects on the environment, whilst endangering food security. As a result, the land is afflicted by drought and wells are drying up: it is estimated that 3 million more wells will be needed. Widespread salinization of soils (when salt accumulates on the land due to excessive irrigation and use of chemical fertilisers), which affects 20% of the world's irrigated land, along with pollution are also major problems. Food crops are also being replaced with grain plantations for poultry feed and

alcohol production. Monocultures, which are more vulnerable to disease and extreme weather, require more pesticides and fertilizers and contribute to a decrease in wildlife. Furthermore, a freshwater crisis is emerging as rivers and aquifers (underground reserves of water) become polluted and inappropriate, water-intensive crops are cultivated on a large scale in areas increasingly prone to drought. Globally, farming accounts for 70% of water use, the majority being used for irrigation.

THE CULTURAL IMPACT

As a result of Vision 2020, the population working in agriculture is estimated to be cut by 40%. Many small-scale farmers will become contract-workers on plantations owned by corporations; however, for many there is no alternative income and no compensation has yet been announced. Over the next 20 years, 20 million people face being displaced from their land.

Desperate farmers are becoming increasingly indebted as they are forced to buy expensive fertilizers, pesticides and seed, and their living is increasingly dependent on fluctuations in the world market. Many are abandoning their land, which is being transformed into a barren, drought-stricken wasteland, for the city slums, and suicide rates amongst farmers are soaring. Food deprivation is growing as food prices soar: food prices doubled between 1999 and 2000.

The programme clearly favours multi-national corporations, whilst it is the women and small farmers, who suffer most from this 'maldevelopment', as Vandana Shiva calls it, due to the destruction of natural resources upon which they are directly dependent for their day to day survival. They are the ones who have preserved agricultural diversity and stability over generations by saving seeds, and improving varieties, cropping systems with multiple outputs and soil. As people leave the land and are forced to give up their traditional ways of life, not only is biodiversity lost but also diversity of cultural tradition.

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 Precious Fluid, *New Internationalist* 354, March 2003
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2.2.4 Case study 4 - Mining in Northern Canada

Ecological debt is not always simply a North-South issue and this case study demonstrates the global effects of big business on communities and biodiversity all over the world. It focuses on the effects of mining on the land and lives of the Cree people in Northern Canada.

There is a long story of exploitation of the natural resources in the traditional territory of the Crees in Northern Canada by mining and forestry companies throughout most of the twentieth century. These two industries have formed the basis of the non-aboriginal population's economy, but for the Cree, it has meant displacement from their land and the destruction of valuable ecosystems, which have been part of their heritage for generations.

Since mining prospectors first discovered valuable minerals, including gold and copper, in the territory of the Ouje-Bougoumou Crees in Northern Quebec in the early 1900s, people have been forced from their land to make way for mines. Village sites were destroyed and one Cree group was relocated 7 times between 1920 and 1970. The land was deforested, burial grounds devastated and lakes and rivers polluted. The whole way of life of the Crees, who are traditionally hunter-gatherers, living intimately connected to their natural environment, was severely disrupted again and again. In the 1960s and 1970s the Crees were forbidden to hunt by game wardens, although this had been hunting territory for many generations.

The destruction of local biodiversity has had severe social and cultural implications. The Cree, who see themselves as stewards of their environment, have lived sustainably and in harmony with nature, in which their culture and general way of life is so deeply embedded, for centuries. Detailed knowledge of the environment and its plants and animals has been transmitted from generation to generation in the form of story or song. This knowledge is lost when people are separated from their land or the environment is destroyed. The deep connection with their ecology is expressed by the words of a Cree elder: "We Cree have a spiritual relationship with the world around us. Something is taken away from us Cree, something which has its place deep inside us".

(As cited in Posey DA, Cultural and Spiritual Values of Biodiversity, UN environment program, Intermediate Technology Publications, 1999: 403)

Physical health has also deteriorated: Gold and copper mines have caused toxic residues of heavy metals, which have affected the health of local Ouje-Bougoumou Crees. High levels of mercury, which leaches into springs, rivers and lakes, have been found in local fish, which are a principal part of the local diet. Air pollution from open-cast mining has also caused respiratory problems. (Source: Dartmouth College 2001)

In March 1996 Cardinal River Coals Ltd, jointly owned by Luscar and Consol, a Canadian subsidiary of a US corporation, announced plans for the Cheviot Coal



Summer time along the Waswanipi River

Credit: Norman Chance and Paul Conklin

Mine, with its 26 huge pits, in the heart of a proposed national park. This involved open cast strip-mining in an area more than 20 km long in the Rocky Mountains. Environmental impacts have included the drainage of the Cardinal River Creek, pollution through heavy metals, deforestation and the dumping of waste rock on the surrounding landscape, filling valley streams and disturbing the habitat of migrating birds. 25 tons of mountain landscape is excavated for every tonne of coal removed.

The activity has also brought further traffic, deforestation and development to the region, which is a biological hotspot, home to 30 species of rare or endangered mammals and birds, including black bears, wolves, cougars and lynx, and a key area for securing the future of grizzly bears. For the Cree, the area is also an important traditional site for the gathering of medicinal plants.

However, in April 2003, due to pressure from local environmental groups, it was announced that the mine was no longer to be developed, although the company still holds the leases for mining in the area and is blocking the establishment of the park.

So this case study is a success story showing how local action groups can prevent the devastating impacts of big corporations on their lives, ecology and communities. However, the occurrence of these potentially detrimental situations continue to occur worldwide, including, as we know, in Scotland.

2.2.5 Ecuador: Indian Groups sue Texaco Oil

This case study provides one example of the way ecological debt is experienced and expressed by people living in Ecuador, the nation from where the FoEI ecological debt campaign has been led.

In November 1993, the Cofan and Secoya Indians filed a case against the oil transnational Texaco, demanding \$800 million for the environmental damage that the company had caused.

Texaco are the company that discovered the massive oil reserves in Ecuador and since the discovery have extracted massive amounts of oil (80% of the 371 000 barrels extracted every day).

Indigenous communities claim the oil business has had a devastating effect on their environments and health. It is claimed that Texaco did not comply with technical norms set for processing toxic waste, resulting in damage to the health of residents and damage to the natural environment. It has been estimated by the group Acción Ecológica, that Texaco destroyed more than one million hectares of tropical forest, spilled 74 million litres of oil and used out-of-date technology resulting in the dumping of 18 million litres of toxic waste (3000 gallons of oil per day into lagoons).



Credit: Acción Ecológica

Another group, Rainforest Action Network claim that the effects of these actions have resulted in extremely low crop production, loss of game animals and the invasion of tribal lands.

The original lawsuit was dismissed by the U.S. court in which it was tried because it did not have the support of the Ecuadorian government. Despite showing some support for the Indians, the government have been put in a very difficult position by the case. When Texaco began the extraction of oil they formed a consortium including the state company Petroecuador. Since that time, Ecuador's exports have changed from being largely dominated by agro-exports to oil exports. Texaco's permit to extract oil ran out in 1990 and since 1992 the operation has been run by Petroecuador.

Taking into account the vast financial debt payments that Ecuador has to pay (in 1998 the debt per person was \$1241, as opposed to a GNP per person of \$1505) it can be understood why the government are keen to maximise their exports (now through oil exports) rather than cut them back (which the Indian's demonstrations would probably result in).

The government have now agreed to back the Indian's case as it is felt that the clean-up work which in 1994, Texaco agreed to do, is not being carried out properly. It is felt that this move allows the government the space to back the groups.

However, despite these later developments, the case of oil extraction in Ecuador highlights some of the key themes of Ecological Debt. In extracting natural

resources, for the creation of wealth and for use in developed countries, southern countries environments, health and economies are being exploited. By not paying attention to the issues of processing toxic waste or of oil spillages, Texaco are not paying the full price of oil extraction. This essentially is exploitation of the Ecuadorian people. Tie into this the issue of foreign debts, and we can see why the Ecuadorian government has felt that they have no choice but to continue the oil extraction and ignore the debts they are owed.

In contrast, ecotourism in the rainforests is increasing in terms of its ability to draw money into the economy. This could be a locally based economy which could build on the fact that the rainforest holds some of the continent's major sources of biodiversity and non-renewable resources, as well as being the home to 100,000 indigenous people from five different nations. Therefore, this new industry focuses on building on these strengths, rather than exploiting them.

Credit: Sarah Clifford, Challenges Worldwide



Members of the local action committee in Esmeraldas, Ecuador. A large number of buildings in the town were damaged by a fire caused by an extensive oil spill

3. Resources

3.1 Instructions

3.1.1 How to use this toolbox

This toolbox of workshop materials has been put together to be used by community workers or by a group interested in ecological debt. It is written in a style that speaks to a facilitator, explaining how to introduce the exercises and how to run them.

It is intended that the facilitator will read through the instructions before starting any of the exercises. In some of the exercises there are points to note half way through that are useful to remember before you get to that stage.

3.1.2 What do the resources cover?

The toolbox can be used to explore the subject of ecological debt directly. However it can also be used to explore more generally the themes implicit in ecological debt. These can include environmental justice, all types of debt, global awareness, etc. Throughout the toolbox, ecological debt is used as a way of focusing the discussion, but more or less emphasis can be placed on this as is required. We believe that ecological debt is a concept that highlights the links between the above themes, in a way which shifts the discourse about the environment and development towards a place where the people who are affected by global environmental issues, have some say in how they are dealt with. For this reason, we think that the ecological debt concept has something new and vitally important to add to discussions about global awareness.

3.1.3 What approach is taken?

The educational approach taken to the resources in this handbook is a broadly popular educational one. Each exercise takes one of the themes of ecological debt and uses various techniques to break it down. Central to each of the exercises is the attempt to make the themes of ecological debt (which on first appearances can seem very remote) relevant to the experiences of people living in Scotland. In the pilot workshops we targeted groups that we believed might have some interest in the themes of ecological debt (environmental campaigning groups, or groups addressing issues of debt in their own communities). However, the resources are designed so that groups wanting to explore global issues more generally can use the toolkit successfully.

The facts and figures dotted throughout the toolkit and the case studies in Chapters 2 can be used alongside the resources, as and when seems appropriate.

3.2 Game 1 - Debt Accumulation

Time required: 30 - 45 minutes

You will need:

- Shoe box (or equivalent)
- Copies of rule cards for round 1 (resource material 1a)
- 13 copies of resource material 1b (making 78 cards when cut out)
- 4 copies of playing board (resource material 1c)
- Flipchart and pen
- Table and chairs

Recommended group size: 4

Introduction

This is essentially a very simple card game which tracks how each of the four countries represented at the table consume a natural resource - oil. Each participant represents a different country (Ecuador, Nigeria, Scotland and the United States) and plays through the processes of accruing ecological debt, using specially designed playing cards.



There are five rounds to the game (in each round the group plays four hands) and the same cards can be used for each round of the game. There are a set of rules that can be used for round one. These will help the participants understand the form of the game. For the other rounds the basic structure is the same, the only difference being that they can pick up different numbers of cards, representing different scenarios.

This is a game that can be used for different purposes. At one level it can be used to introduce the basic themes of ecological debt, giving people the opportunity to explore the ways in which an ecological debt can be built up and the implications of that. At another level it can be used at the end of a workshop exploring ecological debt, in order to begin thinking about how an ecological debt might be repaid.

The card game may seem to generate more questions than it answers - it is designed to do that. Use the questions as a means of exploring how and why different countries accumulate ecological debt and how that debt might be repaid.

What to do

The actions of each player represents the oil consumption of different countries.

There are five rounds to the game, each round consisting of four hands (to allow each participant a shot at dealing the cards). Each card represents a share of the earth's oil. Three cards are dealt to each player in each hand, representing the fair share of the earth's oil that each country is entitled to. Having been dealt their fair share each player will then "consume" the cards on the table, by placing them in different piles. Where they put the cards and what side they place face up will depend on whether they are consuming within their fair share, or over it.

So each of the players should take it in turn to deal the cards. After dealing, the player to the left of the dealer should "consume" their cards, placing their allocated amount in the appropriate piles. The game moves left round the table, until everybody has had their turn.

Each player's board has a square for their dealt cards (fair share square), a square for their debt cards (any card they take from another player or the pile in the middle) and a spare fair share square (for any cards left over from their dealt pile after they have had their turn).

- From own dealt cards - in the shoe box in the middle, world side showing
- From any other pile - on the player's debt square, IOU showing
- Cards left over from dealt cards - spare fair share square, world side showing

Each player has a different set of rules and objectives. When consuming their oil, all players should use their own cards first, putting these in the box in the middle. Some players can take cards from any other pile. Other players can only take cards from their own pile, or the pile in the middle (which represents the share of oil we are keeping for the future). America and Scotland are trying to consume as much oil as they can, whilst Nigeria and Ecuador are trying to consume a little oil whilst maintaining a good political relationship with the countries that give them aid (America and Scotland).

In the first round of the game, allow the players to play the game according to the rules on their rule card. The other four rounds will be played without

the rule cards, but the only change to the rules will be the number of cards each player can use (which you will tell them).

At the end of each round write up on the flipchart paper how many debt cards each country has.

In round 1 they consume as follows

America: 10 cards
 Scotland: 6 cards
 Nigeria: 2 cards
 Ecuador: 1 card

Collect all the cards together for the next round. The rest of the rounds proceed as follows.

Round 2

For round 2 tell the players to play in the same way they were before, but tell the group that as a result of the Earth Summit in 1992 Scotland is starting to use more renewable energy so is only going to be picking up 5 cards in each hand this time.

Again at the end of this round, write up the number of debt cards each country has on the flipchart paper.

Collect the cards together and start the next round. The next three rounds proceed as before but with different conditions that you are going to introduce. Remember to write the results up on the flipchart at the end of each round.

Round 3

Kyoto protocol has been introduced so Scotland will only pick up 4 cards, but America Ecuador and Nigeria will continue to pick up the same number.

Round 4

Northern countries have decided to start repaying their debt so America and Scotland will only pick up 3 cards each and Nigeria and Ecuador will start picking up 2 cards each.

Round 5

We have reached a sustainable, equitable and just future. Each country of the world is using its fair share of environmental resources, represented by picking up the same number of cards in each hand - 3 cards each.

Points to note

People will probably ask questions about the fairness of the rules. The game is designed this way to get people thinking/discussing. Use the questions in the game to raise issues. Note them down, remember them and use them to prompt the discussion at the end. Alternatively, if people are not asking many questions, ask some yourself.

Perhaps use the flipchart sheet as a prompt for discussion.....why are the debt levels changing?

Ask why the Southern countries are accumulating debt.....what would this mean in reality.....what should be done with their debt cards.....does the debt belong to them?

Ask people to consider how else Scotland and America might have stopped accumulating ecological debt.

What about all the debt from the past.....should it be forgotten? What would be the effect of paying it back? How might you do that?

Over the next few pages you will find all the materials you will need to play the Debt Accumulation Game.

Resource Material 1a

- rule cards for each of the four countries represented

Resource Material 1b

- playing board for each player. Photocopy this sheet four times.

Resource Material 1c

- a set of the cards designed for the game. Photocopying 13 sheets of the cards will produce the number needed (then just cut them out).

Resource material 1a
YOU ARE ECUADOR

This game is about tracking how each of the four countries represented at the table consume a natural resource - oil. Although the proportionate amounts of resource use represented in the game are not exact, they do broadly represent the differences in the way countries consume oil.

This game has five rounds.

These are your rules for round 1 only. For further rounds take instructions from the facilitator.

Your objective in the game is to consume a small amount of oil, but to also try and maintain a good political relationship with Scotland and America, as these are the countries that give you much needed aid.

Each round has four hands (so each country gets a chance to deal the cards) and each country will be dealt three cards in each hand. These three cards represent your country's fair share of the world's oil resources.

When you are dealt your three cards put them on your playing board, on the fair share square. When it is your turn to play, you can consume one card's worth of oil. Consuming is represented by putting the card in the box in the middle of the table, world side facing up.

If you don't have any cards left when it's your turn (the reasons why will become clear!) you can take cards from the original pile in the middle only. Put these cards on your debts square, IOU side showing.

If you have any of your original 3 cards left after playing your hand (consuming your oil) put them in your spare fair share box.

After round 1 put this rule card to one side and await instructions from your facilitator.

Resource material 1a
YOU ARE NIGERIA

This game is about tracking how each of the four countries represented at the table consume a natural resource - oil. Although the proportionate amounts of resource use represented in the game are not exact, they do broadly represent the differences in the way countries consume oil.

This game has five rounds.

These are your rules for round 1 only. For further rounds take instructions from the facilitator.

Your objective in the game is to consume a small amount of oil, but to also try and maintain a good political relationship with Scotland and America, as these are the countries that give you much needed aid.

Each round has four hands (so each country gets a chance to deal the cards) and each country will be dealt three cards in each hand. These three cards represent your country's fair share of the world's oil resources.

When you are dealt your three cards put them on your playing board, on the fair share square. When it is your turn to play, you can consume two card's worth of oil. Consuming is represented by putting the cards in the box in the middle of the table, world side facing up.

If you don't have any cards left when its your turn (the reasons why will become clear!) you can take cards from the original pile in the middle only. Put these cards on your debts square, IOU side showing.

If you have any of your original 3 cards left after playing your hand (consuming your oil) put them in your spare fair share box.

After round 1 put this rule card to one side and await instructions from your facilitator.

Resource material 1a
YOU ARE AMERICA

This game is about tracking how each of the four countries represented at the table consume a natural resource - oil. Although the proportionate amounts of resource use represented in the game are not exact, they do broadly represent the differences in the way countries consume oil.

This game has five rounds.

These are your rules for round 1 only. For further rounds take instructions from the facilitator.

Your objective in the game is to consume as much oil as you can, in order to build up a good economy.

Each round has four hands (so each country gets a chance to deal the cards) and each country will be dealt three cards in each hand. These three cards represent your country's fair share of the world's oil resources.

When you are dealt your three cards put them on your playing board, on the fair share square. When it is your turn to play, you can consume ten card's worth of oil. Consuming is represented by putting the cards in the box in the middle of the table, world side facing up.

If you don't have any cards left when its your turn you can take cards from any other country or the pile in the middle of the table. Any cards you take from piles other than your own should be put on your debts square, IOU side showing.

If you have any of your original 3 cards left after playing your hand (consuming your oil) put them in your spare fair share box.

After round 1 put this rule card to one side and await instructions from your facilitator.

Resource material 1a

YOU ARE SCOTLAND

This game is about tracking how each of the four countries represented at the table consume a natural resource - oil. Although the proportionate amounts of resource use represented in the game are not exact, they do broadly represent the differences in the way countries consume oil.

This game has five rounds.

These are your rules for round 1 only. For further rounds take instructions from the facilitator.

Your objective in the game is to consume as much oil as you can in order to build up a good economy.

Each round has four hands (so each country gets a chance to deal the cards) and each country will be dealt three cards in each hand. These three cards represent your country's fair share of the world's oil resources.

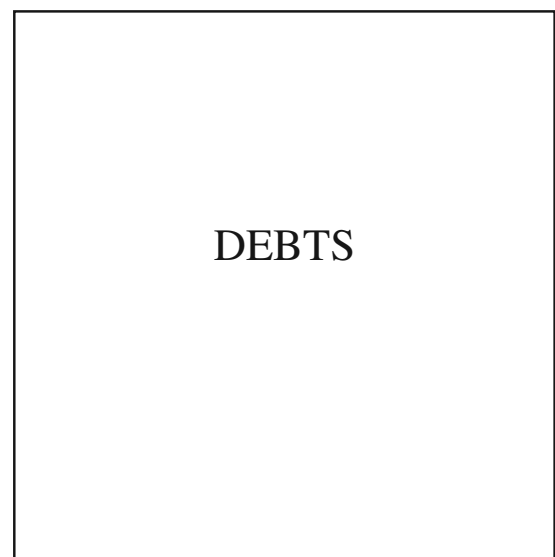
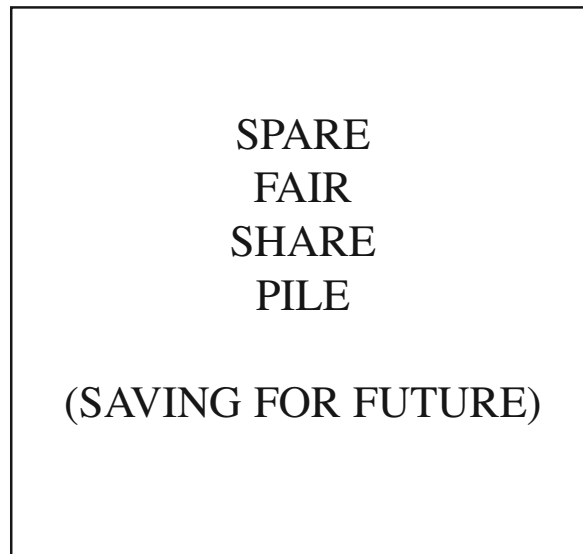
When you are dealt your three cards put them on your playing board, on the fair share square. When it is your turn to play, you can consume six card's worth of oil. Consuming is represented by putting the cards in the box in the middle of the table, world side facing up.

If you don't have any cards left when its your turn (the reasons why will become clear!) you can take cards from Ecuador, Nigeria or the unused pile in the middle of the table. Put these cards on your debts square, IOU side showing.

If you have any of your original 3 cards left after playing your hand (consuming your oil) put them in your spare fair share box.

After round 1 put this rule card to one side and await instructions from your facilitator.

Resource Material 1c

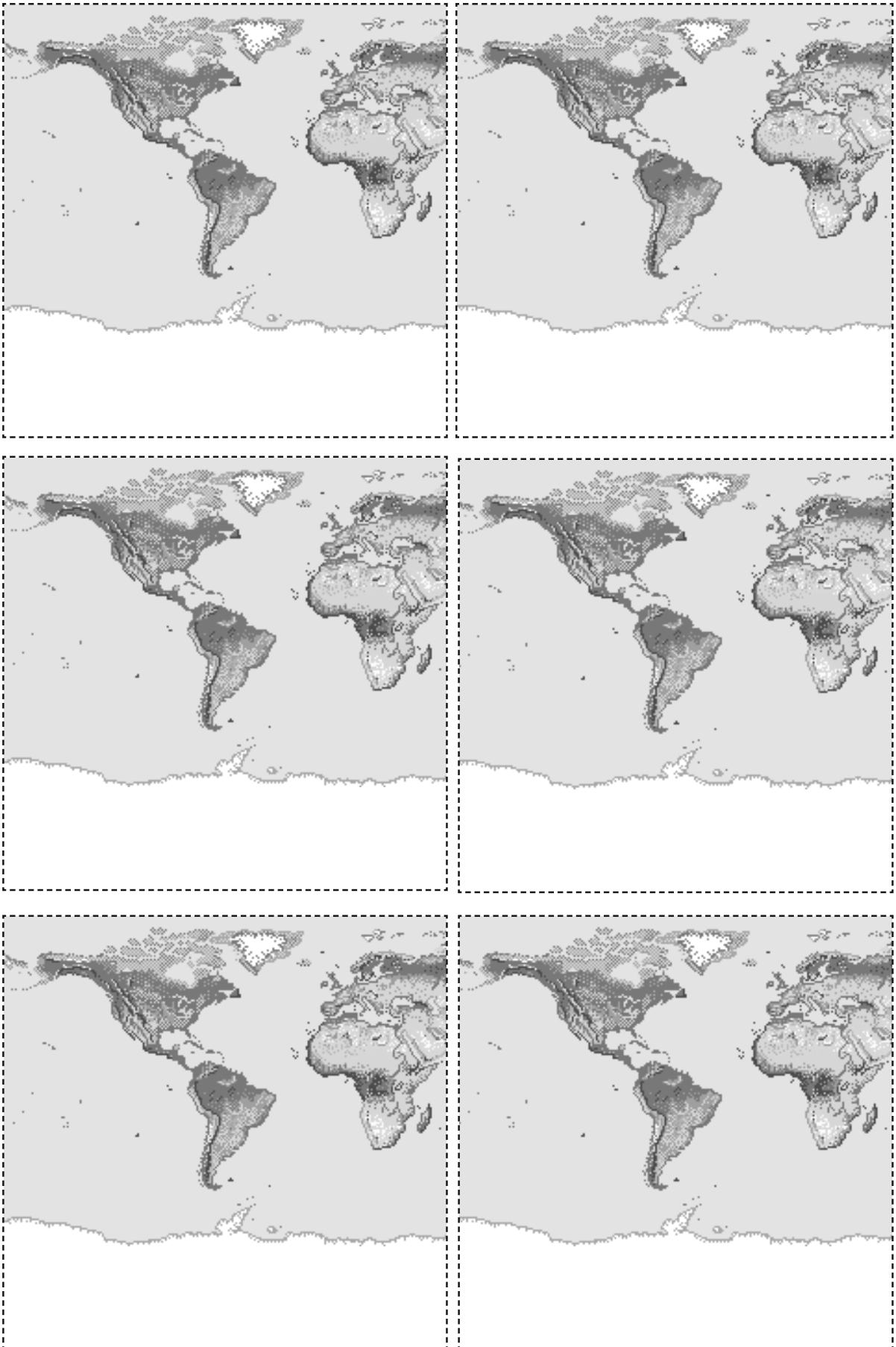


Resource Material 1b

I O U I O U

I O U I O U

I O U I O U



3.3 Game 2 - Tobacco Links

Time required: 30 minutes including discussion, or longer if you want to draw out the discussion.

You will need: Cards photocopied from resource material 2 (photo copy onto different coloured paper/card as indicated).
Blank cards/paper
A pen

Recommended group size: 3

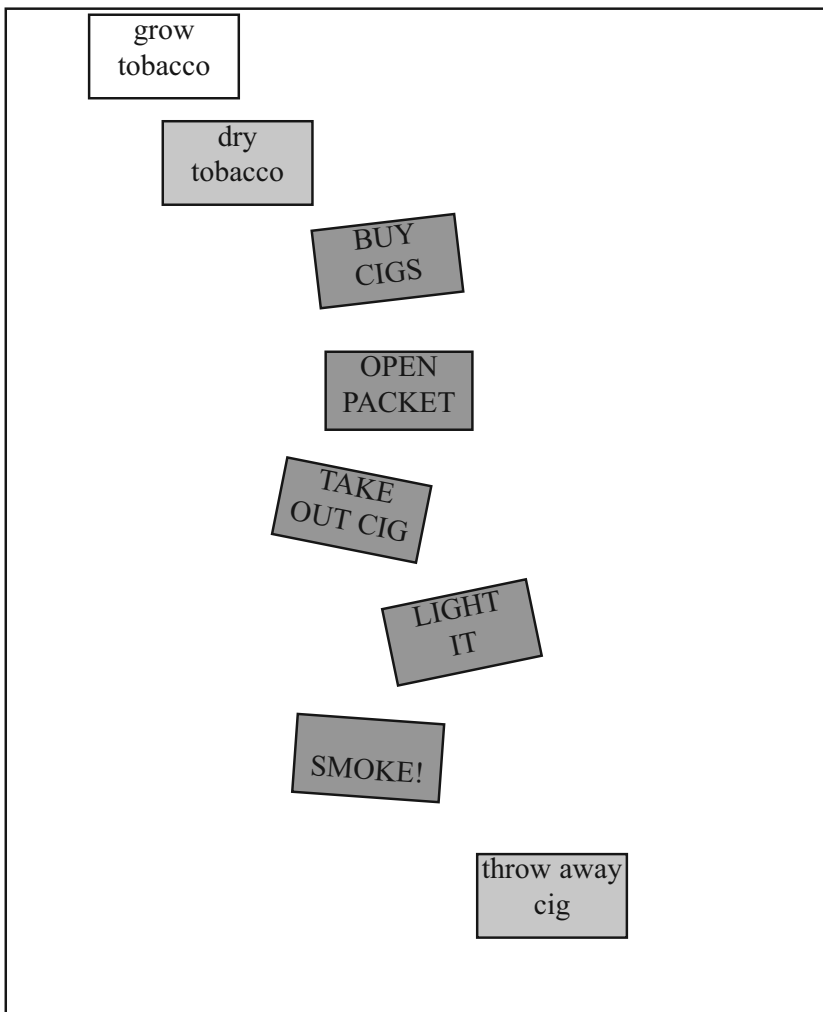
Introduction:

This exercise is designed to demonstrate how global processes can be found in many of our everyday activities. Often a concept like ecological debt is difficult to really get your head round because the places it affects seem so far away. This exercise is designed to provide a first step for people to make the links between their own lives and those of people in countries of the South. Hopefully the exercise shows how in doing even a simple thing like smoking a cigarette, our lives are touched by the lives of people in other countries and vice versa.

What to do:

Explain that this game is designed to show how what we might see as a very simple action has many more processes attached to it than we might think. It draws out how our actions affect other peoples' lives, but is not intended to act as a tool to encourage people to stop smoking. It is important to stress this as people may interpret it this way. Explain that we could do the same exercise with most of our daily consumptions - tea, coffee etc.

- Ask the group to discuss what steps are needed in order to smoke a cigarette.
- Use the example of drinking coffee to demonstrate what you mean e.g. buy coffee, open jar, get spoon, coffee in cup.
- Ask them to write the steps down on the blank pieces of paper.
- Put the cards in a column on the table/floor, in order, with the first step at the top (as shown on next page)
- Hand out card set no.1 and ask the group to decide where in the process these additional steps would go, then place them around the column, in the places they have decided on.
- Now hand out card set no. 2 and ask them to do the same.
- Now hand out card set no. 3 and ask them to do the same.
- As the game proceeds, use the points raised and questions asked to stimulate discussion (at times, the links between the cards may not be immediately obvious)



HOW TOBACCO PRODUCTION CREATES AN ECOLOGICAL DEBT

The Tobacco Links game highlights the wider implications of smoking a cigarette. Through playing the game, we can discover new facts about tobacco production. However, what is most important in this game, is to use the discovery of these facts to explore the themes of ecological debt. Themes that are easily drawn out are:

- the way in which consumption in our lives in the North relies on the exploitation of many in the South.
- the effects of exporting large quantities of agricultural products, on the ability of those living in the agricultural area to sustain their communities and environment.

Resource material 2

The following pieces of text are to be used as the cards for the tobacco links game. Each card is marked with a number. As is explained in the game instructions, there are groups of cards that are to be copied onto different coloured card. Choose the colours as you wish, but group the cards in the following way.

Card Set no. 1

Colour 1

- dry tobacco leaves
- indoor pollution from cigarette smoke contains 4000 chemicals including those that cause cancer.
- grow tobacco (often in developing countries)
- cigarette butts make up 40% of items of street litter in the UK

Card Set no. 2

Colour 2

- burn coal, gas, oil, wood
- use of fertilisers, herbicides, pesticides
- ozone damaging chemical used to fumigate soil before planting
- growers suffer from green tobacco sickness (from absorption of nicotine through skin from wet tobacco leaves) - sickness, weakness, dizziness, cramps, high blood pressure
- children removed from school to help with growing tobacco
- less land available for food production for locals
- two and a half million acres of forest destroyed every year

Card Set no. 3

Colour 3

- some reforestation, but often with fast growing trees, like eucalyptus, affecting biodiversity. If tobacco producers had to pay for the use of wood and reforestation, they could not keep on producing tobacco at the current prices,
- deforestation causes soil erosion, poor fertility so less food production for local people
- pesticides find way into food chain leading to pesticide resistant mosquitoes, malaria spreads

dry tobacco leaves

indoor pollution from
cigarette smoke con-
tains 4000 chemicals
including those that
cause cancer

Card Set no. 1

Colour 1

cigarette butts make up
40% of street litter
items in the UK

grow tobacco
(often in developing
countries)

burn coal, gas, oil,
wood

use of fertilisers, herbi-
cides, pesticides

Card Set no. 2
Colour 2

ozone damaging chemicals used to fumigate soil before planting

growers suffer from green tobacco sickness, from absorption of nicotine through skin

children removed from
school to help with
growing tobacco

less land available for
food production for
locals

Card Set no. 2

Colour 2

two and a half million
acres of forest
destroyed every year

Card Set no. 3

Colour 3

some reforestation, but
often with fast growing
trees, like eucalyptus,
affecting biodiversity

deforestation causes
soil erosion, poor fer-
tility, so less food pro-
duction for locals

pesticides find way
into food chain leading
to pesticide resistant
mosquitoes, malaria
spreads

3.4 Game 3 - Development Digressions

Time required: 25 - 30 mins

What you need: Enough paper and pens for the number in your group
Flip chart paper and pen

Recommended group size: Up to about 6

Introduction:

This exercise is designed to unpack participants' ideas about what development means and who has control over its meaning. A key theme running through the ecological debt concept is that people often don't have any control over the way their communities and environments are shaped. Often people are forced into a way of life, in the name of development, even if that particular understanding of development does not match up with their expectations for their community or local environment. Using this exercise will allow participants to explore that idea and hopefully make the links between their own experiences of the power of others to define their future, and the experiences of those in the South, whose lives are so influenced by the unacknowledged ecological debts.

What to do:

- Write the word DEVELOPMENT up on flipchart paper.
- Explain why you want to explore the meaning of this word, either drawing on the interests of your group, or using the introductory comments above.
- Ask each of the group members to think of 2 sentences using the word development. Give them a few minutes to think about it and only ask them to write the sentences down if you think that is appropriate.
- Once everybody seems to be finished, ask each of the group members to say their sentences and write them up on flipchart paper.
- Start the discussion by asking general questions about the sentences. For instance, "looking at the way the word development has been used in these sentences, what do you think the word means?". Or, "Can we produce a definition of the word development?".
- Then move onto more specific questions.....

"Do you think this definition applies to what is happening in your community/town/country?"

"What kind of development is there in your own community?"

“Are you happy with these developments?”

“Would you like some other kind of development?”

“Why isn’t there that kind of development?”

“What is stopping you from having it?”

- Then return to more general questions, bringing the discussion back to ecological debt.

“Thinking about the discussion we have just had, why do you think there is such a limited use of the word development?”

“What does this mean for ‘developing countries’?”

- Obviously these questions are provided merely as an example of the kind of direction in which a discussion could be led. Different questions could be asked and a different structure could be used. However what is important to keep in mind, is that if you are using this exercise to explore aspects of ecological debt, the theme of development must be brought back to that.

Development?

It might be useful at this point to introduce the links between ecological debt and the financial debt burdens of countries in the South.

One of the contributing factors to an ecological debt building up is that of financial debt burdens. As countries struggle to meet their financial debt payments, they are forced into an economic system based on exports.

The Texaco case study in section 2.2.5 outlines through one example, the various processes which drive this problem and describes the consequences. For more general information about the issue of financial debt see the Jubilee Scotland website: www.jubileescotland.org.uk, and how you might get involved see section 2.1, Local Action.

Returning to the issue of ecological debt, we discover that there is a very complex relationship between finance and ecological debt. Although ecological debt campaigners are keen to point out the effect of heavy financial debts on the environments of the South, they are wary of making too strong a link. For instance, some have suggested that financial debts should be wiped, because of the significantly larger ecological debt owed in the other direction. Indeed, a piece of work by Christian Aid calculated that the ecological debt based on carbon emissions alone, was three times as large as the financial debt owed. As useful as these figures are for arguing the case for recognising ecological debts, it is believed by many that the true power of the ecological debt concept is its capacity to move us past a view of the world based solely on financial values. Instead, we need to focus on ways of creating a future that takes into account a wider view of the consequences of our development models.

3.5 Game 4 - Debt Tableau

Time required: 30 mins to an hour depending on the group

What you need: Copies of the pictures (Resource materials 3a and 3b)

Recommended group size: 7 minimum, more if possible

Introduction:

Again, this is a very simple exercise, but requires a group that are ready to participate without too much encouragement. This exercise focuses on the debt aspect of ecological debt, allowing participants to make connections between their own experiences of debt and the concept of ecological debt. Materials introduced half way through the exercise links the real-life experiences of the participants with the very real human-impacting consequences of ecological debt. So this exercise will allow participants to move their experiences and understanding of debt out, making the link between these and ecological debt. However it will also bring the theoretical idea of ecological debt back to a very real human level, making links with the participants' experiences.



What to do:

- Begin by explaining to the group what the exercise is intended to do, that as a group you will be exploring your experiences of debt, eventually linking your own experiences back to the themes of ecological debt. You will be building a living statue of debt, using your bodies and actions to represent your experiences of debt.
- Ask the group to stand in an open space, where there is plenty of room to move about.
- Ask the group to think of a common experience of debt that people have in this country. Examples might be mortgages, or money lending. This part of the exercise might be a little slow and requires a couple of enthusiastic participants to kick-start it. Perhaps consider asking a couple of the participants in advance if they would like to help kick-start the process by volunteering to participate at the start.

- Once the group has decided on their example, begin the exercise of talking through with them how they might build a living picture of debt. Of course this is a fluid process and the course of it depends on the interests of the group. However questions that might give people an idea of what needs to be considered are

“who is involved in this form of debt?”

“how might we represent them in the tableau?”

“who else might be affected by this form of debt?”

- Continue with this process, drawing people in to the tableau. If there is disagreement, make use of this to draw out further understandings. Make use of the knowledge base in the group itself and introduce any important ideas/facts about debt that might be relevant.
- Once it seems a consensus has been reached, ask the group to freeze the statue and remember the positions, as they might be returning to it.
- Ask the group to look at the pictures from resource materials 3a and 3b. Use a couple of copies of each so that everybody can get a good look at the pictures.

Ask the group to keep in mind the things they had been talking about whilst

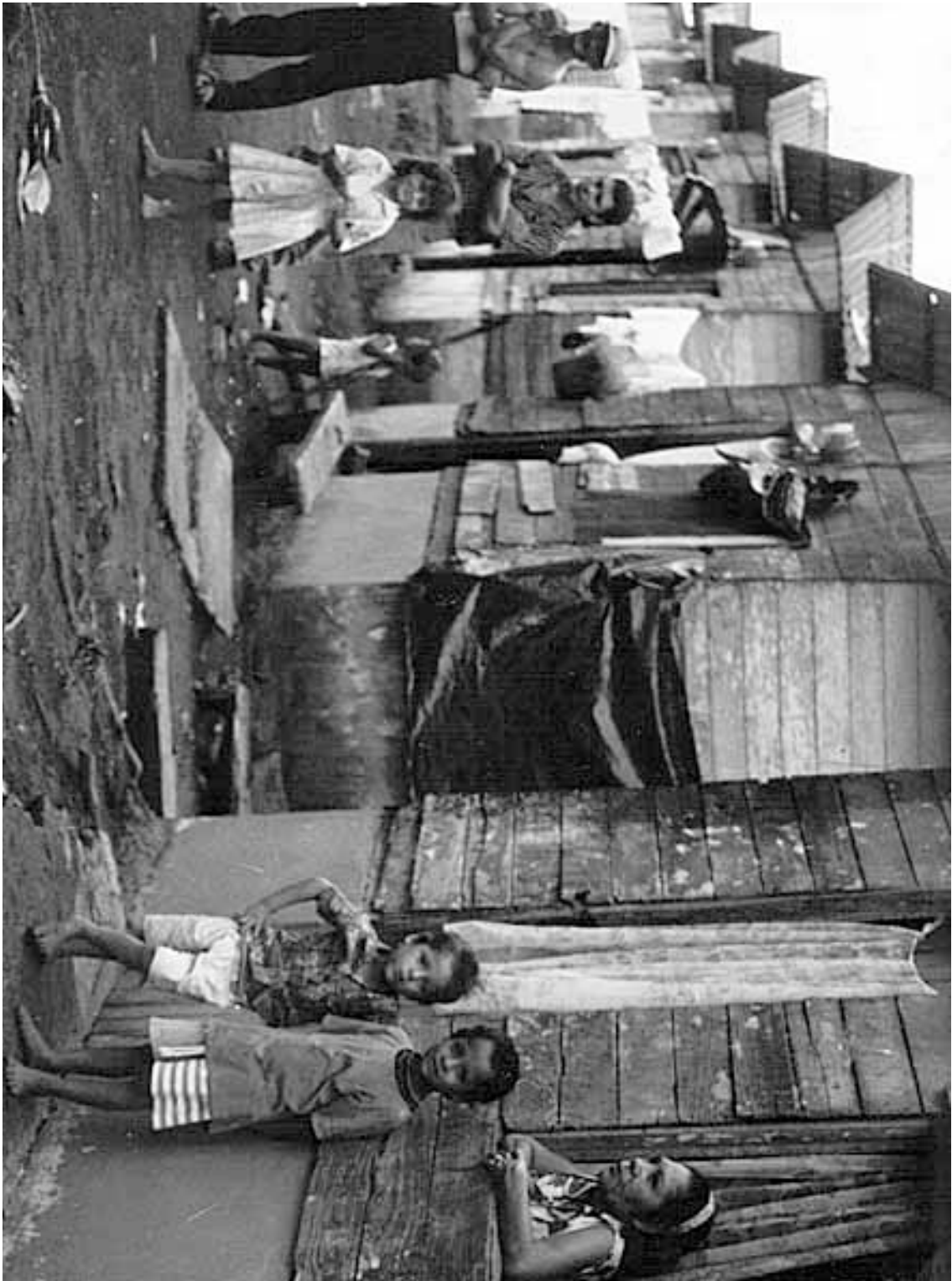
Resource Material 3a shows a picture of the living conditions of banana plantation workers in Ecuador. Use the case study in section 2.2.1 to get more information about the ecological debt being accrued from banana growing and production. 3b shows development in downtown Vancouver.

developing the tableau, then consider what it is they see in the two pictures.

- Again, the group’s interpretation of the pictures is the most important thing to work with, but there is one theme that might be useful to keep in mind. You might want to ask people who they think are the creditors of debt and who are accruing debt. The interesting thing that lies in this question is that usually, in our experience of debt, the people who are creditors are wealthy and those paying debt back are in poverty. In these pictures, when we are considering ecological debt, it is actually the people that are in poverty that are owed something by the wealthy people.
- Although it might take people a while to come round to this, it is an important discussion point to introduce, because it brings ecological debt into the discussion and shows how it is linked to our understanding of debt.
- This may highlight some of the injustice of ecological debt, that it is not recognised by the people who are in debt.

- If time allows, ask the group to return to their tableau and consider how they might need to change it to include a wider notion of debt, that includes ecological debt. This last section is useful in order to consolidate what has been considered throughout the discussion.

Resource material 3a



Credit: Banana Link

Resource material 3b



3.6 Game 5 - Axeman Game

Time required: 30 mins

What you will need: A large open space, with room to run around, possibly outside

Recommended group size: Two groups with at least 4 in each group.

Introduction

This is an exercise that is useful to do with young people. It introduces some of the themes of global warming. It is useful as a way of introducing how our actions here affect the lives of people on the other side of the world. In this sense it is useful because it addresses two key themes of ecological debt, the actual environmental damage that occurs as a result of the processes of ecological debt and the global awareness that we have to develop if we are to understand ecological debt.

This game is based around the well known paper, scissors, stone game.

What to do:

- Ask if everybody is familiar with the paper, scissors, stone game. If somebody isn't either explain the basics yourself or ask another of the participants to. The rules of the game are as follows:

In pairs you face one another and count to three. When you reach three, you both make the action of either paper, scissors or stone, with your hands. Paper is represented by holding out your hand flat. Stone is represented by holding out your hand in a fist. Scissors are represented by holding out your index and middle finger in a cutting motion. One person in each pair wins, one loses. This is determined by what each person has acted out. The rules of winning are: paper beats stone (it can wrap it up), stone beats scissors (it blunts them) and scissors beat paper (they cut it up).

- Explain that the axeman game is based on this game but differs in two ways. First of all, instead of having paper, scissors and stone, you have axeman, trees and carbon dioxide. Second, instead of playing in pairs, you play in two teams.
- The game proceeds as follows. The two teams decide separately (in secret) what they are going to represent (axeman, trees or carbon dioxide). They then stand in two rows facing one another. After a count of three each team makes an action to represent their choice. The axeman is represented by pretending to hold an axe over your shoulder, as if you are about to chop something. The trees are represented by holding your arms above your head and waving them about. The carbon dioxide is represented by making wiggling motions with your fingers in front of you. Noises can be added as seems appropriate!

- The winning team is determined in the following way. Axeman beats trees (cuts them down), trees beat carbon dioxide (soaks it up) and carbon dioxide beats the axeman (kills him).
- The winning team gets to chase the losing team (within pre-determined boundaries) and anybody captured has to join the other team.
- The idea is that the game should continue until all the participants are in the same team. The reality however is that this is unlikely to happen, so just finish the game when people are getting tired or losing interest.
- This active part of the game is used as the basis for discussion. As people are often quite focused on the competitive side of the game, it is useful to try and stretch their understanding of the processes that underlie the rules. For instance, discussion can be started in the following ways:

“This game shows how the axeman, the trees and the carbon dioxide are all connected and how each relies on the other. What do you think would happen if one of the groups disappeared entirely?”

“In the real world who do you think is affected by the axeman cutting down trees?”

- The point of this discussion is to try and show that our carbon emissions affect people in parts of the world far removed from the places where they are being emitted. You could also introduce some new information about how people are affected by global warming, for instance the fact that developing countries are affected so much more by global warming effects.

“a country like Bangladesh, poor low lying and among the most vulnerable to sea level rise and other vagaries of climate change, could increase emissions over ten times. Tanzania could increase its carbon use by over 22 times, for the Sudan, a 15 fold rise would be allowed.” jubilee2000 paper.

“In 1998 Hurricane Mitch hit Central America. The Honduran President Carlos Flores commented, ‘We lost in 72 hours what we have taken more than 50 years to build’. The map of the region was literally and metaphorically redrawn. Harvests of staple foods such as rice and sweet potato were destroyed. Virtually all banana plantations that provided Honduras’ chief export crop were flattened. At the time, Nicaragua was paying over half a million dollars a day in debt service (sucking up 39 per cent of government expenditure) and Honduras was paying \$1.5 million per day. Yet even in light of the disaster, the official creditors’ immediate response was to refuse to forgive the debt.” Andrew Simms www.neweconomics.org.

4. Finding out more

We have collected together in this section all the references to papers and websites that we have used over the last couple of years. This section is split into three parts, information on ecological debt, information on popular education and details of other useful organisations.

4.1 Ecological debt information

Reading

- Rocholl, Martin 'From Environmental Space to Ecological Debt – A European Perspective' November 2001, www.foeeurope.org/publications/publications.htm
- Simms, A - An Environmental War Economy: The lessons of ecological debt and global warming. A New Economics Foundation Pocketbook
- Simms, A - Farewell Tuvalu, 29/10/2001, The Guardian
- Simms, A - Who owes who? Ecological Debt: the biggest debt of all. <http://www.jubilee2000uk.org/>
- Simms, A - Global Warming's Victims Could Take U.S. to Court, 07/08/2001, International Herald Tribune
- Simms, A - Cutting Greenhouse Gases is as Optional as Breathing, 06/08/01, The Guardian
- Simms, A/iied - Ecological Debt - Balancing the Environmental Budget and Compensating Developing Countries, May 2001, http://www.iied.org/docs/wssd/bp_ecodebt.pdf
- Simms - Changing the Climate of Opinion: Rich countries should take more responsibility for reducing the world's carbon emissions, 20/07/2000, Financial Times
- NEF - Balancing the other budget. Proposals for Solving the Greater Debt Crisis, Simms and Rommilly Greenhill
- Juan Martinez-Alier, 2002, The Environmentalism of the Poor: a study of ecological conflicts and valuation. Edward Elgar Publishing
- McLaren, D, 2001, Environmental Space, Equity and the Ecological Debt, in Agyeman, Bullard and Evans, Just Sustainabilities,: development in an unequal world.

Websites

The following two websites have useful lists of articles on ecological debt

Cosmovisiones website: www.cosmovisiones.com/DeudaEcologica/articulos.html

Benin conference in 1999:

www.cosmovisiones.com/DeudaEcologica/benin/ponencias.html

These websites are useful links to up to date information on ecological debt campaigning:

Friends of the Earth International: www.foei.org

Jubilee Research: www.jubileeresearch.org

New Economics Foundation: www.neweconomics.org

Institute for study of third world environmental studies: www.institutoecologista.org

Red Ciudadana por la Abolición de la Deuda Externa: www.rcade.org

Acción Ecológica: www.accionecologica.org

4.2 Popular Education Information

- Freire, Paulo, The Pedagogy of the Oppressed New York: Continuum 1970
- Crowther, Martin and Shaw, 1999, Popular Education and Social Movements in Scotland Today
- Kane, Liam, 2001, Popular Education and Social Change in Latin America.

Instituto Paulo Freire

www.paulofreire.org

4.3 Other useful organisations

Banana Link

38-40 Exchange St.

Norwich

NR2 1AX

www.bananalink.org.uk

Slow Food Movement

www.slowfood.com

WDM

45 Queensferry Street Lane

Edinburgh

EH2 4PF

www.wdmScotland.org.uk

Trade Justice Movement

www.tjm.org.uk/index.shtml

Jubilee Scotland

41 George IV Bridge

Edinburgh

EH1 1EL
www.jubileescotland.org.uk

LETS
LETSlink Scotland,
60 Woodside Drive,
Forres
IV36 2UF.
www.letslinkscotland.org.uk

IDEAS (International Development Education Association of Scotland)
22 Colinton Road
Edinburgh
EH10 5EQ
www.ideas-forum.org.uk

Credit Where it's Due :

The Ecological Debt Education Project

This handbook is designed for community activists, community workers and all those interested in finding out more about ecological debt and engaging the people around them to start reflecting on the implications of this new concept.

The Ecological Debt Education Project began in 2001 with the aim of raising awareness of the concept of ecological debt in communities in Scotland. This handbook is a showcase of the work we have done so far with the explanation of the ideas we have been using reflecting the responses of the groups that have been exploring them. Also within this handbook are practical tools and exercises for engaging communities (developed and adapted by the groups we have worked with).



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