



# Women and Climate Change

Prize Winners and Finalists of the European Greens  
Essay Contest





# **WOMEN AND CLIMATE CHANGE**



HEINRICH BÖLL STIFTUNG

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Essay Contest

**Edited by the Heinrich Böll Foundation, the Green European Foundation  
and the Greens / EFA**

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The views expressed in these essays are the sole responsibility of their authors.

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## JURY MEMBERS

Nicole Kiil-Nielsen and Marije Cornelissen extend their sincere thanks for the members of the jury for their participation and enthusiasm:

**Liane Schalatek**, Associate Director of the Heinrich Böll Foundation North America,

**Leonore Gewessler**, Director, and **Daniela Graf**, Member of the Board at the Green European Foundation,

**Mercè Claramunt**, President of Dones amb Iniciativa, and the **EGGO Team**,

**Delfina Rossi**, Federation of the Young European Greens.

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# FOREWORD

**NICOLE KIIL-NIELSEN AND MARIJE CORNELISSEN  
MEMBERS OF THE EUROPEAN PARLIAMENT**

## **Women: masters of adaptation**

This inspiring essay collection not only appeals to your mind, it also appeals to all your senses. It invokes images of chickens, geese and pigs roaming between banana trees and colourful clothes lines in Nicaragua, and of women stretching their hands up in despair, wishing their palms could stop the acid rain from destroying their crops in Nigeria. They invoke smells of beans simmering in large cooking pots and banana chips frying in seething oil. They invoke the feeling of the dangerously slippery hills of Nepal, across which women have to trek to get water for their families. And they invoke the sound of a grandmother whispering stories to her granddaughter about the wisdom of women in a rural village in India, and of a father telling his daughter about the struggle of fishermen against poverty and destruction of nature in Colombia.

To our call for essays on women and climate change, many contributions from all around the world were sent in. They make it obvious that the level of awareness of this topic in developing countries is much greater than in Europe. Across Africa, Asia and South America, women are coping with the effects of climate change on an everyday basis. And they do so in an admirable way.

Climate change basically requires two different courses of action; mitigation to reduce emissions and stop further climate change on the one hand, and adaptation to the effects of climate change that are already felt on the other hand. In Europe and other developed parts of the world, attention is mostly paid to the first. At all political levels and at international conferences, mainly male politicians discuss political policies to stop climate change. Hardly bothered by the effects of climate change themselves, their discussion revolves around percentages and technologies. Though essential, this discussion is only half the story.

In the developing world, people are dealing with the effects of climate change on an everyday basis. Mud slides, draughts, floods, acid rain, lack of clean water, desertification, tropical storms and other drastic changes to the weather pattern of the centuries before make agriculture and fishery increasingly difficult. This makes life that much harder for the poorest people in the world. And among them, women are worst off. They are often the ones working the land and getting water to feed their families, while they do not have control over the land they work on or the major decisions about where and how to live. Many of the essays

show that women in developing countries have become masters of adaptation, finding ways in which to toil the land under changing conditions while also working on their own empowerment and emancipation.

While mitigation of climate change seems a western, male-dominated realm, adaptation to climate change seems the realm of women in developing countries. It is high time that more attention is paid to their hardships as well as their inspiring solutions. Gender, as often, is the blind spot of the academic and political debate on climate change, while gender has an impact on every policy related to climate change and these policies impact the gender balance in their turn. It is simply illogical to consider them separately.

You will find in this book the essays that made it to the final round of the selection. They are very diverse, but they all concur on one thing: gender equality and the fight against climate change are two challenges that have to be tackled simultaneously, and urgently.

# FOREWORD

**LIANE SCHALATEK,  
HEINRICH BÖLL FOUNDATION**

Climate change is not gender-blind. The impacts of anthropogenic changes to the global climate affect men and women not only differently, but women – due to their societal and gender roles and rights (and the lack thereof) – are often affected disproportionately worse. Human contributions to climate change and climate change solutions are likewise not gender-neutral.

Women and men bring differing capabilities to mitigate and adapt to global efforts to combat accelerating climate change. Recognizing and appreciating these differing impacts, coping and emission reduction strategies by men and women is the first important step for decision-makers globally to deal with the climate challenge effectively, efficiently and yes, gender-equitably. Particularly the experiences of women as traditional caretakers of family and communities, of cultures and ecosystems in learning how to live as part of nature have to be integrated into climate response measures on the local, national and international level, as the contributors in this essay contest have articulated so eloquently again and again. Showcasing examples from Nepal, India, Colombia, Ecuador, the West Indies or Nigeria, the authors agree: Women drawing on experiences of their daily livelihood struggles and triumphs offer often low-tech, low-cost, low-risk, low-conflict solution that has high benefits for community livelihoods, participatory democracy and long-term development that truly sustains both humankind and nature.

Sadly, many of these proposals are all but ignored by a community of policy-makers trapped in the economic and financial incentives structures of the very system that is at the heart of the problem and therefore focused on technological and scientific fixes for a (hu)man-made problem.

For women's experiences to be heard as valuable contributions and alternative scenarios to the climate change discourse in the political power-centers deciding the fate of the global climate, women's voices need to be strengthened through empowerment and leadership efforts and with a focus to increasing the participation of women in all climate fora. This can be through the women's local association of coffee producers in the mountains of Nicaragua equally well as through the Nobel Prize Winner who lends her celebrity status and moral cloud to advocacy and awareness-raising on the highest political levels globally. Women also need to take charge of contributing to change, one woman at a time, in their

personal and professional lives, and maybe most importantly in teaching and telling stories to the next generation.

In an essay recalling the powerful and life-changing conversation, a young girl remembers her grandmother giving is a testament to this as well as the conversation about climate change a mother working as a water management professional has with her child. As one essayist suggested, for nature to find peace, women must be warriors for change in the struggle for the global conscience. Women have much to say, much to propose and much to decide about the best way to deal with climate change. Their time is now.

# FOREWORD

## EGGO TEAM

The European Greens Gender Observatory (EGGO) is a project of the European Greens Parties (EGP) created as an initiative of ICV (and Dones amb Iniciativa). EGGO aims to create a new space to exchange information and knowledge on gender and ecology. Thus, EGGO will provide the platform to connect the gender groups in the Green Parties and other women organizations of Europe and beyond, by creating a network that will strengthening our political projects.

EGGO can be a platform to exchange best practice of projects, vision and concrete ideas to support a European vision of gender issues. Their main objectives are to promote coordinated European gender actions, to strengthen the gender skills of the EGP women, and to be a meeting point between EGP, and European feminist and women organizations. It is an instrument which allows the exchange of views and policy proposals from the heterogeneity of feminist perspectives that exist in the EGP.

As EGGO, we wanted to study how the Green New Deal can both change the inequity between women and man and to answer why the gender perspective needs to be introduced in the Green New Deal.

The introduction of the gender perspective in the Green New Deal seeks to convert the change in the productive model into a change in the relationships between men and women, including proposals to change this economic system which that is prejudicial to women. The introduction of the gender perspective in the GND should include, as an economic goal, satisfying women's needs in the same measure as men's, furthermore of recognizing the value of all the tasks which are necessary for society to function, both those traditionally carried out by men (those that have been key to the current productive system) and those traditionally considered as being the responsibility of women (and mostly performed by women) outside the productive system or existing precariously within that system.

The opportunity at the present moment is to use the public sphere as a trampoline for changing direction towards achieving daily well-being as a source of economic wealth and environmental sustainability. The inclusion of the care dimension in remunerated work, as well as the human capital that women represent, and the inclusion of the environmental dimension in the productive economy, are two movements that generate positive mutual synergies: they challenge the neo-liberal economy, an economy which does not take the present and future well-being of people into account and one in which money is an end,

not a means. And they can mutually support each other in the area of specific policies: environmental sectors can be an opportunity for gender equity, while the upgrading of care, through the idea of everyday well-being, can be a step in heading towards a more sustainable economy.

We cannot afford to promote the argument that “it’s not the right time” to worry about the environment, or that “it’s not the right time” to worry about gender equity. Now is the time to address these two structural deficits in our economy, as we look back upon the previous economic growth model from a distance, for both views create feedback loops, generating new and better future economic and social scenarios.

For all these reasons, we’re very grateful to the EGP for giving us the chance to participate as a jury member in the essay contest “Women and climate change”, and for this great initiative, that we hope to have continuity. We also want to congratulate all the contestants, and especially to the winners.

# Prize Winners

# Klimawandel und Powerfrauen in Nicaragua – wie ökologische Landwirtschaft und Empowerment zur Anpassung beitragen können

Im Norden Nicaraguas, in der hochgelegenen Region Estelí, sind die Folgen des Klimawandels deutlich spürbar: Überdurchschnittlicher Regenfall und gleichzeitige Dürreperioden zerstören die Ernten von Kaffee, Mais und Bohnen. Durch starken Regen werden Erdrutsche ausgelöst und begraben ganze Gemeinden unter sich. Die Klimaveränderungen führen zu häufigeren Erkrankungen der dort lebenden Menschen. Frauen sind durch die bestehenden ungleichen Geschlechterstrukturen und die damit verbundene Einschränkung ihrer Rechte solchen Klimaveränderungen gegenüber besonders vulnerabel<sup>1</sup>. Doch dass sich die potentielle Verwundbarkeit von Frauen auch in eine Stärke umkehren lässt, zeigt die Arbeit der Fundación Entre Mujeres (FEM), die seit über einem Jahrzehnt Landfrauen aus der Region empowert und Kaffeeproduzentinnen fördert. Wichtige Schlüsselbegriffe für die Anpassung an den Klimawandel sind hierbei Ökologische Landwirtschaft und Empowerment.

In Estelí ist es kühler als im Rest des Landes, doch das Mikroklima hat sich durch die Abholzung der vor einigen Jahrzehnten noch dichten Bergwälder verändert – es ist heißer geworden, das bestätigen alle. Die Gegend ist ländlich geprägt, die Menschen wohnen in einfachen Häusern, in den *patios* spazieren Hühner, Gänse und Schweine zwischen Bananenstauden und bunten Wäscheleinen herum. Aus dem Inneren der Häuser ertönen laute Musik oder dramatische Dialoge, die wahlweise aus dem Radio oder von der Telenovela stammen. In einer offenen Küche brodeln Bohnen in einem großen Topf, in einem anderen kocht der Reis und die Bananenchips blubbern in siedendem Öl. Aus diesen Komponenten setzen sich die meisten nicaraguanischen Mahlzeiten zusammen, begleitet von Maistortillas und Hühnchen, wenn man es sich leisten kann.

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1 Zum hier verwendeten Konzept von Vulnerabilität siehe Brashaw 2001 und Enarson 2000.



Um die Mittagszeit trifft man vor allem Frauen und Kinder in den Häusern an. Entsprechend den machistisch geprägten Rollenvorstellungen ist der reproduktive Bereich, bestehend aus Hausarbeit, Kindererziehung und Versorgung von alten und kranken Familienmitgliedern, immer noch fast ausschließlich Frauensache. Dass viele Frauen auch im produktiven Bereich tätig sind und aktiv in der Landwirtschaft partizipieren, wird weitestgehend ausgeblendet. Als landwirtschaftliche Produzentinnen werden sie noch immer kaum anerkannt. Dies hat zur Folge, dass Frauen bei Weiterbildungsprogrammen im Agrarbereich oftmals übergangen werden. Ihr Zugang zu Land ist nach wie vor beschränkt – tatsächlich sind nur 9,8 Prozent der landwirtschaftlichen Nutzflächen in Nicaragua in den Händen von Frauen<sup>2</sup> – und ihnen werden nur selten Kredite gewährt.

Wie auch eine Studie der Welternährungsorganisation FAO zu Landfrauen in Nicaragua konstatiert, spielen Frauen eine wichtige Rolle in der Landwirtschaft, sowohl im eigenen Anbau als auch als bezahlte Arbeitskräfte in der kommerziellen Landwirtschaft. Darüber hinaus bauen sie in ihren *patios* oder Gärten Mais, Bohnen, Kaffee, Bananen und andere Früchte oder Gemüse an, die teilweise für den Eigenverzehr bestimmt sind, bei Bedarf aber auch verkauft werden können. Sie sind in fast allen Phasen der landwirtschaftlichen Produktion involviert, mit Ausnahme der Bodenvorbereitung und der Anwendung von Agrochemikalien. Eine wichtige Rolle spielen sie außerdem bei der Auswahl und Verwaltung der Maissamen sowie bei der Verarbeitung und Lagerung der Lebensmittel. Ihnen kommt somit eine zentrale Rolle für die Ernährungssicherheit ihrer Familien zu, die jedoch häufig unterschätzt oder nicht wahrgenommen wird.

Allerdings beginnt sich seit einigen Jahren langsam etwas in der Region zu verändern. Frauen kaufen selber Land, produzieren Kaffee und verkaufen ökologische Produkte auf dem lokalen Markt in Estelí. Sie sind Kaffeeproduzentinnen und stolz darauf. Was das mit dem Klimawandel und Anpassungsmöglichkeiten zu tun hat, soll im Folgenden erläutert werden.

Anfang des Jahres 2010 erschien ein Artikel in der nicaraguanischen Tageszeitung *La Prensa* über Kaffeeproduzentinnen in der Gemeinde Los Llanos, die es geschafft hatten, ihre Kaffeeernte, die in den übrigen Teilen des Landes verloren gegangen war, zu erhalten. Es handelte sich um die Kaffeekooperative COPEMUJER, die von der feministischen Nichtregierungsorganisation Fundación Entre Mujeres unterstützt wird und seit 2007 ökologisch produzierten Kaffee in die USA exportiert. Ihr Erfolgsgeheimnis liegt in der ökologischen Landwirtschaft.

Zu Besuch bei den Kooperativen der Fundación Entre Mujeres wird jedoch schnell deutlich, dass es nicht allein dies ist, was die dort organisierten Frauen ausmacht. Was sie tatsächlich zu den stolzen Kaffeeproduzentinnen macht, ist das *empoderamiento integral* (umfassendes Empowerment), welches die Organisation verfolgt und das sowohl das ökonomische, als auch das ideologische und organisative Empowerment der Produzentinnen umfasst. Die FEM

2 La mujer en la agricultura, medio ambiente y la producción rural, FAO 2003.

bietet den Frauen in den Kooperativen Unterstützung bei dem Erwerb von qualitativ hochwertigem Land, Zugang zu Krediten sowie Schulungen im technischen Bereich im Hinblick auf eine nachhaltige Produktion in Harmonie mit der Umwelt. Zu ihren Zielen gehören die Förderung der Gesundheit der Frauen, die Stärkung des Genderbewusstseins, die Reduzierung der Gewalt gegen Frauen in den ländlichen Gemeinden sowie die Ausbildung von weiblichen Führungskräften auf Gemeindeebene. Die FEM betreibt außerdem ein Programm zur Alphabetisierung und Erwachsenenbildung. Doch was haben Empowerment und Ökologische Landwirtschaft mit der Anpassung an den Klimawandel zu tun? Es ist inzwischen allgemein anerkannt dass die Folgen des Klimawandels nicht geschlechtsneutral sind. Durch gesellschaftliche und soziale Faktoren wie die geschlechtsspezifische Arbeitsteilung und ungleicher Zugang zu Ressourcen sind Männer und Frauen in unterschiedlicher Weise vom Klimawandel betroffen. Wie auch der Human Development Report 2007/08 bestätigt, gehen Geschlechterungleichheit und die Verwundbarkeit gegenüber dem Klimawandel miteinander einher. Die Wurzeln hierfür liegen in der historischen Benachteiligung von Frauen, insbesondere aber in der geschlechtsspezifischen Arbeitsteilung. In Entwicklungsländern sind vor allem Frauen für die Produktion von Nahrungsmitteln zuständig und sie erzeugen weltweit 40 bis 80 Prozent der Grundnahrungsmittel. Weil Frauen vor allem den reproduktiven und unbezahlten Bereich der Arbeit übernehmen und nur restringierten Zugang zu Ressourcen wie Land, Krediten und Technologien haben, bedeutet der Klimawandel eine zusätzliche Belastung insbesondere für Landfrauen.

Durch die steigenden Temperaturen, veränderten Niederschlagsmengen und Trockenperioden werden voraussichtlich die Ernteerträge zurückgehen und die Ernährungssicherheit und -souveränität in Gefahr geraten. Da vor allem Frauen die Verantwortung für die Produktion und Beschaffung von Nahrungsmitteln tragen, gleichzeitig aber nicht die Kontrolle über die für die Anpassung notwendigen finanziellen und technischen Ressourcen verfügen, sind sie somit gegenüber den Auswirkungen des Klimawandels besonders verwundbar. Geringere Ernten und Viehbestände sowie abnehmende Produktivität und damit einhergehende Einkommensverluste treffen vor allem Frauen. Die Erschöpfung von natürlichen Ressourcen und abnehmende agrarische Produktivität können zu einem Anstieg der Arbeitsbelastung führen, was eine zusätzliche gesundheitliche Belastung darstellt und die verfügbare Zeit der Frauen reduziert, um in anderen gesellschaftlichen Räumen zu partizipieren oder im produktiven Bereich erwerbstätig zu sein<sup>3</sup>.

Die Empowermentstrategie der Fundación Entre Mujeres setzt genau an diesen strukturellen Problemen an: Durch Workshops, die die Konstruktion von Geschlechterrollen thematisieren, werden die Frauen angeregt, die Arbeits- und Rollenverteilung im eigenen Haus zu hinterfragen, anzusprechen und

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3 Rodenberg, Birte: Anpassung an den Klimawandel aus Geschlechterperspektive. Eine Querschnittsanalyse entwicklungs- und klimapolitischer Instrumente, DIE 2009.

neu zu organisieren. Durch eine weniger starre Arbeitsteilung und Trennung von Produktion und Reproduktion kann die Verantwortung für die einzelnen Bereiche von beiden Partnern gemeinsam übernommen werden. Dies entlastet Frauen in Krisensituationen, da sie gelernt haben, die Arbeits- und Rollenverteilung mit ihrem Partner zu verhandeln und nicht die alleinige Verantwortung für die Ernährung der Familie tragen. Zudem gewinnen sie durch die angebotenen Kurse mehr Selbstvertrauen, fordern ihre Rechte ein und trauen sich mehr zu.

Ein weiterer wichtiger Punkt ist die Unterstützung, die die FEM den Frauen im Hinblick auf den Zugang zu Land, Krediten und technischem Wissen anbietet. Neben dem Erwerb von produktivem Land, bei dem die FEM die Kooperativen unterstützt, verfügt sie über einen Kreditfonds und bietet den Frauen Kredite zu günstigen Konditionen an. Darüber hinaus organisiert sie für die in den Kooperativen organisierten Frauen Fortbildungen in Techniken ökologischer Landwirtschaft. So haben die Frauen unter anderem gelernt, ökologischen Dünger anzufertigen und stellen ihn inzwischen kollektiv für alle Kooperativen her.

Die Faktoren, die sonst die Verwundbarkeit der Frauen gegenüber dem Klimawandel bedingen, so zum Beispiel ihre alleinige Zuständigkeit für den reproduktiven Bereich und die Ernährung der Familie sowie der restringierte Zugang zu produktiven Ressourcen wie Land, Kredit und Technologie werden von der Fundación Entre Mujeres aufgegriffen und ins Positive verkehrt. Dadurch, dass die Frauen selbst Land besitzen, Kaffee produzieren und Einnahmen haben, sind sie unabhängiger von ihren Männern und selbstständiger in ihren Entscheidungen. Vor diesem Hintergrund haben sie angesichts der bedrohlichen Folgen des Klimawandels mehr Möglichkeiten und Ressourcen, um sich anzupassen und sind nicht auf die traditionelle Rolle festgelegt, die sie so verwundbar macht.

Das Beispiel der Frauenkooperative in Los Llanos zeigt, dass auch die ökologische Landwirtschaft ein Instrument zur Anpassung an den Klimawandel sein kann: das Wundermittel, das die Ernte der Frauen nicht verloren gehen ließ, war selbst produzierter ökologischer Dünger. Bevor jedoch auf die weiteren Vorteile des ökologischen Anbaus eingegangen wird, sollen kurz die Zusammenhänge zwischen Klimawandel und Landwirtschaft erläutert werden.

Ökosysteme und Klimawandel stehen in einer engen Interdependenz und beeinflussen sich gegenseitig: die landwirtschaftliche Produktion von Lebensmitteln hängt einerseits stark von den klimatischen Bedingungen ab. Andererseits tragen aber Veränderungen in der Landnutzung, insbesondere die Umstellung von traditioneller auf intensive Landwirtschaft oder die Abholzung von Wäldern zum Klimawandel bei. Die Folgen des Klimawandels wiederum beeinflussen das Wachstum der Pflanzen und die Produktion durch Schädlinge und Krankheiten, Hitze, erratischen, bzw. unregelmäßigen Regenfall mit damit einhergehender, Ausschwemmung von Nährstoffen aus dem Boden, Bodenerosion durch Wind und eine Zunahme an Feuern aufgrund von Trockenheit<sup>4</sup>. Die

4 Einen guten Überblick über die Zusammenhänge bietet das klimapolitische Gendernetzwerk gender cc: <http://www.gendercc.net/fields/agriculture.html>.

genannten Faktoren führen zu geringeren Ernten und somit einer abnehmenden Produktivität, die Einkommensverluste nach sich zieht und im schlimmsten Fall dazu führt, dass Familien sich nicht mehr durch Subsistenzwirtschaft ernähren können.

Nicaragua erlebte in den vergangenen Jahren sowohl extreme Dürreperioden als auch starken anhaltenden Regenfall, der Überschwemmungen, Erdbeben und Epidemien nach sich zog. Beide Phänomene führten zu großen Ernteverlusten im Bereich der *granos básicos*. Ein Beispiel für die Zunahme an extremen Wetterereignissen ist der Hurrikan Mitch, der im Jahr 1998 über Nicaragua hinwegfegte und das Land in einem desaströsen Zustand hinterließ. Bereits in den vergangenen Jahrzehnten haben sich Temperaturen und Niederschlagsmengen in Nicaragua als Folge des Klimawandels verändert und es wird davon ausgegangen, dass sich diese Veränderungen in den nächsten Jahren noch verstärken. Da der landwirtschaftliche Sektor Klimaveränderungen gegenüber besonders verwundbar ist, ist zu erwarten, dass die Anbauerträge zurückgehen und somit die Ernährungssicherheit gefährdet sein wird. Forscherinnen und Forscher gehen davon aus, dass der Klimawandel aufgrund der Temperaturanstiege die Produktion von Kaffee und Mais negativ beeinflusst, während die Erträge der Bohnen erst auf lange Sicht betroffen sein werden<sup>5</sup>.

Anhand der Erfahrungen der Kaffeeproduzentinnen sollen nun die Folgen des Klimawandels auf die Situation der Frauen beschrieben und die positiven Eigenschaften der Ökologischen Landwirtschaft herausgearbeitet werden. Außerdem werden die Aspekte des Organisiert Seins und des Empowerments für die Folgen und die Anpassung mit einbezogen.

Die unberechenbaren Klimaschwankungen haben Ernteverluste und entsprechende ökonomische Konsequenzen für die Frauen nach sich gezogen. Nicht nur die Kaffeeproduktion, die das finanzielle Auskommen der Frauen in den Kooperativen sichert, litt in den vergangenen Jahren unter beträchtlichen Einbußen, sondern auch die Ernten von Grundnahrungsmitteln wie Mais und Bohnen wurden von dem unbeständigen Regenfall stark beeinträchtigt: Alle Frauen in den sechs Kaffeekooperativen haben in den letzten zwei Jahren ihre Ernten teilweise oder gar vollkommen verloren. Letztes Jahr ging aufgrund des vielen Regens der überwiegende Teil der *granos básicos*, bestehend aus Mais und Bohnen, verloren. Auch die Kaffeeproduktion ging zurück, was zu geringere Einnahmen für die Frauen führte. Neben den Ernteverlusten und den ökonomischen Auswirkungen spielt auch der Aspekt der Gesundheit eine wichtige Rolle, da aufgrund der intensiven Regenfälle vermehrt Krankheiten auftraten, darunter sowohl Bronchitis als auch Epidemien, die sich durch Überschwemmungen und verschmutztes Wasser schnell ausbreiten können. Für die Frauen bedeutet dies in ihrer traditionellen Rolle als Sorgende einen Mehraufwand an Arbeit und Zeit, den sie jedoch nicht kompensieren können, da die Arbeit tendenziell in Krisensituationen zunimmt.

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5 Nicaragua. Efectos del Cambio Climático sobre la Agricultura, CEPAL 2010.

Dass nicht alle Ernten verloren gingen, kann allem Anschein nach zumindest teilweise auf die ökologische Anbauweise zurückgeführt werden: durch die ausschließliche Verwendung von organischem Dünger und Verzicht auf Chemikalien werden die Pflanzen stärker und resistenter gegenüber Klimaveränderungen, was dazu führt, dass zumindest Teile der Ernte erhalten bleiben und dem Regen trotzen können. Der organische Dünger stärkt nicht nur die Kaffeepflanzen, die *granos básicos* und das Gemüse, sondern schont auch die Umwelt ohne sie zu kontaminieren. Darüber hinaus werden die Nährstoffe nicht, wie bei herkömmlichen Düngern, durch den Regen einfach weggespült, sondern bleiben bei den Pflanzen. Hinzu kommt der ökonomische Aspekt, denn der ökologische Dünger kostet nur ein Viertel im Vergleich zu dem chemisch hergestellten. Eine weitere Strategie der ökologischen Anbauweise ist die Pflanzung von Bäumen zur natürlichen Schattenbildung, da die Kaffeepflanzen nicht der prallen Sonne ausgesetzt sein dürfen. Diese schützen wiederum den Boden vor Erosion und verhindern Erdbeben.

Fragt man die Frauen nach den Vorteilen des biologischen Anbaus, so betonen sie vor allem den Gesundheitsaspekt, sowohl in Bezug auf die menschliche Gesundheit, aber auch im Hinblick auf die Umwelt. Dies ist auch hinsichtlich der Anpassung an den Klimawandel ein wichtiger Aspekt, da eine gesunde, nicht verschmutzte Umwelt weniger anfällig für die Folgen des Klimawandels ist. Des Weiteren ist auch der ökonomische Aspekt bei der ökologischen Landwirtschaft für die Frauen von Bedeutung, da sie die Produktion weniger kostet und sie den Kaffee für entsprechend höhere Preise verkaufen können. Das Einkommen durch den Kaffee macht sie unabhängiger, und stellt im Fall eines Ernteverlustes der *granos básicos* ein finanzielles Polster dar.

Einen wichtigen Stellenwert nimmt auch das organisierte Sein bzw. das Empowerment der Frauen ein. Durch die Arbeit mit der FEM sind sie selbstbewusster geworden, trauen sich mehr zu, sind ökonomisch unabhängiger von ihren Männern. Dadurch, dass sie Land besitzen und durch die Arbeit in der FEM für das Thema Arbeitsteilung sensibilisiert sind, sind sie eher in der Lage, die Arbeitsteilung im Haus zu verhandeln. Sie berichten, dass die Aufgaben im Haus und in der Landwirtschaft und somit auch die Verantwortung für die einzelnen Bereiche geteilt werden. Dies erscheint im Hinblick auf den Klimawandel ein entscheidender Vorteil zu sein, da die Frauen in vielen Fällen, wie oben dargestellt, den Auswirkungen gerade auch der traditionellen Arbeitsteilung und dem eingeschränkten Zugang zu Ressourcen wegen verwundbarer sind. Allerdings lässt sich auch feststellen, dass die Aufgabenbereiche trotz allem innerhalb der traditionellen Rollenvorstellungen bleiben, wenn auch mit Variationen. Nach wie vor sind die Frauen für die Essenszubereitung und die Hausarbeit im Allgemeinen zuständig, wobei ihnen die Männer und Kinder zur Hand gehen. Entscheidend ist jedoch, dass Geschlechternormen, die Frauen in ihrer Freiheit einschränken, auf diese Weise langsam aufgebrochen werden. Einen wichtigen Faktor stellt dabei die Tatsache dar, dass es die Frauen sind, die das

Land besitzen, selbst wenn beide Partner es bewirtschaften und dass Frauen als Produzentinnen anerkannt werden.

Abgesehen von den Vorteilen der ökologischen Landwirtschaft entwickeln die Frauen ihre persönlichen Anpassungsstrategien. Viele verkaufen im Garten angebautes Gemüse, Bananen oder sonstiges Obst, um die Ernteverluste in anderen Bereichen zu kompensieren und über diese Einkünfte ihre Ausgaben decken zu können. Auch innerhalb der Kooperativen versuchen die Produzentinnen Wege zur Anpassung zu finden. So wird bei COPEMUJER nun Gemüse in einem Gewächshaus gezogen, wo die Pflanzen den Klimaschwankungen weniger ausgesetzt sind.

Wie das Beispiel der Kaffeeproduzentinnen der Fundación Entre Mujeres zeigt, sind Frauen dem Klimawandel gegenüber nicht grundsätzlich vulnerabler. Es sind vielmehr gesellschaftliche Konstruktionen und soziale Normen, die ihnen bestimmte Arbeitsbereiche zuweisen und ihren Zugang zu wichtigen Ressourcen einschränken und sie somit verwundbarer machen. Jedoch macht die Arbeit der FEM deutlich, dass sich Rollenbilder und die damit einhergehende ungleiche Verteilung von Ressourcen verändern lassen. Die bewusste Entscheidung der Kooperativen, im Einklang mit der Umwelt zu produzieren, helfen ihnen nun, ihre Ernten zumindest teilweise zu erhalten und die Folgen des Klimawandels abzuschwächen. Als Kooperativen und in ihren Familien entscheiden sie selbst über das was sie produzieren und wie sie leben wollen. All das hilft ihnen, adäquat auf die Folgen des Klimawandels zu reagieren und nicht Opfer zu sein, sondern aktiv neue Wege der Anpassung zu suchen.

Als ein zentraler Punkt sollte das Empowerment von Frauen gefördert werden, um ihnen die Möglichkeit zu geben, als *agents of change* zu wirken. Hierbei sollte der Fokus vor allem auf Nichtregierungsorganisationen in den einzelnen Ländern gerichtet werden, die bereits in diesem Bereich arbeiten. Ideal erscheint eine Strategie, welche die verschiedenen Ebenen des Empowerment vereint und die Frauen sowohl in ideologischer, finanzieller und technischer Hinsicht fördert.

Darüber hinaus stellt die ökologische Landwirtschaft einen guten Ausgangspunkt für die Anpassung an den Klimawandel dar. Wie das Beispiel der Kooperativen in Estelí zeigt, können durch den ökologischen Anbau nicht nur die negativen Folgen des Klimawandels vermindert, sondern auch eine lukrative Einkommensquelle für die Produzentinnen geschaffen werden, da die Produktionskosten im Vergleich niedrig, und die Gewinne entsprechend höher sind. Auf lange Sicht ist eine landwirtschaftliche Produktion auf Kosten der Umwelt bei gleichzeitig zunehmenden Klimakatastrophen nicht denkbar. Deshalb sollte dies schon jetzt bei Anpassungsstrategien an den Klimawandel berücksichtigt und gefördert werden.



MEIKE WERNER (1<sup>ST</sup> PLACE)

# Climate change and ‘power women’ in Nicaragua – how organic farming and empowerment can contribute to adaptation

In the north of Nicaragua, in the high-altitude region of Estelí, the effects of climate change are being acutely felt, with above-average rainfall and simultaneous periods of drought destroying the coffee, maize and bean crops. Heavy rains cause landslides that bury entire villages. The changing climate has resulted in an increase in the rate of illness among the people living there. Women are particularly vulnerable<sup>1</sup> to the effects of climate change because of the unequal gender structures that are in place and the restrictions on their rights that these structures entail. However, as demonstrated by the work of the Fundación Entre Mujeres (FEM) – an organisation that has been empowering rural women residents of this region for more than a decade by promoting coffee-growing – the potential vulnerability of these women can also be reversed and transformed into strength. In this regard, key factors in the adaptation to climate change are organic farming and empowerment.

It is cooler in Estelí than it is in the rest of the country, but the microclimate has been changing due to deforestation of what only a few decades ago were still dense mountain forests. Everyone agrees that it has become hotter. This is a rural area, and people live in simply constructed houses. In the *patios*, chickens, geese and pigs roam between banana trees and colourful clothes-lines. Loud music can be heard from inside the houses, or dramatic dialogues coming either from the radio or the *telenovelas*. In an open kitchen, beans are simmering in one large pot and rice is cooking in another while banana chips are frying noisily in seething oil. Most Nicaraguan meals include these items, accompanied by maize tortillas and chicken – when people can afford it. Around noon, you find mainly women and children in these houses. According to the traditional *macho* gender roles, the reproductive sphere – housework, parenting and caring for sick

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1 For the concept of vulnerability used here, see Brashaw 2001 and Enarson 2000.

and elderly family members – is still an almost exclusively female preserve. The fact that many women are also involved in productive work and participate in farming is largely overlooked. Even today, they are scarcely acknowledged as agricultural producers. As a result, women are often passed over when it comes to continuing-education programmes in the agricultural sector. As in the past, their access to land remains limited. In fact, just 9.8% of the land under cultivation in Nicaragua is in women's hands<sup>2</sup>, and they are rarely granted loans.

As a study by the Food and Agriculture Organisation (FAO) on women in rural areas of Nicaragua confirms, women play an important role in agriculture, both in their own cultivation and as paid workers in commercial agriculture. Furthermore, in their own *patios* or gardens, they cultivate maize, beans, coffee, bananas and other fruit or vegetables that are intended partially for household consumption but which can also be sold if needed. Women are involved in almost all phases of agricultural production, except preparation of the soil for cultivation and the use of agrochemicals. They also play an important role in choosing and managing the maize seed, as well as in the processing and storage of foodstuffs. So they have an important role in ensuring their families' food security, a role that is nevertheless often underestimated or overlooked.

However, this region has been undergoing a process of gradual change for a number of years now. Women are buying land, growing coffee and selling organic products at the local market in Estelí. They are coffee growers and proud of it. Details of what this has to do with climate change and the potential to adapt to climate change will be given below.

In early 2010, an article appeared in the Nicaraguan daily newspaper *La Prensa* on female coffee producers in the Los Llanos township who had managed to save their coffee crop, which had failed in other parts of the country – namely the coffee cooperative COPEMUJER, which is supported by the feminist NGO Fundación Entre Mujeres and has been exporting organically grown coffee to the United States since 2007. The secret behind its success lies in organic farming.

But when you visit the cooperatives of the Fundación Entre Mujeres, it soon becomes apparent that this is not the only thing that makes the women organised there different. What actually makes them into proud coffee growers is the *empoderamiento integral* (overall empowerment) that the organisation promotes, which involves economic, ideological and organisational empowerment of the coffee growers. The FEM offers the women in these cooperatives support in acquiring high-quality land, access to loans and training in the technical aspects of sustainable production that is in harmony with the environment. Their objectives include improving women's health, strengthening gender consciousness, reducing violence against women in rural communities and educating female leaders at the community level. The FEM also operates a literacy and adult-education programme. But what do empowerment and organic agriculture have to do with adaptation to climate change?

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2 *La mujer en la agricultura, medio ambiente y la producción rural*, FAO 2003.



It is now generally acknowledged that the effects of climate change are not gender-neutral. Due to societal and social factors such as the gender-specific division of labour and unequal access to resources, men and women are affected differently by climate change. As the Human Development Report 2007/2008 also confirms, gender inequality and vulnerability to climate change are interrelated. The root causes are historical discrimination against women, in particular a gender-specific division of labour. In developing countries, women are mainly responsible for the production of foodstuffs, and worldwide they produce 40% to 80% of basic staple foods. Since it is mainly women who take responsibility for the reproductive and unpaid areas of work, and who have only restricted access to resources such as land, credit and technology, climate change imposes an additional burden on women, especially those living in rural areas.

Due to rising temperatures and changes in the amount of precipitation and the length of dry periods, crop yields will probably decline, and food security and sovereignty will probably be put at risk. Since women in particular are responsible for the production and procurement of food, but do not at the same time have control over the financial and technical resources necessary for adaptation, they are especially vulnerable to the effects of climate change. Smaller harvests and less livestock, combined with declining productivity and the accompanying loss of income, will primarily affect women. The exhaustion of natural resources and declining agricultural productivity may lead to a greater workload, which poses an additional health risk and reduces the time that women have to participate in other areas of society or be gainfully employed in the productive sector.<sup>3</sup>

The empowerment strategy of Fundación Entre Mujeres addresses precisely these structural problems. In workshops that focus on gender roles, women are encouraged to question, address and reorganise the division of labour and role allocation in their own homes. With a less rigid division of labour and a separation of production and reproduction, joint responsibility for certain areas can be accepted by both partners. That relieves the burden on women in crisis situations, because they have learned to negotiate a division of labour and role allocation with their partner and do not have sole responsibility for feeding the family. In addition, by means of the courses offered, they gain more self-confidence, demand their rights, and rely more on their own abilities. Another important point is the support that the FEM gives women regarding access to land, credit and technical expertise. In addition to supporting the cooperatives in acquiring land, the FEM has a credit fund and grants women loans at favourable conditions. In addition, it organises further training in the techniques of organic farming for women who are organised into cooperatives. In this way, women have learned, among other things, to make organic fertiliser and have since produced it collectively for all cooperatives.

3 Rodenberg, Birte: *Anpassung an den Klimawandel aus Geschlechterperspektive. Eine Querschnittsanalyse entwicklungs- und klimapolitischer Instrumente*, DIE 2009.

The factors that determine women's vulnerability to climate change, such as their sole responsibility for the reproductive area and the family's nutrition, as well as their restricted access to productive resources, such as land, credit and technology, are also addressed by the Fundación Entre Mujeres and transformed into something positive. When women own their own land, grow coffee and earn an income, they are more independent of their husbands and more self-reliant in their decision-making. Against that background, in the face of the menacing consequences of climate change they have more opportunities and resources to adapt to such change and are not bound to the traditional role that makes them so vulnerable.

The example of the women's cooperative in Los Llanos demonstrates that organic agriculture can also be an instrument for adaptation to climate change: the magic remedy that prevented the women's crops from failing was their home-made organic fertiliser. However, before looking at the additional advantages of organic agriculture in more detail, let us embark on a brief discussion of the connections between climate change and agriculture.

Ecosystems and climate change are highly interdependent and have an effect on each other. The agricultural production of foodstuffs very much depends on climatic conditions. On the other hand, changes in land use, particularly a switch from traditional to intensive agriculture or deforestation, contribute to climate change. And in turn, the effects of climate change influence the growth of plants and agricultural production, in the form of pests, disease, heat, erratic or irregular rainfall with the accompanying leaching of nutrients from the soil, soil erosion due to wind, and an increase in fires induced by drought.<sup>4</sup>

These factors result in smaller harvests and thus declining productivity, which leads to income loss and, at worst, to families no longer being able to feed themselves from subsistence farming.

In recent years, Nicaragua has experienced both periods of extreme drought and protracted heavy rainfall, which has caused flooding, landslides, and epidemics. Both phenomena have led to major crop failures in the *granos básicos* area. One example of the increase in extreme weather events is Hurricane Mitch, which swept across Nicaragua in 1998, leaving the country in a disastrous state. Over the past few decades, temperatures and amounts of precipitation have altered in Nicaragua as a result of climate change, and these changes are expected to intensify over the next few decades. Given that the agricultural sector is particularly vulnerable to climate change, the anticipation is that growers' yields will decline, and that food security will therefore be put at risk. Experts assume that climate change due to temperature rises will negatively affect the production of coffee and maize, whereas a change in bean yields will not be seen until later.<sup>5</sup>

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4 A good summary of the interconnections is provided by the climate-policy gender network cc: <http://www.gendercc.net/fields/agriculture.html>

5 Nicaragua. *Efectos del Cambio Climático sobre la Agricultura*, CEPAL 2010.

Taking as a basis the experience of female coffee growers, the effects of climate change on the situation of women will now be described and the positive aspects of organic farming presented in more detail. In addition, the factors of organisation and empowerment will be discussed in relation to the effects of climate change and adaptation to them.

Unpredictable climate fluctuations have caused crop failures, with side effects for women. It is not only coffee production, which ensures the financial livelihoods of the women in cooperatives, that has suffered major failures over the past few years; harvests of basic foodstuffs, such as maize and beans have also been badly affected by the changes in rainfall in that period. All of the women in the six coffee cooperatives have lost part or even the whole of their crop in the past two years. Last year, due to heavy rains, most of the *granos básicos*, which consist of maize and beans, were lost. Coffee production declined as well, which resulted in lower incomes for these women. In addition to the crop failures and their financial impact, health factors also played an important role, because there was a higher incidence of disease due to the heavy rainfall, including bronchitis and epidemics that spread quickly due to flooding and contaminated water. For women, in their traditional role of care-providers, this means additional work and time, which they cannot compensate for, because the amount of work they have to do tends to increase in crisis situations.

The fact that not all crops were lost can apparently be attributed at least in part to the organic method of cultivation. Since only organic fertiliser was used and no chemicals at all, the plants became stronger and more resistant to changes in the climate, which meant that at least some portion of the crops survived and was able to cope with the rain. Organic fertiliser not only strengthens coffee plants, *granos básicos* and vegetables, it is also environmentally sound, protecting the environment without contaminating it. Furthermore, the nutrients are not simply washed away by the rain, as they are in the case of conventional fertilisers, but remain in the plants. And then there is the economic aspect as well, because organic fertilizers cost only a fourth of the price of chemically manufactured products. An additional strategy in organic cultivation is the planting of trees to provide natural shade, because the coffee plants must not be exposed to the blazing sun. This also protects the soil from erosion and prevents landslides.

When asked about the benefits of organic cultivation, the women particularly stress the health aspects, both in relation to human health and the environment. This is also an important aspect of adaptation to climate change, because a healthy, non-polluted environment is less susceptible to the consequences of climate change. In addition, the economic side of organic farming is also important to the women, because this kind of production costs them less, and they can sell the coffee at correspondingly higher prices. The income they derive from coffee makes them more independent and gives them a financial cushion in the event of a crop failure that affects the *granos básicos*.

The fact that women are being organised and as such empowered is also very important. Through their work with the FEM, they have become more self-

confident, they rely more on their own abilities, and they are more financially independent of their husbands. Since they own land, and because of their work in the FEM, they understand what a division of labour entails, and they are more likely to be able to negotiate a division of labour in the home. Women report back that the work done in the home and in agriculture – and thus also the responsibility for individual areas – is being divided up. In view of climate change, this would appear to be a decisive benefit because in many cases, as noted above, it is women, due to the traditional division of labour and restricted access to resources, who are more vulnerable. However, it is also clear that areas of responsibility, despite everything, still remain within the scope of traditionally defined roles, although with some variation. As in the past, women are still responsible for preparing food and housework in general, although their husbands and children now help out. But the key factor is the gradual deconstruction of the gender norms that restrict women's freedom. An important element here is that it is the women who own the land, even though both partners cultivate it, and that women are recognised as producers.

In addition to enjoying the benefits of organic agriculture, these women also develop personal adaptation strategies of their own. Many of them sell vegetables, bananas or other fruit that is grown in their gardens to compensate for crop losses in other areas, and are able to cover their costs with this income. Within the cooperatives as well, the producers try to find additional ways to adapt. In the case of COPEMUJER, vegetables are now grown in a greenhouse, where the plants are less vulnerable to climate fluctuations.

As is illustrated by the example of the Fundación Entre Mujeres' coffee growers, women are not necessarily more vulnerable to climate change. It is actually social constructs and social norms that assign them certain areas of work and restrict their access to important resources, thereby making them more vulnerable. However, the work of the FEM clearly demonstrates that traditional role models and the unequal distribution of resources that they entail can be changed. The deliberate decision by a cooperative to grow food in harmony with the environment is helping them preserve at least part of their crops and mitigate the effects of climate change. As cooperatives, and in their families, they decide themselves what they are going to produce and how they want to live. All of this helps them respond adequately to the effects of climate change rather than becoming victims of it, and enables them to seek new methods of adaptation.

Women's empowerment should be promoted as a key factor in enabling women to act as agents of change. The primary focus of this effort should be the NGOs in individual countries that are already working to this end. A strategy that combines different levels of empowerment would appear to be the ideal solution – one that promotes women's progress in all respects: ideological, financial and technical.

Furthermore, organic agriculture is a good point of departure for adaptation to climate change. As the example of the cooperatives in Estelí shows, organic cultivation not only mitigates the negative impact of climate change; it also

creates a lucrative source of income for producers, because production costs are relatively low, and profits correspondingly higher. In the long term, agricultural production at the expense of the environment, and the climatic disasters that go with it, is completely untenable. Therefore, organic agriculture should be taken into account and promoted now rather than later when formulating strategies for adaptation to climate change.

# Impactos de la crisis climática en la vida de las mujeres de la región de Santander, Colombia<sup>1</sup>

Si hay algo que hemos reflexionado un grupo de diversas asociaciones de mujeres campesinas, madres comunitarias, ambientalistas y pescadoras en el departamento de Santander – Colombia, es sobre nuestra lucha cotidiana para lograr una dignificación de nuestra labor en las diversas temáticas que abordamos, y de esta forma poder enfrentar las dificultades, entre ellas la crisis del cambio climático. Por ello, no hemos dudado empezar el diálogo mediante encuentros e intercambios entre nosotras mismas, que nos ha permitido analizar y establecer estrategias y puntos en común de defensa del patrimonio ambiental y cultural de nuestra región.

Las estadísticas de desempleo, violencia y marginalización no mienten, e inclusive a veces se quedan cortas en mostrar la situación real de las mujeres en Colombia<sup>2</sup>. A pesar de los años, de los discursos y las promesas de mejores condiciones, la lucha de las mujeres es dura y la inequidad sigue en todos los ámbitos de la vida social, económica y política.

Hablaremos específicamente del departamento de Santander, ubicado en la zona nororiental de Colombia, que se divide básicamente en dos eco-regiones: la zona andina, con una topografía montañosa y el Valle del Magdalena Medio, que es relativamente plano. En este territorio hemos tomado tres casos concretos que sirven para análisis y debate para ilustrar los impactos diferenciados de la crisis climática en la vida de las mujeres.

De esta manera, presentaremos la situación de una asociación de mujeres campesinas en el municipio de Lebrija afectadas por la desertificación, una asociación de pescadores artesanales que han luchado por la defensa de su

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- 1 Para mayor información sobre algunos de estos casos de estudio, se puede consultar las siguientes publicaciones de Fundaexpresión: cartilla “Cosechando Agua y Alimentos”, video documental “Guardianes de Semillas”, video documental “Piña Dulce y Agua Amarga”. <http://www.youtube.com/user/FUNDAEXPRESION>
  - 2 Según fuentes oficiales, en el 2005, el 63% de la población colombiana vivía en condiciones de pobreza, de estos hogares el 26.6% tenía jefatura femenina. La indigencia afecta al 31% de la población colombiana; el 31.4% de los hogares en condiciones de indigencia tiene jefatura femenina.



territorio en el Río Magdalena y un grupo de mujeres desplazadas, vulnerables y de redes de mujeres feministas que enfrentan los retos de las inundaciones en barrios marginados del Área Metropolitana de Bucaramanga.

### **Mujeres campesinas enfrentan los impactos de la desertificación y la sequía**

El primer caso se refiere a la Asociación Municipal de Mujeres Campesinas de Lebrija (AMMUCALE) ubicado en la zona montañosa. Este grupo con más de 300 mujeres afiliadas, se fundó en el año de 1996 con el propósito de ser una organización comunitaria que agrupara a las mujeres campesinas del municipio de Lebrija. Su plan de acción se ha centrado en la transformación de las relaciones de género, la promoción de su desarrollo integral, buscando mejorar el nivel de vida de sus asociadas y el de las familias rurales, gestionando y liderando proyectos económicos, ambientales, sociales y culturales.

*“En las relaciones de género, en Lebrija las mujeres se encuentran en una situación de discriminación y subordinación frente al género masculino y la sociedad, que las limita en el acceso y control sobre los recursos y beneficios disponibles para su desarrollo, a partir de esto, las mujeres de AMMUCALE han tenido que hacer frente a limitantes que han configurado el curso de la experiencia desde sus inicios: ausencia de reconocimiento al trabajo productivo, comunitario y doméstico de la*



*mujer; violencia intra familiar; subordinación y baja autoestima; altos índices de analfabetismo y bajo nivel escolar*<sup>3</sup>.

En los últimos años el cambio climático ha tomado fuerza en el plan de acción de AMMUCALE, debido a la difícil situación de acceso al agua y de las sequías. El fenómeno de El Niño, en el cual es protagonista la ausencia de precipitaciones y la prolongación de la temporada seca, llegó a Colombia a finales de 2009 y ha originado una fuerte sequía y el descenso de agua en las fuentes hídricas. Las cuencas de los principales ríos y quebradas de Lebrija han descendido notoriamente. En Colombia, el fenómeno de El Niño se ha presentado cuatro veces en lo corrido de este siglo: 2002, 2004, 2006 y 2010, todos de intensidad moderada; aunque el período 2009 - 2010 ha sido el más fuerte de los cuatro<sup>4</sup>.

Paulina Rodríguez, presidenta de la Junta de Acción Comunal de la vereda El Salado y miembro de AMMUCALE comenta: *“Sufrimos diariamente los problemas de la contaminación del agua y la falta de agua potable para nuestras familias. También en los animales de nuestras fincas se generan problemas de salud. Igualmente, enfrentamos los impactos sociales y ambientales de la escasez y mala distribución del agua”*.

Este testimonio se constata con datos del hospital de Lebrija donde las infecciones intestinales, los brotes en la piel y los parásitos constituyen 20% de las causas de enfermedad en el municipio. Esta problemática es consecuencia directa de la problemática del agua, que afecta la población más vulnerable como son mujeres, niños, niñas y adultos mayores. En el sector rural de Lebrija, solamente un acueducto cuenta con sistema de agua potable, el resto de los habitantes del campo (aprox. 95%) usan agua no tratada o inapropiada<sup>5</sup>.

El cambio climático en Lebrija está causando, como en muchas otras partes del mundo, sequías, erosión del suelo y desertificación, con el agravante del cambio y transformación del paisaje por la siembra de monocultivos y la explotación irracional del agua por las agroindustrias. Estudios han demostrado que la deforestación en la región de Santander alcanza entre 4.500 y 10.000 hectáreas al año, mientras la expansión de monocultivos, plantaciones comerciales y ganadería extensiva se ha incrementado en 329% en los últimos 5 años<sup>6</sup>.

En Lebrija, las mujeres campesinas de AMMUCALE que han liderado campañas por la soberanía alimentaria, el derecho fundamental del agua, la justicia climática, además del impulso de economías locales y la conservación de reservas de bosques, se han visto doblemente perjudicadas. Las últimas sequías

3 CIDEMOS – RIMISP – Fondo Mink’a de Chorlaví, “Sistematización de la experiencia organizacional de la Asociación Municipal de Mujeres Campesinas de Lebrija”, Bucaramanga, Diciembre de 2005.

4 Información tomada de fuentes oficiales: <http://www.cambioclimatico.gov.co/noticias3.html>

5 Resultados de muestras de agua, tomadas de la vereda El Salado por la Secretaría de Salud de Santander (Nov. 2009), arrojan que el agua es inviable sanitariamente para el consumo humano.

6 Datos de la Corporación Autónoma Regional para la Defensa de Bucaramanga. Plan de acción CDMB / PGAR – 2004.





han impedido que ellas y sus familias puedan cultivar y proveerse de su propio alimento, como hasta hace poco lo habían hecho. Además, ellas han tenido que quedarse con toda la carga laboral y doméstica, pues muchas veces sus esposos e hijos salen a trabajar afuera en busca de su “jornal” para poder sobrevivir.

Asimismo, la situación de las mujeres en Lebrija se ve agravada, pues los títulos de tierra tampoco pertenecen en muchos casos a ellas: *“cuando se define la compra de tierra; en la mayoría de los casos, los hombres toman decisiones de ser los dueños, según ellos para poder después hipotecar, arrendar o vender la tierra”*, según Cecilia Ibagos, una de las socias fundadoras de AMMUCALE. Y esto ha hecho que las mujeres en momentos críticos como estos dependan totalmente de los hombres, y si hay necesidad de venta de la propiedad o desplazamiento de la familia, ellas quedan totalmente desprotegidas.

### **Mujeres pescadoras del Río Magdalena, desplazadas por el conflicto armado colombiano y la crisis climática**

En el camino por el intercambio y el diálogo de experiencias Ammucale se ha reunido en varias ocasiones con la Asociación de Pescadores Artesanales y Agricultores del Magdalena Medio (ASOPESAMM), que agrupa 15 mil familias de pescadores artesanales, y que de igual manera han sufrido las consecuencias de la crisis climática y del conflicto armado en Colombia. Las reuniones de encuentro entre estos dos grupos de mujeres han tenido como prioridad tratar el tema de la soberanía alimentaria y el papel de las mujeres como eje fundamental





en los procesos de transformación social que buscan alternativas a las problemáticas ambientales y sociales que tienen los territorios rurales.

Los pescadores artesanales que se alimentan principalmente de la pesca en el Río Magdalena, han experimentado en los últimos años la inclemencia de los extremos climáticos (sequías e inundaciones) que afectan el régimen hídrico:

*“La inundación ocurrida en noviembre de 2008 sólo es comparable con una ocurrida hace treinta años, en las últimas décadas no se ha presentado ninguna de tal magnitud. Las actividades económicas de la población afectada son: pesca, extracción de arena de río, comercio informal, empleo en el sector privado y público. Los agricultores, previo a la emergencia, se dedicaban a productos de pan coger y no tenían capacidad más allá del autoconsumo, debido a la poca tierra disponible y a su distribución. Debido a la escasa disponibilidad, no existe acceso material ni económico a alimentos. La seguridad alimentaria de las familias afectadas, es afectada por las inadecuadas condiciones de saneamiento básico y la carencia de agua potable, que junto con la dificultad para acceder a programas de promoción y prevención en salud, dificultan la preparación de alimentos y su aprovechamiento biológico”<sup>7</sup>.*

7 La información aquí presentada cubre los municipios de Barrancabermeja y Puerto Wilches, Santander, San Pablo, y Corregimiento de Puerto Patiño municipio de Aguachica, Bolívar y La Gloria, Sur Cesar en el informe: “Emergencia por Inundaciones : Identificación de Necesidades Región Magdalena Medio”, equipo de trabajo: ICBF - Santander; Cruz Roja Colombiana, CDPMM, OIM y OCHA, diciembre 2008.

A pesar de todas las dificultades por la inequidad social y la crisis climática, ASOPESAMM como asociación de comunidades y mujeres pescadoras busca reagrupar y fortalecer las iniciativas para la recuperación de la pesca y los humedales del Magdalena Medio. La pesca artesanal es realizada en ríos, quebradas, ciénagas, caños, en donde el río Magdalena es punto de articulación atravesando varios departamentos. Aunque los pescadores poseen limitado acceso de tierras, han empezado un proceso de soberanía alimentaria, fomentado estrategias de repoblación pesquera de sus ciénagas, complementado con la creación de granjas familiares.

Miriam Gutiérrez, miembro directivo de Asopesamm, muestra su preocupación por el deterioro del patrimonio ambiental: *“En ese año de sequía la tierra quedó partida en dos, quedó tierra pelada, y quedó tierra que usted podía caminar hasta la mitad de la ciénaga, quedaron como charquitos ... ASOPESAMM nace desde el 2001, pero nace con otra visión: ya no hay peces, ya no hay agua, los humedales se están secando, es una lucha por restaurar la especie y mantener el medio. La especie declinó, nosotros éramos los aportantes del 75% del producto pesquero que aportaba la cuenca del Magdalena, y ahora solo somos aportantes de un 4%. Después de producir 78.000 ton/año, se producen 7.000 ton/año. Según las últimas estadísticas que hizo la CCI - Corporación Colombia Internacional, que culminó sus estudios y se determina que la especie, prácticamente la que la que más monitorea que es el bochachico, está agotada prácticamente”*.

Allí, la pesca artesanal que es proveedora de una de las mejores fuentes energéticas de la región, ha sido afectada por una serie de impactos climáticos, así como intereses económicos que impiden el manejo tradicional de los pescadores en su territorio. La producción pesquera artesanal, que da sustento y alimenta a más de quince mil familias, ha tenido que vérselas con innumerables amenazas. Los pescadores representan el arraigo cultural que las comunidades afrocolombianas tienen sobre su territorio. Son además ejemplo de resistencia y protección de sus humedales frente a los impactos de la ganadería extensiva, explotación minera y petrolera, y las plantaciones de palma aceitera.

Por si esto fuera poco, la situación alimentaria de los lugareños se percibe más sombría, pues se cierne sobre ellos el megaproyecto de la represa del río Sogamoso (Hidrosogamoso), el cual cerraría las puertas a la pesca artesanal debido al estancamiento de las aguas de este río. A esto se suma la compleja situación de orden público y desplazamiento en la región que ha afectado directamente a los líderes de pescadores y las mujeres cabeza de familia<sup>8</sup>.

Miriam, hija de pescador, siguió su herencia familiar, y demuestra la tenacidad de muchas mujeres pescadoras quienes tienen mayores responsabilidades para mantener sus familias: *“Mi papá me decía de la lucha de los pescadores y yo quedé con todo eso en la cabeza y hablaba mucho con él y por eso me quedé con la espinita, creo que por eso me quedé en el proceso, de ver que uno como*

<sup>8</sup> OBSERVATORIO DE PAZ INTEGRAL (OPI). “Continúa agresión a los pescadores de la Región (Magdalena Medio)”, Barrancabermeja, 2009.



*pobre, económicamente no de espíritu ni de sapiencia ni de nada de eso, como pobre económico no tiene mas herencia que dejarle a sus hijos, sino dejarle un camino, una trocha, le dejamos una trocha porque inclusive no vamos a alcanzar a dejarle el camino completo. Le dejamos una trocha en donde nuestros hijos e hijas tengan la oportunidad ... Creemos que el proceso va a ser válido y va a seguir en el momento en que lo cojan los jóvenes, y que ellos entiendan que la pesca da mucho, y que el pescador artesanal no se puede acabar porque en el momento en el que el pescador artesanal se acabe los humedales se van, desaparecen totalmente porque no hay quien los pelee, no hay quien los cuide, no habrá ninguno y será la cloaca de las grandes urbes”.*

## **Mujeres desplazadas, mujeres vulnerables y redes sociales enfrentan la Crisis Climática debido a las Inundaciones en el Área Metropolitana de Bucaramanga**

Las mujeres campesinas de AMMUCALE lograron en un encuentro de intercambio por el derecho a la alimentación y la defensa de las semillas criollas, en el mes de agosto 2006, dialogar con asociaciones de madres comunitarias y mujeres desplazadas y vulnerables, así como organizaciones sociales como la Ruta Pacifica de Mujeres y la Fundación Mujer y Futuro<sup>9</sup>; dichas organizaciones desarrollan acciones para la promoción integral de la sociedad y especialmente de las mujeres santandereanas, en áreas como la valoración personal, la divulgación y defensa de los derechos humanos, la atención y prevención de la violencia intrafamiliar, y la solución pacífica al conflicto armado colombiano.

De ese encuentro salió algo muy positivo y es que las mujeres urbanas se animaron a impulsar iniciativas de agricultura, a sembrar en los barrios, y proveerse parte de su alimentación y con ello levantar su autoestima. De igual forma, las mujeres rurales entendieron la posibilidad de reafirmarse en su arraigo a la tierra y la importancia del diálogo campo - ciudad, en el marco de la soberanía alimentaria.

Tanto las mujeres urbanas como las rurales han sido victimas del desplazamiento forzado por el conflicto armado. El Área Metropolitana de Bucaramanga es el mayor receptor de desplazados en el departamento de Santander, con 66.392 personas, de ellas el 40% provienen del departamento y el 60% de otras regiones, por las siguientes causas: amenazas de muerte (31%); desalojo de tierras por presión de terratenientes (28%); evitar reclutamiento de grupos armados al margen de la ley (16%); acusados de ser informantes (11%); negarse

<sup>9</sup> Fundación Mujer y Futuro es el punto focal en Bucaramanga de: La Red Nacional de Mujeres, La Ruta Pacifica de las Mujeres y el Observatorio de Derechos Humanos de las Mujeres Desplazadas.

a colaborar (7%), son algunas de las causas del desplazamiento generado por paramilitares y grupos similares (54%); guerrilla (40%); y ejército (6%)<sup>10</sup>.

Mucho se ha dicho sobre el conflicto armado de Colombia, pero lentamente también se empiezan a visualizar otras problemáticas como son la pobreza extrema, cuyos pobladores se les denomina población vulnerable y las víctimas del cambio climático. Todas las víctimas ya sea del conflicto armado, la pobreza o el cambio climático han tenido que refugiarse en cambuches, que son viviendas indignas que han sido construidas con latas de cinc y madera, muchos de ellos situados en zonas como las orillas del caudal del Río del Oro y del Río Frío, que atraviesan el Área Metropolitana de Bucaramanga. De esta manera, el día 9 de febrero de 2005, después de 17 horas de intensas lluvias, la mayoría de las 5 mil viviendas afectadas y 15 mil damnificados que dejó ese desastre, fueron familias ubicadas sobre los cauces de estos ríos.

Con respecto a las mujeres víctimas del cambio climático, podemos decir que tanto la población desplazada como la vulnerable sufren doblemente el desplazamiento. Esto lo corroboran los testimonios, de Audrey Robayo Sanchez, Graciela Terraza Herrera y Sandra Luna de la Ruta Pacífica y la Fundación Mujer y Futuro.

Graciela Terraza manifiesta: *“cuando se presentó la emergencia por la ola invernal este día de febrero de 2005, empezamos a recibir llamadas en las que se nos solicitaba apoyo para los grupos de mujeres desplazadas y vulnerables con las cuales trabajábamos. Allí nos dimos cuenta de los sufrimientos de ellas por los deslizamientos, las avalanchas, las caídas de casas, la contaminación del agua y la falta de energía eléctrica”*. Ese día según Audrey: *“hubo angustias por dos semanas. Seguía lloviendo y los habitantes de cambuches de los barrios Café Madrid, el Túnel de Norte de Bucaramanga y del Suratoque de Floridablanca fueron llevados a sitios temporales de albergue”*. Años después de estas inundaciones por problemas de ineficiencia del Estado y de corrupción muchas de estas damnificadas estaban todavía ubicadas en estos albergues “temporales”<sup>11</sup>.

Graciela Terraza manifestó que la reacción de las mujeres y de los hombres frente al desastre fue distinta: *“los hombres se quedaron paralizados, mostraron susto. Las mujeres se movían más, por sus hijos, por sus familias”*. Según Sandra Luna: *“ahí está presente el tema del cuidado de la vida y de la capacidad de resiliencia de las mujeres”*. Después del desastre, *“las mujeres salieron a buscar trabajo en casas de familia: lavando, planchando y hasta prostituyéndose”*, dijo Audrey.

<sup>10</sup> Conclusiones del Foro: “Incidencias y Perspectivas del Desplazamiento Forzado en el Departamento de Santander”, organizado por la Fundación Participar, Bucaramanga, 27 de Mayo de 2009. Disponible en: <http://co.globedia.com/preocupante-aumento-desplazamiento-forzado-oriente-colombiano>

<sup>11</sup> “Reclamo a la discordia en Girón”, Félix Leonardo Quintero - Corresponsal El Tiempo, Bucaramanga, 2006. Disponible en: <http://reclamospublicos.blogspot.com/2006/02/reclamo-la-discordia-en-giron.html>



A la pregunta sobre impactos diferenciados, ellas manifestaron los siguientes puntos: *“Las mujeres son doblemente vulnerables. Primero porque después de los desastres, además de salir a trabajar o buscar dinero, ellas se preocupaban de la continuación de la educación y de la alimentación de su familia e incluso de cómo proteger a sus hijos de las posibles violaciones en los baños improvisados”*. Además, las mujeres en general han tenido mucha dificultad porque no poseen títulos, y cuando llegan por el desplazamiento (del conflicto armado o de la crisis climática), los que aparecen como cabeza de hogar son los hombres, así que las ayudas humanitarias se les entregan a ellos, y las mujeres quedan sin nada.

*“Las organizaciones humanitarias, el Estado y la iglesia han hecho énfasis en brindar ayuda a la población desplazada por el conflicto armado, de tal manera que cuando sucedió la tragedia de la ola invernal, las ayudas del agua, vestido, alimento o subsidios, eran entregados sólo a los inscritos como desplazados por el conflicto armado, y las personas como los damnificados por las inundaciones, casi no recibieron ayuda o asistencia humanitaria. Esto ha creado envidias y además la situación de hambre y de sed, ha hecho que el tejido social se rompa.”* comenta Audrey. De esta manera las víctimas del cambio climático y de la pobreza extrema son invisibilizadas y olvidadas.

Las mujeres han tratado de incidir políticamente para que la situación de las mujeres cambie, por eso impulsaron la iniciativa del auto 092-2008 de la Corte



Constitucional para las mujeres en situación de desplazamiento forzado. Hay varios aspectos del auto que resultan fundamentales en cuanto al trabajo de las organizaciones de mujeres y la situación de las violencias contra las mujeres en Colombia, particularmente: 1) El reconocimiento de las mujeres como sujeto político, víctimas y sujeto de derechos y 2) El reconocimiento de prácticas de violencia sistemática contra las mujeres en el marco del conflicto armado. Esto muestra un resultado importante en términos de los esfuerzos realizados por las organizaciones de mujeres de cara a la visibilización de los impactos del conflicto armado y en el reconocimiento de la afectación diferencial de las violencias contra las mujeres<sup>12</sup>.

Dentro de la visión de trabajo de las mujeres por la justicia climática en Colombia, quisiéramos resaltar que al igual que el auto 092 del 2008, en el cual se hace un reconocimiento especial a las mujeres desplazadas, es necesario visibilizar de igual manera la situación de las mujeres víctimas por el cambio climático, al igual que insistir en la incidencia política, que va a la par con nuestro trabajo como redes de mujeres campesinas, urbanas, ambientalistas y pescadoras. Esto con el fin de seguir luchando por el derecho fundamental al agua, por

<sup>12</sup> Corporación Casa de la Mujer, “Implicaciones del auto 092-2008 de la Corte Constitucional para las mujeres en situación de desplazamiento forzado”, disponible en: <http://www.viva.org.co/cajavirtual/svc0122/index%20-%20pagina%207.html>





la soberanía alimentaria y la defensa de los ecosistemas esenciales de bosques, ciénagas y zonas de páramo.

## A Manera de Conclusión

- Existen un sin número de aspectos que impedirían que cualquier proyecto de cooperación en el ámbito rural sea totalmente efectivo, por las condiciones estructurales de inequidad en el campo, y más aún frente a la problemática de la crisis climática. Sin embargo, muchas mujeres han dado ejemplo y están ejerciendo cargos de dirección y de coordinación en las asociaciones campesinas, juntas de acción comunal, concejos de planeación municipal y departamental.
- Reconocemos que el papel de la mujer no es sencillo frente a los patrones sociales y culturales arraigados en las familias, en las comunidades y en el espacio municipal y nacional. No obstante, es claro que las asociaciones y redes de mujeres en Colombia han sido históricamente -y son hoy- una plataforma para demostrar la viabilidad de sus propuestas y alternativas de vida, hacia la garantía de los derechos sociales, económicos y culturales.
- El empoderamiento de las mujeres significa que ellas se puedan dotar de mayor sensibilidad de los factores que tienen influencia sobre sus propias vidas, desarrollar mayor confianza para analizar y expresar sus realidades, ampliando las oportunidades de tener una participación verdadera en los



espacios de desarrollo comunitario, particularmente, en este caso frente a la autonomía alimentaria, los mercados locales y la gestión económica, cuya papel es vital para la calidad de vida de las mujeres.

- Las mujeres campesinas han entendido la importancia del concepto de la dignidad humana, como forma de reivindicación de las costumbres, de la tradición, de la cultura, de formas de ver, conservar y preservar la vida, frente a propuestas antagónicas como la mercantilización, la inequidad, la violencia y las falsas soluciones frente el cambio climático.
- Se ha visto el impacto positivo del diálogo entre grupos de mujeres, el cual se potencia mediante intercambios y encuentros con otras asociaciones campesinas, de mujeres indígenas y afrodescendientes, de pescadoras y madres comunitarias, lo cual ha permitido consolidar metas comunes y prioridades de acción para sus proyectos de vida, así como visualizar los resultados alcanzables por otras mujeres en el ámbito regional, nacional e internacional.
- Se destaca la necesidad de una nueva mirada a la crisis climática, desde una perspectiva de la cosmovisión de las mujeres campesinas e indígenas, como punto de partida para analizar una realidad alimentaria, lo cultural, productiva y ambiental. Esto significa reconocer las implicaciones del deterioro ambiental y la inseguridad alimentaria, en virtud de las relaciones de poder e inequidad en el acceso a la educación, la salud y los bienes colectivos (tierra, agua, semillas).

- Hay que alentar y estimular la participación de las mujeres a través de reuniones nacionales e internacionales, donde se quiere priorizar la toma de decisiones, por parte de las mujeres, en los aspectos de planeación y desarrollo de proyectos de soberanía alimentaria, vivienda rural, educación alternativa, en relación con su aporte en las alternativas de prevenir el cambio climático, la defensa de la biodiversidad, y los procesos de construcción de paz.
- Se pretende fortalecer proyectos productivos con las mujeres rurales, haciendo énfasis en alternativas sostenibles y reservas campesinas y comunitarias de bosques. De igual manera, se promueve su conocimiento tradicional en torno al acceso, rescate y manejo sustentable de la agrobiodiversidad.

\* Créditos de Fotografías - Roberto Carlos Parra Ramírez

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# Impact of the climate crisis on the lives of women in the region of Santander, Colombia<sup>1</sup>

If there is one thing that we, a group of different associations of rural women, community mothers, environmentalists and fisherwomen in Santander, Colombia, have had on our minds, it's our daily struggle to advance our work on the various subjects we deal with, in order to be able to tackle a range of issues, including the climate change crisis. In order to do so, we have wasted no time in launching dialogue through meetings and exchanges among ourselves, thereby allowing us to analyse and establish strategies and common ground through which to safeguard the environmental and cultural heritage of our region.

The statistics on unemployment, violence and marginalisation do not lie, and at times even fail to demonstrate the true situation of women in Colombia.<sup>2</sup> Despite the passing years and all the speeches about and promises of better conditions, the struggle for women is hard and inequality persists in all areas of social, economic and political life.

We will be focussing specifically on the department of Santander, located in the north-east of Colombia, which is essentially divided into two ecoregions: the Andean region, with a mountainous topography and the Magdalena Medio Valley, which is relatively flat. We have drawn upon three specific cases in this region that can be used for analysis and debate in order to illustrate the different impacts of the climate crisis on the lives of women.

We will thus present the situation of a rural women's association in the municipality of Lebrija affected by desertification, an association of small-scale fisherpersons which has struggled to defend its territory in the Magdalena River

- 1 For more information about some of these case studies, see the following Fundaexpresión publications: *Cosechando Agua y Alimentos* [Harvesting Water and Food] – booklet, *Guardianas de Semillas* [Seed Keepers] – documentary video, *Piña Dulce y Agua Amarga* [Sweet Pineapple and Bitter Water] – documentary video. <http://www.youtube.com/user/FUNDAEXPRESION>
- 2 According to official sources, in 2005 63% of the Colombian population lived in poverty; 26.6% of these homes had a female head of household. Extreme poverty affects 31% of the Colombian population; 31.4% of homes in conditions of extreme poverty have a female head of household.

and a group of displaced, vulnerable women and feminist women's networks tackling the challenges of floods in the slums of the Bucaramanga Metropolitan Area.

## Rural women face the impact of desertification and drought

The first case study involves the *Asociación Municipal de Mujeres Campesinas de Lebrija* (Municipal Association for the Rural Women of Lebrija, AMMUCALE) located in a mountainous region. This group of over 300 female members was founded in 1996 as a community organisation aimed at bringing together rural women from the municipality of Lebrija. Their plan of action has focused on transforming gender relations, fostering their integrated development, improving the quality of life for their associates and that of rural families, and managing and spear-heading economic, environmental, social and cultural projects.

*“In the context of gender relations, the women of Lebrija are faced with discrimination and subordination in terms of the male gender and society, which limits their access to and control over available resources and benefits for their advancement. As a result, the women of AMMUCALE have had to face limitations which have shaped the course of their experience from the very outset: absence of recognition for the productive, community and domestic labour they perform, domestic violence, subordination and low self-esteem, high illiteracy rates and a low level of education”.*<sup>3</sup>

In recent years, climate change has become an increasingly important feature in AMMUCALE's action plan due to the difficulty of accessing water and to droughts. The *El Niño* phenomenon, which is characterised by lack of precipitation and an extended dry season, reached Colombia at the end of 2009 and has caused heavy drought and prompted water levels in water sources to drop. The basins of the main rivers and streams of Lebrija have declined considerably. In Colombia, the *El Niño* phenomenon has occurred four times so far this century, namely in 2002, 2004, 2006 and 2010. On all these occasions it has been of moderate strength, although the 2009-2010 period was the severest of the four.<sup>4</sup>

Paulina Rodriguez, chairperson of the Social Action Committee of the El Salado rural district and member of AMMUCALE says: *“We suffer daily as a result of water pollution and lack of drinking water for our families. This also creates health problems for the animals on our farms. We also face the social and environmental impact of the shortage and poor distribution of water”.*

This testimonial is backed by data from the hospital in Lebrija at which intestinal infections, rashes and parasites constitute 20% of the causes of disease in that municipality. This issue is a direct consequence of the water problem, which

3 CIDEMOS – RIMISP – Fondo Mink'a de Chorlaví, *Sistematización de la experiencia organizacional de la Asociación Municipal de Mujeres Campesinas de Lebrija* [Systematic approach of the organisational experience of the Municipal Association for the Rural Women of Lebrija], Bucaramanga, December 2005.

4 Data collected from official sources: <http://www.cambioclimatico.gov.co/noticias3.html>

affects the most vulnerable people such as women, children and seniors. In the rural sector of Lebrija, there is only one aqueduct with a potable water system; the remaining countryside inhabitants (approximately 95%) use untreated or inadequate water.<sup>5</sup>

In Lebrija, as in many other parts of the world, climate change is causing drought, soil erosion and desertification, with the aggravating factor of changes to and transformation of the landscape through monoculture and the irrational use of water by agroindustries. Studies have shown that deforestation in the Santander region ranges from 4,500 to 10,000 hectares per year, while the expansion of monoculture, commercial plantations and widespread cattle farming has increased 329% over the last five years.<sup>6</sup>

In Lebrija, the rural women of AMMUCALE who have spearheaded campaigns for alimentary sovereignty, the basic right to water, climate justice, and the boosting of local economies and conservation of forest reserves, have been doubly affected. Recent droughts have prevented these women and their families from growing and supplying their own food, as they had done until recently. In addition, they have had to take on all of the labour and domestic burden, as their husbands and children often have to look for work away from home for their daily wages in order to survive.

The situation of the women in Lebrija has been worsened further still by the fact that property deeds do not belong to them in many cases: “*When land is purchased, in most cases it is the men who make the decision to become the owners, which, according to them, is so that they can later mortgage, rent or sell the land*”, says Cecilia Ibagos, one of the founding members of AMMUCALE. This has meant that in critical times such as these, the women are totally dependent upon the men and if there is a need to sell the property or relocate the family, they are completely unprotected.

## **Fisherwomen of the Magdalena River, displaced by the armed conflict in Colombia and the climate crisis**

On the road to exchange of and dialogue on experiences, AMMUCALE has met on several occasions with the *Asociación de Pescadores Artesanales y Agricultores del Magdalena Medio* (Association of Small-scale Fisherpersons and Farmers of Magdalena Medio, ASOPESAMM), which consists of 15,000 families of small-scale fisherpersons, and which has also suffered the consequences of the climate crisis and the armed conflict in Colombia. The priority at the get-togethers between these two groups of women has been the issue of alimentary sovereignty and the

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5 Results from water samples taken in the El Salado rural district by the Santander Ministry of Health (November 2009), show that, in terms of health, the water is not fit for human consumption.

6 Data from the *Corporación Autónoma Regional para la Defensa de Bucaramanga*. CDMB action plan / PGAR – 2004.



role of women as a pivotal component in processes of social transformation that seek alternatives to the environmental and social issues faced by rural areas.

In recent years, the small-scale fisherpersons, who subsist primarily through fishing in the Magdalena River, have experienced inclement climatic extremes (drought and floods) which affect the water system.

*“The flood that occurred in November 2008 was on the same scale as that which hit 30 years ago; there has been no other flood of such magnitude in recent decades. Fishing, extraction of sand from the river, casual business, and public and private sector employment were all affected. Prior to this emergency, farmers focussed on subsistence products and had no capacity beyond their own consumption, due to the scarce amount of available land and its distribution. Due to the scant availability, there is no material or economic access to food. The safety of food for families affected is impacted by poor basic sanitation and a lack of drinking water, which, together with the difficulty of accessing health promotion and prevention programmes, make preparation and biological use of food difficult”.*<sup>7</sup>

Despite all the difficulties due to social inequality and the climate crisis, as an association for fishing communities and fisherwomen, ASOPESAMM aims to regroup and strengthen initiatives to shore up fishing and recover the wetlands of Magdalena Medio. Small-scale fishing takes place in rivers, streams, marshes and channels for which the Magdalena River is the connecting point, flowing through several departments. Although fisherpersons have limited access to land, they have begun a process of alimentary sovereignty, backing strategies for the repopulation of fish in their streams, supplemented by the creation of family farms.

Miriam Gutierrez, an executive member of ASOPESAMM, expresses her concern for the deterioration of this environmental heritage: *“In this drought year, the land was split in two: there was land stripped bare and there was land on which you could walk into the middle of the stream. They ended up as puddles... ASOPESAMM was founded in 2001, but with a different vision: there are no more fish, there is no more water, the wetlands are drying up, it is a struggle to restore the species and maintain the environment. The species has declined; we used to supply 75% of the fishing products from the Magdalena basin, and now we are contributing just 4%. Where once we produced 78,000 tons/year, we now produce only 7,000 tons/year. According to the latest statistics published by the Corporación Colombia Internacional (CCI), the prochilodus species of fish, which is the most monitored, has been practically wiped out”.*

In this case, the small-scale fishing that provides one of the best sources of energy in the region has been affected by a series of climatic impacts as well as economic interests, which have prevented fisherpersons from operating in their territory as they traditionally have done. Small-scale fishing, which supports

7 The data presented here cover the municipalities of Barrancabermeja and Puerto Wilches, Santander, San Pablo and the Township of Puerto Patiño, municipality of Aguachica, Bolivar and La Gloria, Sur Cesar in the report entitled: *Flood Emergency: Identification of Needs in the Magdalena Medio Region*, work team: ICBF—Santander; Colombian Red Cross, CDPMM, OIM and OCHA, December 2008.

and feeds more than 15,000 families, has been faced with countless threats. The fisherpersons represent the cultural roots of the Afro-Colombian communities in their territory. They are also an example of how resilient they are and how they have protected their wetlands against the impact of widespread cattle farming, mineral and petroleum extraction and palm oil plantations.

As if that weren't enough, the alimentary situation of the inhabitants now looks even grimmer with the threat of the Sogamoso River dam mega-project (*Hidrosogamoso*) hanging over them. This project would close the doors on small-scale fishing since the waters of the river would stagnate. Added to this is the complex situation of public policy and displacement in the region, which has directly affected the leaders of the fishermen and female heads of household.<sup>8</sup>

Miriam, a fisherman's daughter, has carried on her family legacy and demonstrates the tenacity of many fisherwomen who have greater responsibilities for supporting their families: *"My father told me about the struggle of the fishermen and I retained all of that in my head and spoke to him a lot and that's why the thorn stuck in me. I think that's why I stayed with the process, to see how a person who is poor – financially speaking, not in terms of spirituality or wisdom or anything like that – no longer has any legacy to leave to his children but a road or a path... We leave them a path because we aren't even going to be able to leave them a completed road. We leave a path along which our sons and daughters have opportunity... We believe that the process is going to be valid and it's going to continue when it is picked up by the young people and they understand that fishing gives a lot and that small-scale fishing cannot stop, because when small-scale fishing stops, the wetlands are gone, they disappear completely because there is no one to fight for them and look after them, there won't be a single one and it will be the cesspool of the big cities"*.

## **Displaced women, vulnerable women and social networks address the climate crisis following flooding in the Bucaramanga Metropolitan Area**

At a gathering held in August 2006 to discuss the right to food and the defence of native crops, the rural women of AMMUCALE were able to engage in dialogue with associations of community mothers and displaced and vulnerable women, as well as with social organisations such as the *Ruta Pacífica de Mujeres* and the *Fundación Mujer y Futuro*<sup>9</sup>.

These organisations pursue action for the comprehensive advancement of the society and, in particular, of the women of Santander, in areas such as

<sup>8</sup> OBSERVATORIO DE PAZ INTEGRAL (INTEGRATED PEACE OBSERVATORY, OPI). *Continúa agresión a los pescadores de la Región* (Magdalena Medio) [*Aggression against regional fishermen continues* (Magdalena Medio)], Barrancabermeja, 2009.

<sup>9</sup> The *Fundación Mujer y Futuro* is the overseer in Bucaramanga for the *Red Nacional de Mujeres*, *La Ruta Pacífica de las Mujeres* and the Human Rights Observatory for Displaced Women.



self-worth, disclosure and defence of human rights, focus on and prevention of domestic violence and a peaceful solution to the armed conflict in Colombia.

There was one very positive thing that emerged from this gathering and that was the fact that urban women became enthused about encouraging agricultural initiatives, planting in their neighbourhoods and providing part of their dietary needs, and in so doing boosted their self-esteem. Likewise, the rural women understood the potential of reasserting their roots in the land and the importance of dialogue between cities and the country in terms of alimentary sovereignty.

Both urban and rural women have been the victims of forced displacement due to the armed conflict in Colombia. The Bucaramanga Metropolitan Area is the largest recipient of displaced persons in the department of Santander, with 66,392 people having arrived there. Some 40% of these have come from within the department itself while the remaining 60% have arrived from other regions on account of death threats (31%), following eviction from land through pressure from landowners (28%), to avoid recruitment by illegal armed groups (16%), after having been accused of being informants (11%), and after having refused to cooperate (7%). These are just some of the causes of displacement prompted by paramilitaries and similar groups (54%), guerrillas (40%) and the army (6%).<sup>10</sup>

There has been a lot said about Colombia's armed conflict; however, other issues are slowly starting to emerge, such as extreme poverty. People living in extreme poverty are referred to as vulnerable populations and the victims of climate change. All victims, whether of armed conflict, poverty or climate change, have had to take refuge in shacks (*cambuches*), crude homes built with tin sheets and wood, many of them located in areas such as the banks of the forks of the Rio del Oro and the Rio Frio, which flow through the Bucaramanga Metropolitan Area. Thus, on 9 February 2005, after 17 hours of heavy rain, the majority of the 5,000 homes affected and the 15,000 victims of this particular disaster belonged to families living along the tributaries of these rivers.

In regard to women who are victims of climate change, we can say that both displaced people and vulnerable people suffer doubly from displacement. This is corroborated by the testimonials of Audrey Robayo Sanchez, Graciela Terraza Herrera and Sandra Luna from *Ruta Pacifica* and the *Fundación Mujer y Futuro*.

Graciela Terraza says: "*When the emergency arose on that day in February 2005 due to the cold snap, we started to receive calls asking us for help for the groups of displaced and vulnerable women we were working with. That was when we became aware of their suffering because of the mudslides, avalanches, houses falling down, water pollution and lack of electricity*". Audrey continues: "*[That day] there had been anxiety for two weeks. It kept raining and the people living in the shacks in the Café Madrid and el Túnel de Norte districts in Bucaramanga and Suratoque in*

10 Conclusions from the Forum on: *Incidencias y Perspectivas del Desplazamiento Forzado en el Departamento de Santander* [Incidents and Perspectives regarding Forced Displacement in the Department of Santander], organised by the Participar Foundation, Bucaramanga, 27 May 2009. Available at: <http://co.globedia.com/preocupante-aumento-desplazamiento-forzado-oriente-colombiano>

*Floridablanca were taken to temporary shelters*". Years after these floods, due to both corruption and government inefficiency, many of these victims were still being housed in those «temporary» shelters.<sup>11</sup>

Graciela Terraza says that the reactions of the women and men to the disaster were different: *"The men were paralysed, they looked afraid. The women did more, for their children, for their families"*. According to Sandra Luna: *"That is where we see how women can take care of life and their capacity for resilience"*. Audrey continues: *"[After the disaster] the women went out to look for work in houses: washing, ironing and even prostituting themselves"*.

When asked about different impacts, they made the following points: *"Women are doubly vulnerable. First, because in the wake of disasters, aside from going out to work or looking for money, they are concerned about continuing the education of and feeding the family and even how to protect their children from potential rape in the makeshift bathrooms"*. Also, women in general have had a lot of difficulty because they do not have property deeds and when they arrive after being displaced (as a result of the armed conflict or the climate crisis), the individuals who appear as the heads of household are the men, so they are the ones who receive the humanitarian aid, and the women are left with nothing.

*"Humanitarian organisations, the government and the Church have put the emphasis on providing help to people displaced by the armed conflict, so when the cold-snap tragedy occurred, help with water, clothing, food and subsidies was only provided to those registered as displaced persons due to the armed conflict. Individuals like the flood victims received virtually no support or humanitarian aid at all. This has brought about envy and, in addition to hunger and thirst, has torn the social fabric apart"*, says Audrey. In this way, the victims of climate change and extreme poverty become invisible and are forgotten.

The women have tried to address the issue in a political context to ensure that the situation of the women changes; they were thus the driving force behind ruling 092-2008 of the Constitutional Court for women in conditions of forced displacement. There are several aspects of the ruling that are fundamental in terms of the work of women's organisations and the situation of violence against women in Colombia, in particular recognition of women as a political subject, as victims and entitled to rights, and recognition of the systematic practice of violence against women within the armed conflict. This represents a significant achievement in terms of the efforts made by women's organisations with regard to the recognition of the impact of armed conflict and the specific impact of violence against women.<sup>12</sup>

11 *Reclamo a la discordia en Girón* [Protest on discord in Girón], Félix Leonardo Quintero – Correspondent for *El Tiempo*, Bucaramanga, 06. Available at: <http://reclamospublicos.blogspot.com/2006/02/reclamo-la-discordia-en-gim.html>

12 *Corporación Casa de la Mujer, Implicaciones del auto 092-2008 de la Corte Constitucional para las mujeres en situación de desplazamiento forzado* [Implications of ruling 092-2008 of the Constitutional Court for women in conditions of forced displacement], available at: <http://www.viva.org.co/cajavirtual/svc0122/index%20-%20pagina%207.html>

Within the vision of the work of Women for Climate Justice in Colombia, we would like to point out that, as with ruling 092 of 2008, which gives special recognition to displaced women, it is also important to highlight the situation of women who are victims of climate change, in addition to pursuing political advocacy, which goes hand-in-hand with our work as networks of rural and urban women, environmentalists and fisherwomen. The purpose of this is to continue fighting for the fundamental right to water, alimentary sovereignty and protection of the essential ecosystem of forests, swamplands and grasslands.

## **In Conclusion**

- There are countless aspects that would prevent any cooperative project from being fully effective in a rural environment, due to the structural conditions of inequality in the countryside and even more so considering the issue of the climate crisis. However, many women have set an example and hold leadership and coordinating positions within rural associations and social action organisations, and on municipal and departmental planning committees.
- We recognise that the role of women is not easy due to deep-rooted social and cultural patterns in families, communities and on a municipal and national scale. Nonetheless, it is clear that women's associations and networks in Colombia have been historically – and today still are – a platform via which to demonstrate the feasibility of their proposals and living alternatives, with a view to ensuring social, economic and cultural rights.
- The empowerment of women means that they can gain greater awareness of the factors that influence their own lives, develop greater confidence to analyse and express their situations and in so doing broaden the opportunities to enjoy true participation in various areas of community development, in particular, in this case, in terms of alimentary sovereignty, local markets and economic management, a role which is vital for the quality of life of women.
- Rural women have understood the importance of the concept of human dignity as a way of reclaiming customs, tradition, culture and ways of seeing life and conserving and preserving it against competing trends such as commodification, inequality, violence and false solutions to climate change.
- We have seen the positive impact of dialogue between groups of women, which is strengthened through exchanges and meetings with other rural associations, associations of indigenous women and women of African descent, fisherwomen and community mothers; this has enabled them to develop common goals and action priorities for their life projects and to visualise the results that are achievable for other women on regional, national and international levels.
- It is clear that the climate crisis needs to be looked at afresh from the perspective of rural and indigenous women's view of the world to provide a starting point from which to analyse the dietary, cultural, productive and environ-

mental situation. This means recognising the implications of environmental deterioration and unsafe food by virtue of the relationships of power and inequality in access to education, health and collective assets (land, water, seed).

- We must foster and encourage participation of women through national and international gatherings, aimed at prioritising decision-making, by women, in the planning and development aspects of projects on alimentary sovereignty, rural housing and alternative education, and their contribution to options for preventing climate change, safeguarding biodiversity and peace-building processes.
- We aim to reinforce productive projects with rural women, putting the emphasis on sustainable alternatives and rural and community forest reserves. In the same way, their traditional knowledge in terms of access to and rescue and sustainable management of agrobiodiversity is encouraged.

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# Mujer en lucha, naturaleza en paz

*“Casi todo lo que realice será insignificante pero es muy importante que lo haga”*  
Mahatma Gandhi

La sociedad actual parece haber olvidado que la naturaleza es el todo, intrínseca al ser humano y más poderosa que toda la humanidad junta. Por lo que, sin un ecosistema sano la vida humana pierde todo su sentido y la posibilidad de seguir viviendo. Cuidar el medio ambiente y utilizar unas formas de desarrollo sostenible es cuidar de nosotros mismos. Por este motivo, alcanzar una calidad de vida que pueda ser mantenida sin agotar los recursos naturales limitados y vivir de una forma sostenible y menos agresiva con el entorno debe empezar a ser la meta de la humanidad. En este pequeño ensayo se muestran las principales causas y consecuencias del cambio climático y, sobre todo, los graves efectos que tienen en países considerados subdesarrollados. Las más vulnerables de estos países son las mujeres por lo que se les reserva un papel central. La mujer es protagonista de algunas de las posibles soluciones para paliar esta problemática mundial, la más importante, su resituación social, empresarial y política hasta el lugar que le corresponde.

Uno de los grandes errores de nuestro tiempo ha sido dejar la política y la acción colectiva en manos de unos cuantos. La mujer, por obligación, ha estado al margen de la vida política y social y su papel se ha limitado a la casa y al cuidado de los suyos. Por eso, su condena ha consistido en el sometimiento al poder de los hombres. Ha llegado el momento, pues, de que la mujer tenga un espacio en esta lucha para que la naturaleza siga su curso, durante muchos años, en paz. Son numerosos los problemas derivados del cambio climático y muy poco tiempo para subsanar sus consecuencias. Cada día que pasa hay menos lugares que conserven la esencia de su entorno. Las sociedades poco industrializadas tienen una mayor conexión con la naturaleza porque todavía no han comercializado sus formas de vida ni la relación con sus recursos naturales. Por ello, la biodiversidad de su hábitat es mayor que en otras zonas del planeta donde se utiliza la naturaleza y los que viven en ella para crear riqueza económica. Olvidando así, que la creación de riqueza económica sin control significa el deterioro de los recursos y, en consecuencia, pan para hoy y hambre para mañana. Una forma de vivir impuesta desde hace años por las reglas de los mercados con unas consecuencias indeseables para las personas y para el medio ambiente.

Uno de los lazos más fuertes entre el sexo femenino y la naturaleza es la dominación y explotación que han sufrido a lo largo de los siglos. Por esta razón, el ecologismo está considerado un nuevo movimiento social que no se limita a una nueva forma más equitativa de reparto de los recursos sino que plantea su revalorización por su consideración, en las últimas décadas, como algo sometido al poder de los humanos. Del mismo modo, el sexo femenino ha sido ponderado con inferioridad respecto al hombre y también reclama ser revalorizado. M.Mellor (1997)<sup>1</sup> señala la teoría según la cual la situación de desventaja de las mujeres en el sistema actual y precedente es la que puede precipitar una mayor conciencia de los problemas ambientales: “Para las ecofeministas, las mujeres, a causa de su desventaja estructural, pueden ver la dinámica de la relación entre humanidad y naturaleza más claramente que los hombres (relativamente) privilegiados”. Se ha demostrado que ambos conceptos –mujer y naturaleza– son vitales para el desarrollo del planeta y por tanto, es sumamente importante acabar con esta relación jerárquica de dominación para situarlos en el lugar que merecen.

Las mujeres constituyen gran parte de las bases del movimiento ecologista y casi la totalidad de la mano de obra no remunerada de los grupos de protección animal<sup>2</sup>. Por este motivo, diferentes teorías ecofeministas dan a las mujeres un papel activo y central en la ecología. Para Alicia Puleo, cátedra de Estudios de Género de la Universidad de Valladolid, el ecofeminismo es “la corriente del feminismo que asume la problemática ecológica como algo que puede ser abordado de manera pertinente en clave de género, aportando ciertas claves de comprensión de la relación humana con la naturaleza”<sup>3</sup>. Algunas de las primeras ecofeministas consideraban a los hombres seres más agresivos, mientras que las mujeres eran más afectuosas, maternales y cuidaban más de la naturaleza y los seres vivos<sup>4</sup>. Pero el hecho de que los rasgos femeninos sean revalorizados no implica que rasgos beligerantes más propios del hombre sean eliminados, sino que ambos deben ponerse en una balanza para alcanzar el equilibrio.

Además, ecología y feminismo son dos conceptos que trabajan para cambiar muchas de las situaciones cotidianas de las personas y plantean una mejora de su calidad de vida no en un sentido material de acumulación de bienes, sino de una mejora en la salud y el desarrollo de los humanos y del entorno. Las mujeres han estado en el centro de los hogares durante años siendo las salvaguardas del bienestar familiar, y en la mayoría del planeta sigue siendo así. Ya en la Antigua Grecia, la mujer estaba relegada a las funciones domésticas de esposa y madre.

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- 1 Mellor, Mary: *Feminism and Ecology*. Cambridge: Polity Press, Nova York, University Press 1997.
  - 2 Puleo, Alicia: *Àngels de líecosistema?* Medi Ambient. Tecnologia i Cultura. Núm. 40 . Octubre 2007.
  - 3 Definición obtenida de la entrevista a Alicia Puleo publicada por: Mujeres en Red. Periódico feminista.
  - 4 Puleo, Alicia: *Àngels de líecosistema?* Medi Ambient. Tecnologia i Cultura. Núm. 40 . Octubre 2007.

No es hasta el siglo XX que se consigue el sufragio universal, uno de los hitos más importantes del siglo, el derecho a voto de todos los ciudadanos y, por lo tanto, el reconocimiento de la mujer como ciudadana<sup>5</sup>. Pero su lucha no termina aquí. Ésta situación de dominación arraigada en la cultura de la mujer y su propia naturaleza benefactora como cuidadora la casa es lo que ha derivado hacia la *mujer cuidadora del ecosistema*. Por eso mismo, es preciso replantear la visión antropocentrista en la que el hombre está situado siempre en el centro y en los lugares de mando y de poder para que la mujer y las virtudes que representa afloren en la sociedad.

## Principales causas del cambio climático

Una de las causas del cambio climático es la propia variabilidad que, de forma natural, sufre el clima. No obstante, la huella humana de las últimas décadas ha provocado verdaderos desastres en el medio ambiente. Desastres que se pueden frenar pero difícilmente reparar. La principal causa del cambio climático es la emisión de gases de efecto invernadero provocado por el aumento de gases invernadero en la atmósfera. El CO<sub>2</sub> (dióxido de carbono) es uno de los principales causantes de estos cambios y ha aumentado considerablemente en los últimos años por el uso de combustibles fósiles como fuente de energía, en procesos industriales y para el transporte. El metano es otro gas de efecto invernadero importante. Otras actividades como la deforestación, el cambio en el uso de las tierras, la agricultura y otras actividades similares, han aumentando las emisiones de dióxido de carbono en la atmósfera. Las emisiones mundiales de gases invernaderos por efecto de actividades humanas han aumentado, desde la era preindustrial, en un 70% entre 1970 y 2004, y las emisiones anuales de dióxido de carbono aumentaron en torno a un 80% entre 1970 y 2004<sup>6</sup>.

Según pronósticos del Grupo Intergubernamental de Expertos sobre el Cambio Climático, de proseguir este tipo de emisiones a una tasa igual o superior a la actual, el calentamiento aumentaría y el sistema climático mundial experimentarían durante el siglo XXI numerosos cambios, muy probablemente mayores que los observados durante el siglo XX. Sin embargo, pone en evidencia que muchos de los impactos pueden ser reducidos, retardados o evitados mediante medidas de paliación: “Los esfuerzos e inversiones en mitigación de los próximos dos o tres decenios determinarán en gran medida las oportunidades de alcanzar unos niveles de estabilización inferiores. El retraso en la reducción de emisiones reducirá notablemente esas oportunidades, e incrementará el riesgo de agravamiento de las repercusiones del cambio climático”.

Las consecuencias de estos cambios en el clima son realmente espinosas. En primer lugar, se espera una subida global media del nivel del mar durante los

5 Fernández, Martorell C.; Montaner, Lacalle P: Història de la Filosofia. Castellnou Edicions. Barcelona, 2003.

6 Cambio Climático 2007. Informe de síntesis. Informe del Grupo Intergubernamental de Expertos sobre el Cambio Climático. OMN, PNUMA. 2007.



próximos siglos como efecto de los gases de efecto invernadero emitidos hasta la fecha y de las emisiones futuras. Este hecho provocará también el debilitamiento de la capa de hielo y la expansión térmica de los océanos. Según Greenpeace, incluso una subida del nivel del mar comparativamente modesto provocaría grandes catástrofes. Inundaciones en las costas y tormentas torrenciales, erosión de playas, contaminación con agua salada de fuentes de agua dulce y áreas de agricultura. Y algunas ciudades y pueblos costeros al nivel del mar se verán también afectados e, incluso, algunos podrían desaparecer.

## Otra forma más de desigualdad

Aunque, ciertamente, los problemas ambientales no conocen religiones, culturas, razas, clases sociales, banderas ni fronteras -porque son problemas sufridos por todos- sus consecuencias son distintas en los países considerados del primer y del tercer mundo. La degradación ambiental ha sido provocada principalmente por los países ricos pero se está convirtiendo en una cuestión de supervivencia para los países *pobres*. Como pasa a menudo, unos comen y son otros los que pagan el pato. Las clases altas o medias de países desarrollados sufren la contaminación a través del aire, del consumo de alimentos o productos tóxicos, que no es poco. No obstante, las clases más desfavorecidas de los países con altos índices de pobreza están expuestas a una gran cantidad de sustancias nocivas en fábricas en las que viven explotados que emiten sustancias contaminantes que no cumplen ningún tipo de reglamentación y en campos de cultivo. Además de sufrir de una forma mucho más acentuada los daños derivados del cambio climático como dificultades para conseguir agua potable, leña y alimentos debido a la erosión del subsuelo, la deforestación y destrucción de la biodiversidad. Como consecuencia: enfermedades, hambre y extrema pobreza para los habitantes de estas zonas.

En muchas zonas del planeta nunca habían faltado alimentos, y eran buenos y saludables, había agua para beber y leña para cocinar. En los últimos años, el agua -no siempre limpia- y la leña se deben ir a buscar a lugares más lejanos porque las fuentes se han ido secando y los bosques, desapareciendo. Los animales están más delgados y la desertización ha provocado que la fertilidad del suelo sea cada vez más pobre. Todo esto es debido a la destrucción de bosques para dedicarlos al monocultivo destinado al mercado mundial o para fabricar muebles y otros objetos con maderas exóticas. El cultivo para el consumo propio para el cuidado y la alimentación de la familia va desapareciendo dando lugar a grandes plantaciones para comercializar. El Amazonas es un ejemplo de ello. Aunque está considerado el pulmón del planeta no goza de ninguna tregua y es uno de los sitios con mayor explotación. Esta región alberga el bosque primario más grande del mundo con casi 700 millones de hectáreas en nueve países. Alberga el 30% de la diversidad biológica terrestre y esta riqueza está amenazada por actividades como la explotación maderera, la construcción de carreteras, los incendios, y el aclareo de la selva para la ganadería y la agricul-



tura, principalmente el cultivo de soja<sup>7</sup>. Estos datos demuestran como el cambio climático agudiza las dificultades que ya enfrentan las comunidades indígenas vulnerables, como la marginación política y económica, la pérdida de tierras y recursos, las violaciones de los derechos humanos, la discriminación y el desempleo. El periodista y escritor Eduardo Galeano, ilustra de manera contundente esta situación poniendo de ejemplo la dañada y explotada América latina: “La naturaleza, humillada, ha sido puesta al servicio de la acumulación de capital. Se envenena la tierra, el agua y el aire para que el dinero genere más dinero (...) La lluvia ácida de los gases industriales asesina los bosques y los lagos del Norte del mundo, mientras los desechos tóxicos envenenan los ríos y los mares, y al Sur la agroindustria de exportación avanza arrasando árboles y gente (...) En América Latina mueren veintidós hectáreas de bosque por minuto, en su mayoría sacrificadas por las empresas que producen carne o madera, en gran escala para el consumo ajeno. Las vacas de Costa Rica se convierten, en los Estados Unidos, en hamburguesas McDonald’s”.

En muchos de estos países la vida humana –sobre todo de los más débiles– ha perdido todo su valor, y de entre ellos, los más débiles de los débiles son las mujeres y los niños. En América latina y Asia las mujeres producen más del 50% de los alimentos disponibles y en África casi el 80%, además de encargarse de proveer los hogares de agua potable y leña. A cambio disponen del 1% de la propiedad y no tienen acceso a créditos, ayudas, educación ni cultura<sup>8</sup>. La pobreza se ceba, especialmente, con mujeres y niños. La pregunta es sencilla: ¿Qué hace la sociedad para cambiarlo? Pasan los siglos y los grandes problemas de la humanidad no son subsanados. Hay colectivos, organizaciones, personas individuales, políticos, que luchan por un mundo más justo pero no es suficiente: “Ha acabado el período de reformas, ahora hace falta una transformación radical (...) no nos atrevemos a tocar a los intocables. Creo que ha llegado el momento de tocarlos”. Palabras del filósofo y teólogo Raimon Panikkar<sup>9</sup> que ilustran los anhelos de cambio real de una parte de la población. Hay mucha gente en lucha, se deben sumar sinergias para que el efecto sea superior a los efectos individuales.

Diferentes voces, también de países considerados tercer mundo, han reivindicado en los últimos años el lazo entre el ser humano y la naturaleza y han denunciado los efectos negativos de acciones realizadas en nombre de la modernización en estos países. Entre ellas, unas de las más destacadas por su valentía, su liderazgo y su capacidad de superación son dos mujeres: Vandana Shiva nacida en India y Wangari Maathai en Kenia.

Shiva, científica y filósofa, fue galardonada con el Premio Nobel Alternativo ya que su participación en el movimiento **Chipko** le hizo abandonar su entusiasmo tecnológico de titulada en Física Nuclear por la colaboración en

7 Página oficial de Greenpeace <http://www.greenpeace.org>

8 <http://www.elsverds-catalunya.cat/>

9 Diari digital VilaWeb. Entrevista con el filósofo i teólogo Raimon Pannikar.

cuestiones humanitarias y ecológicas. El movimiento Chipko estaba formado por mujeres de las zonas rurales del Himalaya que salvaron los bosques comunales con una acción simbólica e inspirada en el principio de no-violencia de Gandhi. Mediante turnos de vigilancia impidieron la tala de los árboles abrazándose a ellos para evitar que la tala indiscriminada causase inundaciones u otros problemas derivados de la deforestación. Esta acción la emprendieron en nombre del principio natural de la feminidad y en oposición a sus maridos, que consideraron un buen negocio vender el terreno para la explotación comercial. Shiva y el resto del grupo se ampararon en la creencia de que la energía femenina es energía natural y que, por tanto, las actividades rurales de las mujeres de su tierra debían estar en total armonía con el medio ambiente<sup>10</sup>. Wangari Maathai, Premio Nobel de la Paz, coordinó en Kenia un movimiento parecido: el **Green Belt**. Este movimiento movilizó a un grupo de mujeres y consiguió plantar más de veinte millones de árboles en más de doce países de África. El objetivo: combatir la desertización y proveer de recursos a las mujeres. Unas acciones que le hicieron merecer el apelativo afectuoso de *Tree Woman (Mujer Árbol)*. Maathai fue la primera mujer africana en recibir un Premio Nobel y pocas en su difícil situación consiguieron un doctorado en Biología y una cátedra en Anatomía, teniendo en cuenta sus humildes orígenes en Kenia. Quizás ésta fue la razón por la que, en su discurso de aceptación del Premio Nobel, afirmó que su inspiración y determinación venían, en parte, gracias a las experiencias y observaciones de la parte más rural de su infancia<sup>11</sup>. De esta manera, cuidar la diversidad cultural de cada lugar -estrechamente entrelazada a la diversidad biológica- puede contribuir a evitar la destrucción de zonas del planeta y ayudar a perpetuar los conocimientos de nuestros antepasados. Es esencial que no se pierda la conservación y el conocimiento de plantas medicinales, alimentos, raíces, semillas... ya que es un conocimiento muy sabio del que son propietarios solamente, algunos grupos humanos. Así pues, una actitud respetuosa con la naturaleza permite a la vez una actitud más respetuosa con la propia cultura y la propia identidad<sup>12</sup>. Wangari Maathai tenía muy claro el vínculo entre cultura y medio ambiente, para ella: “La recuperación de la cultura es quizás la única cosa que pueda evitar la destrucción del medio ambiente, la única manera de perpetuar el conocimiento y la sabiduría heredada del pasado y necesaria para la supervivencia de las generaciones futuras (...) la moralidad y la espiritualidad tienen un papel fundamental en la vida de una comunidad y en su capacidad para emprender acciones que la beneficien y garanticen su supervivencia”. La lucha de estas mujeres no fue en vano. Consiguieron el primer objetivo que se plantearon y a través de él llegaron a concienciar otras muchas mujeres y hombres de que otra forma de funcionar

10 Puleo, Alicia: *Àngels de líecosistema?* Medi Ambient. Tecnologia i Cultura. Núm. 40 Octubre 2007

11 Pigem, Jordi: *Wangari Maathai, semblant llavors de consciència*. Medi Ambient. Tecnologia i Cultura. Núm. 40 Octubre 2007

12 Pigem, Jordi: *Wangari Maathai, semblant llavors de consciència*. Medi Ambient. Tecnologia i Cultura. Núm. 40 Octubre 2007

era posible. Asimismo, con el reconocimiento que supone un Premio Nobel, su fuerza, su voluntad y su saber pudo traspasar la frontera de India y Kenia hasta ponerse de ejemplo a nivel internacional.

## **Pequeños granitos de arena son grandes granitos de arena**

Como sociedad estamos atados a conceptos y formas de vida muy encorsetadas por los mercados, las grandes empresas multinacionales y los grupos de poder. Es difícil huir de según qué parámetros pero es necesario un esfuerzo para que cada individuo decida por su cuenta. La lucha de las conciencias puede ser colectiva e individual. Empecemos, por tanto, a remover nuestra conciencia para que se pueda crear una conciencia global. El cambio empieza en cada una de nosotras, en cada uno de nosotros. Se debe reivindicar la capacidad individual de desmarcarse, de levantar la voz, de luchar para conseguir mejoras en el pequeño mundo de cada uno de nosotros, el de cada mujer, el de cada hombre, el de cada familia... Solamente así se podrá llegar a una sociedad que viva acorde con ella misma, porque la unión de cada pequeño mundo podrá salvar el todo. Los objetivos de la humanidad sólo pueden ser llevados a cabo con el granito de arena de todos y con unos líderes que se responsabilicen de ello. Es necesario un cambio de cultura política pero por encima de todo, moral, para afrontar el cambio de actitud y de comportamiento necesario para demostrar que, como ya lleva tiempo clamando Susan George: 'Otro mundo es posible'<sup>13</sup>.

En este apartado se plantean pequeñas acciones que ya se están llevando a cabo, sobre todo, por este tipo de mujer de la que ya se ha hablado que cuida su casa, su familia y su entorno. Reciclar, tener cuidado de los alimentos que se comen, intentar que no se pierda el agua o cerrar las luces después de salir de una habitación son pequeños gestos que se deben potenciar pero, de igual forma, se debe seguir luchando para ir más allá. De todas estas acciones quizás una de las más importantes es promover y desarrollar una alimentación sana que evite los pesticidas y los transgénicos por sus efectos impredecibles tanto a corto plazo como a largo plazo. Los transgénicos constituyen un grave riesgo para la biodiversidad y tienen efectos irreversibles e imprevisibles sobre los ecosistemas. Suponen un incremento del uso de tóxicos, contaminación genética y del suelo, pérdida de biodiversidad y efectos no deseados en otros organismos. Y para la salud pueden suponer nuevas alergias, disminución en la capacidad de fertilidad, contaminación de alimentos, problemas en órganos internos, etc<sup>14</sup>. Somos lo que comemos y una alimentación sana y de calidad es uno de los pilares básicos de la salud de las personas, a la vez que tener cuidado de la salud también es tener cuidado del entorno. La lucha, pues, debe empezar en el cuerpo de cada mujer aprendiendo a escucharlo y a entender qué es lo que necesita y lo que le hace sentir sana. Una forma similar a la que lo hacen los animales y tal como

<sup>13</sup> George, Susan: Otro mundo es posible. Ed. Icaria, Barcelona. 2004.

<sup>14</sup> Explicación de Greenpeace sobre los problemas derivados de los transgénicos.

lo hacían los humanos antes de haber olvidado el significado de escucharse. También desde casa se puede apostar por los productos que ‘no tienen fecha de caducidad’, tan difíciles de encontrar hoy en día por la constante presión de los mercados del consumismo descontrolado. Y volver a pensar, como lo hicieron nuestros abuelos, en la reparación y el remiendo, porque los desechos familiares pueden ser reducidos al mínimo. Basta con proponérselo y aplicar la máxima de las tres erres: reducir, reutilizar y reciclar.

Esto son ejemplos de pequeños gestos que unidos pueden conseguir grandes cosas. Aun así, es necesario reivindicar el papel de la mujer en los puestos de mando, en la política, al frente de grandes empresas. Su forma de ser las avala para ir más allá de la posición en la que ha quedado relegadas. Parte de esta responsabilidad de deterioro del cambio climático recae en los grupos dominantes que han monopolizado el poder, la propiedad, el privilegio y el control de los recursos durante todos estos años. Unos puestos que, casualmente, han estado dominados por hombres. Un estudio del Instituto de Economía y Estadística de Francia muestra que las emisiones de gases de efecto invernadero de un hombre (derivadas de todas sus actividades) son 7,98 kg de CO<sub>2</sub> al día, frente a los 6,79 kg CO<sub>2</sub> de una mujer. El rastro ecológico de una mujer es de 32,2 kg de carbono al día y la del hombre, 39,3 kg diarios. Según cuenta Jordi Ortega<sup>15</sup>, investigador del Comité Español de Investigación del Cambio Ambiental Global de la Universidad Carlos III, la causa de esta desigual huella en el medio ambiente es el mayor ascenso y promoción social de los hombres que están vinculados a ciertas conductas más intensivas en energía: más viajes en avión y en coche, más reuniones de trabajo, más comidas y cenas de trabajo... Según Ortega “no podemos replantear el comportamiento ecológico del varón mientras no modifiquemos la escala de valores y su modelo de representación social”.

El cambio se puede conseguir a través de la universalización de valores que tradicionalmente han estado atribuidas al sexo femenino. De este modo, el cuidado de la Tierra podrá plantearse globalmente bajo un único grito: el de todos. No se trata de que las mujeres se conviertan en únicas salvadoras del planeta porque no son las únicas que se encuentran amenazadas y necesitadas de otra forma más respetuosa de vivir. También los hombres lo necesitan. El papel de la mujer, al frente de lugares de toma de decisiones es muy importante para encarar el cambio de rumbo. Para evitar los peores impactos del cambio climático necesitamos una reducción drástica y rápida de las emisiones de gases de efecto invernadero. El sector energético es el mayor responsable del conjunto de estas emisiones, por ello es necesario un cambio de modelo energético en el que las fuentes de energía sucias se reemplacen totalmente por renovables que supongan el ahorro y la eficiencia necesarios. Las mujeres tienen ahora mucho que decir, proponer y decidir. Naturaleza es nombre de mujer. Ha llegado su momento.

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15 Despiece del doctor Jordi Ortega del artículo de Antonio Cerrillo ¡Las mujeres contaminan menos que los hombres! en el diario La Vanguardia (31-05-2011) Pág. 24-25.

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# Women at war, nature at peace

*“Almost everything you do will be insignificant, but it is very important that you do it.”*

Mahatma Gandhi

Society today seems to have forgotten that nature is everything. It is intrinsic to humans and more powerful than all of humanity put together. Therefore, in the absence of a healthy ecosystem, human life loses all meaning and the possibility of continuing to live. To look after the environment and use sustainable forms of development is to take care of ourselves. Therefore, humanity must aim to achieve a level of quality of life which can be maintained without depleting finite natural resources and to live in a sustainable way which is less aggressive towards the environment. This short essay sets out the main causes and consequences of climate change and, above all, the serious effects it has on those countries considered to be underdeveloped. The most vulnerable people in these countries are women, and for this reason they will be the central focus of the essay. Women are the protagonists of some of the possible solutions which could be used to alleviate this global issue, the most important of which being their social, corporate and political relocation to their rightful place.

One of the great mistakes of our time has been to place politics and collective action in the hands of a few. Women have been forced to remain on the periphery of political and social life and their role has been limited to the home and caring for their children. This ‘prison sentence’ has consisted in their submission to male power. The time has now come for women to have their own place in the fight to ensure that nature is able to take its course, in peace, for many years. Many issues are linked to climate change and there is very little time to rectify the consequences. With each passing day, there are fewer and fewer places retaining the essence of their surroundings. Less industrialised societies are more connected to nature because they have yet not commercialised their lifestyles and their relationship with their natural resources. Thus the biodiversity of their habitat is richer than in other parts of the world, where nature and those who live in it are exploited for economic purposes, with total disregard to the fact that the unfettered creation of economic wealth leads to declining resources and, consequently, a feast today and a famine tomorrow. This way of life was imposed many years ago by market rules and has had undesirable consequences for people and for the environment.



One of the strongest links between women and nature is the domination and exploitation they have both suffered over the centuries. For this reason, environmentalism is considered to be a new social movement which is not restricted to simply guaranteeing fairer distribution of resources, but rather aims to highlight the need for us to understand that, in recent decades, resources have been subject to the whims of humanity. Similarly, women have been treated as inferior to men and are now calling for this approach to be reconsidered. M. Mellor (1997)<sup>1</sup> emphasises the theory that states that women being disadvantaged in current and previous systems is likely to lead to a greater awareness of environmental problems: “ecofeminists believe that women, because of their structural disadvantage, are able to see the dynamics of the relationship between humanity and nature more clearly than men, who are (relatively) privileged”. It has been shown that both concepts – women and nature – are vital to the planet’s development, so it is critical that this hierarchical relationship of dominance be ended, allowing them occupy the place they deserve.

Women make up a large part of the base of the environmentalist movement and almost all of the unpaid labour involved in animal protection groups<sup>2</sup>. For this reason, different environmentalist theories place women in an active, central role in terms of ecology. According to Alicia Puleo, Professor of Gender Studies at the University of Valladolid, ecofeminism is “feminism that views current ecological issues as something that can be pertinently approached from a gender perspective, providing clues for understanding the relationship between humans and nature”<sup>3</sup>. Some early ecofeminists considered men to be more aggressive, while women were held to be more nurturing, maternal and caring towards nature and living things<sup>4</sup>. However, the fact that feminine traits are being reappraised does not imply that the belligerent characteristics which are more common among men should be eliminated. Rather, both should be balanced in order to reach equilibrium.

Moreover, ecology and feminism are two concepts working to change many people’s everyday situations and promote improved quality of life, not in the material sense of accumulating possessions, but rather in terms of an improvement in health and human and environmental development. Women have been at the centre of the home for years, entrusted with the wellbeing of the family, and in most of the world this is still the case. In ancient Greece, women were already being relegated to the domestic roles of wife and mother. It was not until the twentieth century that universal suffrage, one of the most important milestones of the century, was achieved, along with the right of all citizens to vote and, therefore, recognition of women as citizens<sup>5</sup>.

- 1 Mellor, Mary: *Feminism and Ecology*. Cambridge: Polity Press, New York, University Press 1997.
- 2 Puleo, Alicia: *Àngels de l'ecosistema?* Medi Ambient. Tecnologia i Cultura. Issue.40, October 2007.
- 3 Definition taken from the interview with Alicia Puleo published by: Mujeres en Red. Feminist Journal.
- 4 Puleo, Alicia: *Àngels de l'ecosistema?* Medi Ambient. Tecnologia i Cultura. Issue.40, October 2007.
- 5 Fernández, Martorell C.; Montaner, Lacalle P: *Història de la Filosofia*. Castellnou Edicions. Barcelona, 2003.



But the fight is not over. This situation of domination is deeply rooted in the culture of women and in their nature as caretakers of the home, which is precisely what has led to the concept of women as caretakers of the ecosystem. We must therefore reconsider the anthropocentric view, in which men are always at the centre of things and always in control, so that women and the virtues they represent can flourish in society.

## **Main causes of climate change**

One of the causes of climate change is the natural variability of climate. Nonetheless, the influence of humans in recent decades has led to real environmental disasters, which can be minimised but which are difficult to repair. The main cause of climate change is the increased levels of greenhouse gases in the atmosphere. CO<sub>2</sub> (carbon dioxide) is one of the main gases involved in causing these changes, and levels have risen considerably in recent years as a result of the use of fossil fuels for energy, industrial processes and transportation. Methane is another important greenhouse gas. Factors such as deforestation, changing land use, agriculture and other similar activities have driven up emissions of carbon dioxide into the atmosphere. Global emissions of greenhouse gases as a result of human activities have increased, since pre-industrial times, by 70% between 1970 and 2004, with annual emissions of carbon dioxide having increased by about 80% between 1970 and 2004<sup>6</sup>.

According to forecasts from the Intergovernmental Panel on Climate Change, should this kind of emissions continue at a rate equal to or greater than the current rate, global warming would increase and the global climate system would undergo many changes during the twenty-first century, which would most probably be more significant than those observed during the twentieth century. However, the panel also points out that much of the impact can be reduced, delayed or avoided altogether through the use of mitigation measures: “mitigation efforts and investments over the next two to three decades will have a large impact on opportunities to achieve lower stabilisation levels. Delayed emission reductions significantly constrain the opportunities to achieve lower stabilisation levels and increase the risk of more severe climate change impacts.”

The consequences of climate change are extremely serious. Firstly, the average global sea level is expected to rise in the coming centuries as a result of the greenhouse gases emitted to date, along with future emissions. This will also cause melting of the ice cap and thermal expansion of the oceans. According to Greenpeace, even a relatively small rise in the sea level would cause major disasters such as coastal flooding, torrential storms, erosion of beaches and saltwater contamination of freshwater sources and agricultural areas. Some coastal towns and cities at sea level will also be affected, and some may even disappear.

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**6** Report of the Intergovernmental Panel on Climate Change. WMO, UNEP 2007.

## Yet another form of inequality

Although environmental problems most certainly do not discriminate based on religion, culture, race, social class, flag or border – as these problems affect everyone - the consequences differ between the countries regarded as first and third world. Environmental degradation has mainly been caused by the rich countries but is becoming a survival issue for *poor* countries. As often happens, whilst some feast, others are paying the price. The upper or middle classes of developed countries suffer from significant contamination in terms of air, food consumption or toxic products. However, the lowest classes in the countries with high rates of poverty are exposed to a great deal of harmful substances in the factories in which they are exploited, which emit pollutants that do not comply with any sort of regulations. The same occurs in agricultural situations. Besides suffering the negative effects of climate change in a much more pronounced way, these people also experience difficulties in getting drinking water, firewood and food due to subsoil erosion, deforestation and the destruction of biodiversity. The result: disease, hunger and extreme poverty for the inhabitants of these areas.

In many parts of the world, there has never been a lack of food. The food available was healthy and of good quality and there was water to drink and firewood for cooking. In recent years, people have had to look further afield to find water -which is now not always clean - and firewood as the sources of drinking water have been drying up and the forests have been disappearing. Animals are thinner and desertification has led to soil fertility being increasingly poor. This is all due to the destruction of forests so that the land can be used for crop cultivation to supply the global market or so that the wood can be used to make furniture and other products with exotic woods. Subsistence farming, to care for and feed one's family, is disappearing and being replaced with vast commercial plantations. The Amazon is an example of this. Although it is considered to be the planet's lungs, it enjoys no respite and is one of the most exploited areas. This region is home to the largest primary forest in the world, with nearly 700 million hectares spread over nine countries. It is home to 30% of the earth's biodiversity and this diversity is being threatened by activities such as logging, road building, fires and the thinning of the forest for ranching and agriculture, mainly for growing soya<sup>7</sup>. This data demonstrates how climate change exacerbates the difficulties already being faced by vulnerable communities, such as political and economic marginalisation, the loss of land and resources, human rights violations, discrimination and unemployment. Journalist and writer Eduardo Galeano emphatically illustrates this situation using the example of a damaged and exploited Latin America: "nature has been humiliated by being put to work to accumulate capital. The soil, water and air are being poisoned so that money can generate more money (...) Acid rain caused by industrial gases is killing the forests and lakes of the northern hemisphere, while toxic waste is poisoning the rivers and seas, and in the southern hemisphere export-orientated agro-industry

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7 Greenpeace official site: <http://www.greenpeace.org>

is wiping out trees and people (...) In Latin America, twenty-two hectares of forest are being lost per minute, mostly destroyed by companies producing meat or timber on a large scale, for consumption by others. Costa Rica's cows become McDonald's hamburgers in the United States."

In many countries human life – especially that of the weakest – has lost all value, and the weakest of the weak are women and children. In Latin America and Asia, women produce more than 50% of available food and in Africa the figure is almost 80%, with these women additionally taking responsibility for providing the household with water and firewood. However, they own only 1% of the property and have no access to loans, grants, education or culture<sup>8</sup>. Poverty hits women and children especially hard. The question is simple: what is society doing to change this? The centuries go by and the great problems of humanity are not remedied. There are groups, organisations, individuals, and politicians all fighting for a fairer world but it is just not enough: "The time for reforms is over, what we need now is a radical transformation (...) we do not dare to touch those who are untouchable, but I think that the time has come for us to do it." The words of philosopher and theologian Raimon Panikkar<sup>9</sup> illustrate the desire for real change in one part of the population. Many people are involved in the struggle so synergies should be created to make the overall effect greater than the individual efforts.

Different voices, also from countries considered to be third-world, have asserted the bond between humanity and nature in recent years and have denounced the negative effects of actions carried out in the name of modernisation in these countries. Two women stand out from the others because of their courage, leadership and resilience: Indian-born Vandana Shiva and Wangari Maathai from Kenya.

Shiva, a scientist and philosopher, was awarded the Alternative Nobel Prize and her involvement in the **Chipko** movement caused her to abandon the enthusiasm for technology gained through her studies in nuclear physics to work on humanitarian and environmental issues. The Chipko movement was founded by women in rural Himalayan areas, who saved the community's forests through a symbolic action inspired by Gandhi's principle of non-violence. By working on a surveillance shift system, they prevented the indiscriminate felling of trees by hugging them, thus avoiding flooding and other problems caused by deforestation. This action was undertaken under the natural principle of femininity and against the wishes of their husbands, who believed it would be lucrative to sell the land for commercial exploitation. Shiva and the rest of the group acted in accordance with the belief that feminine energy is natural energy, and that, therefore, the actions of the rural women of this land should be in total harmony with the environment<sup>10</sup>. Wangari Maathai, a Nobel Prize Winner, organised a

8 <http://www.elsverds-catalunya.cat/>

9 Diari digital VilaWeb. Interview with philosopher and theologian Raimon Pannikar.

10 Puleo, Alicia: *Àngels de l'ecosistema?* Medi Ambient. Tecnologia i Cultura. Issue 40, October 2007.

similar movement in Kenya, the **Green Belt**. The movement mobilised a group of women and managed to plant more than twenty million trees in over a dozen African countries. The goal: to combat desertification and provide women with resources. These are some of the actions which have made her more than deserving of the affectionate nickname Tree Woman. Maathai was the first African woman to receive a Nobel Prize and few in her difficult situation would have been able to achieve a doctorate in biology and a professorship in anatomy, given her humble origins in Kenya. Perhaps this was the reason why, in her Nobel Prize acceptance speech, she said that her inspiration and determination came in part thanks to the experiences and observations of her childhood in a rural area<sup>11</sup>. By looking after the cultural diversity of each location – intimately intertwined with its biodiversity – we can help prevent the destruction of areas of the planet and help to perpetuate the knowledge of our ancestors. It is essential that the conservation and knowledge of medicinal plants, food, roots and seeds is not lost, because this wisdom is held by very few groups of people. Consequently, a respectful attitude towards nature simultaneously provides for a more respectful attitude towards one's own culture and identity.<sup>12</sup> Wangari Maathai understood the link between culture and the environment very well: “the recovery of culture is perhaps the only thing that can prevent the destruction of the environment, the only way to perpetuate the knowledge and wisdom inherited from the past, which is essential for the survival of future generations (...) morality and spirituality have a fundamental role to play in the life of a community and in its ability to take action which will be of benefit to it and ensure its survival”. The struggle of these women was not in vain. They achieved the first goal they set for themselves and, in doing so, were able to make many other women and men aware that it is possible to do things another way. Moreover, the recognition granted by a Nobel Prize allows the strength, will and knowledge displayed to go beyond the borders of India and Kenya so that this work can serve as an example internationally.

### **Small grains of sand are large grains of sand**

As a society, we are bound by concepts and ways of life which are highly restricted by the markets, the multinational corporations and other powerful groups. This is difficult to escape, depending on specific circumstances, but each individual should make an effort to decide for themselves. The struggle of the conscience can be both collective and individual. Let us begin, therefore, by stirring our conscience to create a global conscience. Change starts in each of us, whether we are male or female. We must assert the ability of the individual to boycott, raise our voices and fight for improvements in our own little worlds: the world of every woman, every man and every family. Only then can we construct a society that lives in harmony with itself. All these little worlds,

11 Pigem, Jordi: *Wangari Maathai, semblant llavors de consciència*. Medi Ambient. Tecnologia i Cultura. Issue 40, October 2007.

12 Pigem, Jordi: *Wangari Maathai, semblant llavors de consciència*. Medi Ambient. Tecnologia i Cultura. Issue 40, October 2007.

united, can save the whole world. Humanity's objectives can only be achieved using a grain of sand from everyone, with leaders who take responsibility for the process. The political culture needs to change, but more important still is a change in our moral culture, to implement the change in attitude and behaviour needed to demonstrate that, as Susan George has long been proclaiming, "another world is possible".<sup>13</sup>

This section presents small actions that are already being implemented, especially by the type of woman discussed above, who cares for her home, family and environment. Recycling, paying attention to the food you eat, trying not to waste water and turning off the lights after leaving a room are small actions that should be taken, but at the same time it is important to strive to do more. Out of all these actions, perhaps one of the most important is promoting and developing a healthy diet, free from pesticides and genetically modified food because of their unpredictable effects, in both the short and long term. Genetically modified food poses a serious threat to biodiversity and has unpredictable and irreversible effects on ecosystems. It entails an increase in the use of toxins, genetic and soil pollution, the loss of biodiversity and undesirable effects on other organisms. In terms of health, it may cause new allergies, decreased fertility, food contamination, internal organ problems, and so on.<sup>14</sup> We are what we eat and a healthy diet, with good quality food, is one of the cornerstones of our health. Besides, taking care of our health also implies taking care of our environment. The struggle, therefore, must begin in the body of every woman, who must learn to listen to her body and understand what it needs and what makes her feel healthy. This is similar to what animals do and what humans used to do before we forgot how to listen to our own bodies. In the home, we can use products which do not have expiry dates, which are so difficult to find nowadays due to the constant pressure of the out-of-control consumer markets. And we should begin to think, as our grandparents did, of repairing and reusing to minimise family waste. We should commit to implementing as many of the three r's as possible: reducing, reusing and recycling.

These are examples of small actions that can add up to achieve great things. Nonetheless, it remains necessary to assert women's role in leadership positions in politics and in major corporations. Their characteristics will help them to rise up from the positions they have been relegated to. Part of the responsibility for worsening climate change lies with the dominant groups that have monopolised power, property, privilege and control of resources for so many years. Groups which, as it happens, have been dominated by men. A study by the INSEE, the French National Institute of Statistics and Economic Studies, shows that the amount of greenhouse gases emitted by men (including all activities) amounts to 7.98 kg of CO<sub>2</sub> per day per man, compared to 6.79 kg of CO<sub>2</sub> for women. Women's environmental footprints amount to 32.2 kg of carbon per day, while

<sup>13</sup> George, Susan: *Another world is possible*. Ed. Icaria, Barcelona 2004.

<sup>14</sup> Greenpeace explanation of the problems resulting from genetically modified foods.

men's comes to 39.3 kg. According to Jordi Ortega<sup>15</sup>, a researcher at the Spanish Council for Research on Global Environmental Change at the Universidad Carlos III, the cause of this unequal environmental footprint is the greater level of social advancement and promotion achieved by men, which is linked to certain more energy-intensive behaviour, e.g. more journeys made by plane and car, more meetings, more work lunches and dinners. According to Ortega, "we cannot overhaul men's environmental behaviour until we change the value scale and their social representation model".

This change can be achieved using the universal values that have traditionally been attributed to women. Caring for the Earth can take place on a global level under a single cry raised by everyone's voice. It is not a question of women becoming the sole saviours of the planet. After all, women are not the only ones who are under threat and in need of a more respectful way of life. Men need these changes too. Women must hold decision-making roles to implement the change of direction. We need a drastic and rapid reduction in greenhouse gas emissions if we are to avoid the worst effects of climate change. The energy sector bears the greatest responsibility for all these issues, so the energy model must be transformed to entirely replace 'dirty' energy sources with renewable sources that will generate the savings and efficiency needed. Women have much to say, much to propose and much to decide at the present time. Nature is woman's name, and her time has come.

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<sup>15</sup> Essay by Dr. Jordi Ortega on Antonio Cerrillo's article, Cerrillo: *Las mujeres contaminan menos que los hombres*, in the newspaper La Vanguardia (31 May 2011), pages 24-25.

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# Finalists

# Nani, Khidr and the aesthetic bias of the universe – why gender inclusion matters

The *Eid-al-Adha* I sacrificed a goat to Allah for the first time in my life, my grandma told me everything I ever needed to know about gender and climate change, in one sentence.

I was thirteen. The afternoon was scorched a dull gold and there was an air of celebration in the house. As I sat down to play monopoly with my cousins before lunch, grandma, or *Nani* as I called her, grabbed me by the arm, took me to a side, where nobody could hear us, lowered her face close to my ears and whispered words, that at the time, sounded little more than a meaningless fairy-tale spell to me. Words, that swam in and settled so deep in my subconscious that since then, they've come to redefine my entire life without me ever even consciously realizing their true impact.

See Nani, she was a storyteller. Every night before I went to sleep, she sat by my bedside and told me of times forgotten and times yet to come. She borrowed equally from Arabian nights, Brothers Grimm, Quran and Norse mythology, telling tales of gods and goddesses, peoples and prophets, conquerors and men of god that walked the earth. One of her favorites was the story of Khidr-the Green Prophet; the prophet of “the bush”. She told me Khidr was still alive and evergreen, like the spirit of the earth, everyone could reach him for guidance anytime; everyone willing and determined to see the light that is.

In the story she told me, Khidr is sought out by Moses at a time when Moses is feeling lost. Khidr agrees to be Moses' guide and teacher provided Moses accompanies Khidr on his travels and observes everything Khidr does without asking any questions. They hitch a ride on a ship, but halfway through the journey Khidr secretly drills a hole in the ship, forcing it to run aground. He then goes on to murder the son of a very kind and helpful couple they meet along the way. In another town, Khidr and Moses are not very welcome and are abused and stoned, but when one of the houses in the town needs repair, Khidr steps up and helps rebuild the house. That does it for Moses, who, now unable to keep silent about Khidr's completely random behavior, asks Khidr what's up with all the weirdness?

Khidr answers, “I ran the boat aground to protect it from crossing paths with a band of very ruthless pirates. I killed the boy because he was planning on killing his parents for their property and I rebuilt the house in the village of the damned because the house belonged to a couple of orphans. Its walls concealed treasure the orphans’ parents had left behind for them buried underneath. The treasure was for the orphans to grow up and find, not for the mean villagers to discover by accident and pillage.

See Moses your perceptions deceive you.” Khidr goes on to say. “Your blind faith in your rather myopic reasoning ability keeps you from acquiring true wisdom.”

I once asked Nani how Khidr knew all he knew. “Because the so called Quranic scholars are probably wrong” she would say. “Because Khidr is not blinded by reason and can see the narrative of life as it unfolds in front of her eyes.

Because Khidr is connected to the spirit of earth.

Because Khidr is most probably, a woman.”

Dr. Dan Sperber would have agreed with Nani and Khidr. In the March 2011 Issue of Behavioral and Brain Sciences, he presents what he calls “The Argumentative Theory” of reasoning. “Reason” is generally seen as a tool to chisel away at the ultimate truth of the universe. But that doesn’t explain many of the known weaknesses within our reasoning ability. For instance, if reason evolved as a means to get to the truth, why would it be susceptible to “confirmation bias”? There is no evolutionary advantage in trying to find only evidence that supports your long standing point of view and ignoring evidence that is contradictory to your intellectual frame of reference. Yet, such bias is an inherent property of our reasoning toolkit as demonstrated by several studies.

Dr. Sperber believes that reason evolved not as a means of getting to the truth but as a means of winning arguments. Winning arguments is to our evolutionary advantage in a social setting. And that explains why for instance, we seek evidence that buttresses our worldview more fervently. Doing so, would have helped us convince and influence others and become the leader of the tribe, giving us significant evolutionary edge.

Dr. Sperber’s theory, though contrary to established paradigms in many ways, makes a lot of sense. Reason is a flawed tool for arriving at the right answer because reason did not evolve for that purpose.

Ancient Greeks though, might have suggested a corollary. See reason, or logos, the Greeks thought, was only one of the three elements of the art of debate or argument. The other two were pathos and ethos; establishment of credibility and an appeal to emotions. Logos by itself was never considered convincing enough.

If reason and rationality were all we’d have needed to make up our minds, advertising –the art and science of convincing people- would have existed solely in the form of debates, and propaganda wouldn’t have existed at all. We live in a world though, where most human decisions are made on a subconscious level;

not through an evaluation of pros and cons, but for random reasons like the stickiness of a particular TV jingle. The most successful politicians aren't necessarily the most rational or reasonable ones, sometimes they are just the ones we want to sit down and have a beer with. We don't listen to reason. So if reason is, at best, only part of the puzzle, a mere gear in the decision making machinery of human consciousness; if reason has, at best only a blunted effect on our decisions, why did we evolve a tool to affect other people's decisions which is blunt in the first place? What purpose does reason really serve?

Where reason does help us, without peer or parallel, is in the act of establishing causation. The resultant cause-effect relationship itself can be flawed or it may be perfect, but we get to it through reasoning nonetheless. Reason is what helps us figure out how or why something happened. In a way reason is a tool for arriving at theories, for constructing stories, that crucial soldering iron required to connect the dots.

And why do we make stories? Not necessarily because they help us understand the world better, but because they help us *explain* the world better. Because he who has the best story – the story with the most coherent logos, the most intense pathos, the profoundest ethos – emerges as the leader of the tribe. Because having the best story is the best way to get people to see your worldview, feel your worldview, believe your worldview, and act on that belief. The elegance, profundity and verisimilitude of any society's stories or theories, is a determinant of how well the society will synergize and operate. Story making or theorizing is our crucial evolutionary edge. It's how we win.

We are a story telling species. We make up stories to win arguments and we use reason to enhance our stories with superior logos. The argumentative theory of reason apparently is only a special case of the general argumentative theory of theory itself.

Throughout history, it seems, all the wise ones had known the limitations of reason and the power of narrative. Khidr knew it. He always communicated through narrative. He never preached. The Greeks knew it. All the prophets and the great theorists did too. They were all storytellers.

Nani was a storyteller too.

Dominant narratives arise out of pertinent facts.

What's the most pertinent fact about the significance of gender policy in climate change preparedness?

No, it's not that climate change will affect the poorest and the underprivileged most and women constitute by far the poorer and more vulnerable half of the human population.

It's not that women constitute up to 80% of refugee or displaced populations worldwide increasing their vulnerability to climate change.

It's not that women constitute up to two thirds of the global illiterate population, making dispersing climate change information to them that much harder.

It's not that in developing countries malnutrition for female children is much higher than that for male children.

It's not that the death rate for females in natural disasters is higher compared to men (e.g. 71 per 1000 compared to 15 per 1000 during the 1991 floods in Bangladesh).

It's not that more women than men are employed in parallel, informal economies prone to destruction from climate change disasters.

It's not that climate change has adverse impacts on the labor required of women in vulnerable communities for instance requiring them to travel longer distances to get water or collect firewood.

It's not even that access to resources such as land, forestry and water is much more limited for women than for men.

It's not that engaging women in preparedness and response activities such as in Honduras in 1998 when Hurricane Mitch struck, has been shown to reduce damages and loss of life.

It's not even the fact that women in vulnerable communities possess a knowledge of the environment and its resource base distinct from the knowledge men have, allowing their active participation to contribute to the overall adaptability of the community. In villages such as Kanak in Baluchistan, Pakistan, women have been known to identify up to 35 different plants with medicinal properties, and that's a very useful fact to consider when evaluating the significance of gender inclusion in climate change preparedness.

But it is not the most pertinent fact.

The most pertinent fact is this. A majority of the humanity, for our generation, and for another few generations to come at least, will be most significantly influenced in their formative years, by a woman. In both, single parent and two-parent households. Women will be the first storytellers humans will encounter during their lifetimes; women will shape the perception of the world, for a world of us. From a woman, will a babbling child learn what it truly means to be a human being and a responsible citizen of the world.

It has been said before but bears repeating. The dearth of the environmental movement today perhaps, is not a dearth of solutions, but an absence of a grand story.

In the United States for instance, this lack of narrative manifests itself in the political sphere as a denial of climate change. Americans are not willing to compromise on their way of life, and unable to accept any political entity that tries to bring them face to face with the stark realities of climate change.

In rapidly developing nations such as India and China, the dominant narrative is still to strive for the biggest gas guzzler and the largest air conditioned house. They are all chasing the American dream in an age when even Americans should have given up on it. Everyone's trying to hop on the bandwagon of "progress" because there is no alternative, coherent, effective narrative out there to catch their fancy. There are plenty of desperate facts; scary facts such as the fact that if we don't achieve at least fifty percent cut in green house emissions

by 2050 we'd be looking at a tipping-point inducing, more than two degrees centigrade of warming by the end of the century. Inspirational facts such as the fact that the US can fulfill up to twenty percent of its electricity needs from wind power alone. The facts are all there; problems well defined and solutions galore to suit them, but the meta-narrative is nowhere to be found.

Part of the reason for absence of narrative is that for a long time now we've been keeping the storytellers excluded from the dialogue. The ranks of women in positions of influence are still, surprisingly thin, both in the developed and developing countries. Women, for instance, form less than sixteen percent of the membership of legislative bodies around the world. In environmental decision making, women are only now emerging to find any semblance of representation.

By not engaging women more actively in the climate change debate, we've also lost the opportunity to influence an entire generation's perception of our relationship with the climate of our planet. In countries like India and Pakistan, the same women who could have been telling their children the story of an existence in synergy with the environment, now raise their children to work their hardest only to become bit players in the global capitalistic theater of mindless consumption.

The green movement has failed to define a story and has failed to engage the storytellers, and hence finds itself bringing the knife of reason to the gunfight of narratives, year after year after year.

So what is our story here? What is the meta-narrative, that like all great truths maybe no farther from our eyes than the tip of our eyelashes, but has evaded us so far?

In a way, that was the question Dr. Nikos Salingaros was looking to answer when he started studying classical architecture. From the mosque in Cordoba to the Parthenon and Sistine Chapel, he saw that all traditional architecture seemed to have three salient features. a) Self-similarity; there were fundamental units of pattern –maybe a curve, maybe a circle- that repeated themselves at successively greater scales b) the distribution of the numbers of this pattern at different scales followed a power law, i.e. the greater the scale, the smaller the number of elements -circles or curves- at that scale and c) There were always some design elements –windows, floral patterns, ornament- at the “human scale” i.e. between three centimeters to three feet across.

Dr. Salingaros soon realized that he was looking at mathematical entities called fractals. These were complex patterns that emerged out of the iteration of simple algorithms over and over again. So for instance, draw an equilateral triangle, then, connecting the centers of each of the sides, draw a smaller triangle inside the big triangle. Then, repeat the process with the resulting four triangles, and so on and so forth. The image thus created would be a fractal, in this case, a special fractal called a Sierpinski gasket.



Turned out fractals are everywhere. Fractals form the foundation of design in nature. Not just in architecture but in everything from a leaf, to a tree, to an entire forest. The surface of mountains and the edges of clouds, the coastline and the strike of lightning across the night sky, fractals are what nature is made of.

Most importantly, evolution could be seen as a fractal process.

From there, the connection was simple for Dr. Salingeros. Life is fractal in design. Nature is fractal. As such we have evolved to identify life-like or biophilic elements, relate to them and feel nourished in their presence, simply because in evolutionary terms being closer to life would have been to our advantage as a species. We have a natural affinity for fractals. There is a reason we feel nourished at a deep spiritual level when standing inside a Gothic cathedral or a Mughal mausoleum. By being in these environs we are reconnecting with the seed of our creation, the very first life-form, and all life-forms since, at a deep algorithmic level. It feels in a way like finally going back home.

So there is, after all, an aesthetic bias to us. We've evolved to prefer a certain type of design. We are not alone in our bias. In fact we share it with all of the rest of the tree of life and the universe.

This aesthetic bias manifests itself in myriad ways in our artistic preferences. For instance, we like a “profound” work of art, because profundity, or the capture or presentation of immense information in a simple form –a profound quote for example- is an essential property of fractals. Fractals embody complexity but can be expressed algorithmically through a few lines of code.

Another important element of fractal design is incremental development, building up to complexity in small steps.

So why do we prefer stories which have a complex support system of fine details adding life to them? If we like a certain type of structuring in stories, and only those structure types alone, what is it that draws us to these specific types of stories? Why are profundity and verisimilitude universally valued?

We like to augment our stories with reasoned support because the more reason we have propping up our stories or theories, the more profound and meaningful these theories become. And we have a natural affinity for profundity. Reason evolved as a tool to make our stories more fractal, and therefore aesthetically satiating, by making them more profound. It is the fractal structure of our stories that is our ultimate goal, because this structure, this design form nourishes us and gives meaning to our sensibilities at a deep instinctive level. The structure is the end all of all our quests. The aesthetic bias is the real reason we do anything we do.

Even for a desert, it was a scathing afternoon. I'd spent the morning going door to door in small villages in the *Thar* desert in Sindh, asking people how they would feel about a seismic survey that was to be conducted in that area. It was a social consultation for an environmental impacts assessment. These people were so poor even dirt was an asset for them. The houses were made of clay and dried date shrubs and contained little earthly possessions. Yet, I couldn't help noticing

that these houses were clean and well maintained. The walls were decorated with flower patterning and there was a sense of human habitation in each abode. These were homes, not just houses.

Years ago, when I was about to graduate high school, my father had fallen upon some ill fortune. He'd made some bad investments and the only way for him to recover financial footing was for us to move into an unfinished house he'd been building for a while, so that we could rent out the nice suburban villa we called home for supplementary income. The house we moved into was unintentionally brutalist. There was no plaster or color on the walls and the flooring was rough, unpolished concrete. There were no fixtures except doors and windows, both colorless. I was just starting to develop a social circle around that time, and found the situation extremely embarrassing. For the two years I spent in that house, I didn't invite any of my friends over. To me, the house was a shame.

My mom though never lost her cheerful smile. She kept insisting on keeping the house clean and for us not to mess up our rooms. I couldn't understand at that time how she could invest any energy in maintaining something that was so ugly to begin with.

Now I know that she was just making the best of the hand she'd been dealt and was happy. It's a trait I would go on to encounter time and again in women all around the world. I would see women in impoverished households; in settings where they were being treated little better than cattle and kept uneducated and malnourished, investing every little bit of energy they had to constructing a household for their family and children. I would see women retain their humanity in the most inhumane and abject of circumstances.

That day surveying in the villages in *Thar* when I came to rest under the shade of a tree as a little girl from the village brought me an earthen bowl full of water, I thought of my mom. I thought of mom, I now realize, because the tree and my mom, and every woman in the world shared something.

They share what Eve Ensler –the author of *Vagina Monologues*- calls, the feminine cell.

She says the feminine cell is in all of us, men, women, hermaphrodites alike. She says we've been crushing it in modern society, through violence, through perpetuation of male and female stereotypes, through association of virtue with reason and reason alone; resolute reason, steadfast reason, reason in defiance even of the aesthetic bias and better angels of our own nature, in defiance of the inclinations within that rankle us when we cause imbalance.

What is the feminine cell? The feminine cell is intuition and empathy and respect for all life. The feminine cell is a heroic expression of the better angels of our nature within the confines of the machine. Like fractals it is a recreation of the sum of our ideals at whatever scale possible and at whatever accuracy permitted by the available energy. The compassion in the feminine cell is like the understanding and acceptance of scale in fractal regeneration. The repetition of algorithm in fractals is like the voicing of the eternal truth by the feminine cell, in defiance of the hegemony of circumstance. The feminine cell is declaration of

the better angels of our nature, in the best manner possible, in the loudest voice permissible. The feminine cell is the shining light of our humanity, discernable even in the bleakest abyss of mechanization.

Sitting under the tree reminded me of my mom because the tree and my mother, and every women in the world, share the fractal nature of their spirit. They all have the feminine cell within them, in abundance.

So here is the meta-narrative, the grand story if you may.

For the past couple of centuries we've been busy building industrial societies, bowing at the altar of reason. Dominant paradigm dictated that optimization of resource consumption was how we improved our lives. When our own aesthetic bias stood in way of this optimization we steamrolled it. We knew that was wrong. Deep inside, we always knew. Even when we were building shiny new modern metropolises at the height of the industrial revolution, we were dreaming of the cottage in the countryside and idolizing Tarzan. The redundancy in nature -the redundancy imbued in our inherent aesthetic bias- stood in direct opposition to the religion of economic optimization. We chose efficiency over robustness; we chose reason over our own aesthetic bias.

What we didn't realize was that nature preferred a redundant fractal design because it was sustainable and robust. The most sustainable system on earth, i.e. life, was fractal in nature, redundant at all scales and loosely coupled within eco-systems. There was a reason we had two kidneys instead of one, it was a contingency for events we failed to predict, events we could not possibly predict; the black swans. Nature is robust against black swans; life is robust against black swans. Life is sustainable. Our aesthetic bias favors sustainability.

Of course, now we know that the civilization we built during industrialization, the cities and societies we constructed by ignoring our aesthetic bias, were not sustainable.

We'd lost connection with the aesthetic bias of our nature.

Dr. Robert Hare believes that empathy is a spectrum with psychopathy at one extreme end of it. Women it is believed, rank higher on the empathy spectrum making them much less psychopathic than men. Yes, we all carry the feminine cell within us, but women bear a greater density of it within. The light shines brighter within them. They actually are better people than men; more in tune with the aesthetic bias of nature.

It is true after all, if women had been in-charge of our civilization through the last two centuries, we'd probably have not turned a blind eye towards the demands for sustainability in construct of our civilization, which our own nature was exacting upon us.

Gender inclusion is not just about basic human rights for women, it's about rediscovering the feminine cell within us and embracing it. Gender inclusion is about coming to terms with our aesthetic bias even if it doesn't align at all times with the dictates of pure reason. Gender inclusion is about building sustainable

societies. It is not just important for our survival in the face of epochal changes, it is *the* crucial missing piece of the puzzle.

Part of that equation is empowering women through equal opportunities at education, health and wealth. Part of the equation is engaging women in the decision making process. There are many solutions out there, most of them good enough that when implemented with spirit and integrity, should deliver results. But we need to draw inspiration from the most effective examples; successful experiments in community organization and collective learning such as the Grameen Bank and Sugata Mitra's Hole in the Wall (HIW) and Granny Cloud. Both successes, are stories of simple ideas, whose effectiveness lie in their principled inclusion of both genders in the development and learning process. Grameen bank gave out small loans, mostly to poor women to setup their own cottage industries and small businesses. Sugata Mitra's HIW experiment focused on giving children from poorest neighborhoods, access to computer and internet thereby enabling them to learn on their own. The remarkable success of the experiment has led to a paradigm shift in theories of pedagogy. Sugata's ideas of minimally invasive learning are being studied and successfully being implemented in classrooms in the UK and India. His newest initiative of setting up a "Granny Cloud" of British grandmother volunteers, available online to help students in impoverished parts of India whenever they need is producing inspirational results.

Here's an idea to engage women in the storytelling process both in the developing and developed nations of the world. We need to set up minimally invasive educational portals of the HIW type in the underprivileged regions of the developing world. These HIW should provide access only to women through password control, thereby setting up virtual classrooms for women. Game based curricula should be developed for the HIW kiosks to educate women about climate change and the new paradigms of human development. At the other end of this HIW classroom, a "Venus cloud" of willing, volunteer women from the developed countries should be set up. Women volunteering for the Venus cloud should need to first go through an online training themselves. This should not only prepare them to help their less technologically-savvy sisters at the other end of the world, it also educates them in the fundamentals of climate change. It has been shown that having to teach others is not only one of the best methods but a very good motivation for people to increase their own knowledge.

This establishment of a collaborative global classroom between HIW kiosks in developing nations and "Venus Cloud" in developed countries would start the process of engaging women -the storytellers amongst us- in the climate change debate.

We need to come to terms with the great story of the loss and rediscovery of our aesthetic bias and we need to educate and engage the storytellers so they can raise a generation of us to become true human beings, and not just psychopathic optimizers for the global consumption machine. Unless we do that, we

will never be able to deliver the paradigm shift needed to cope with the potentially cataclysmic vicissitude of climate change.

What did Nani tell me that day?

Throughout my life, women have continued to surprise me with their patience, wisdom, intellect and heroic determination in the face of extreme hardship. It seems they have a direct link to the eternal source of all knowledge and can reach in and pull out gems at will, gems that I then spend decades deciphering and marveling at.

Nani was just such a woman.

That afternoon, when the blood of sacrificial goats flowed through the streets of my city, and their innards festooned the edges of the public parks, and the smell of charred meat filled the air in each household, these are the words that Nani whispered in my ear. They've rung truer in my head everyday ever since.

“If Gaia were a man, we'd all be dead by now.”

The End

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# Women and climate change – most affected yet least heard

The top most global priority today is to address the threat of climate change. Yes, climatic patterns are changing and are felt all over the world. It is no more limited within the province of environmental and atmospheric science. Human Development Report 2007-2008 by the United Nations Development Program says, “Climate Change is defining human development issue of our generation.” This means that the climate change will have dramatic impacts on the environment, on economic and social development. UN Intergovernmental Panel on Climate Change (2007) defines Climate Change as, “Any change in the climate, whether due to its natural variability or as a result of human activity”. Thus climate change is a reminder to all of us that we are ecologically dependent. Human activities generally pose negative impacts on environment and people’s wellbeing if they are not managed properly. However, it is important to note that the impacts of climate change will affect all countries; its impacts will be different among generations, age, classes, caste/ethnicity, income groups, occupations and gender. Poor women in rural areas of developing countries generally have more difficult time compared to men, due to their traditional socio-cultural roles. Also, they are dependent on locally available natural resources for their livelihood. This paper throughout discusses climate change with reference to women’s gendered vulnerability.

Climate change is having a huge impact on people’s livelihoods. Among all, women and men along with children in rural areas and developing countries are highly vulnerable. Among them women and girl child face greater challenges and are more affected for being the household managers. So, they are charged with the complementary roles and responsibilities to secure water, food, fuel wood for cooking, heating, collecting fodders for livestock and so forth. When poor people lose their livelihoods to a hazard such as a flood, landslide or a cyclone, they are less able to rebuild their lives, homes and assets and can hardly recover before the next shock hits them. This leads to greater gender inequalities. Impacts of climate change threatens livelihood which means women are more likely to go hungry. Women have main role as food producers and providers and a key role in their household’s economy. When poor women lose their livelihoods, they fall deeper into the trap of poverty, inequality and marginalization. In developed countries, problem of gender inequality and climate change also needs to

be tackled because although there might be greater equality in some regards, gender inequality persists in others.

Reports and literatures on climate change have agreed that women are the hardest hit from the impacts of climate change. It is not because the disasters come searching or targeting women rather the social position of women in the societies are as such that they become the hardest hit. Simply because they are women, and women are poorer. Women's unequal position in society means women have unequal access to resources, restricted and limited rights, protection from violence, education, healthcare, limited mobility and muted voice in decision making therefore makes them more exposed to climatic shocks and have fewer resources to protect their own lives, assets and livelihoods while looking after their families. Women are more vulnerable than men also because they comprise of 70 percent of world's poor population. Examples are many and grave: just as Hurricane Katrina and the 2004 Indian Ocean Tsunami disproportionately affected women far more than men. In Indonesia during the Tsunami, for various reasons more women were drowned than men: because they did not know how to swim, because they stayed to look after their children until the last moment, because they were locked in, because they found out too late, because their long dresses did not allow them to move fast, because their food reserves were so low that they could not make the effort required to save themselves, and the like. With such examples it is an established fact that most of the people affected by the worst climatic disasters that have happened over the past few years are poor and in their vast majority are women.

To understand women situation in context of climate change it is important to understand their dependency on each natural resources like water, energy, land, forest and biodiversity conservation, indigenous knowledge and health issues, migration pattern and human rights. Understanding each of them separately will help to learn more closely about women's dependency on natural resources which will give clear picture of how impacts of climate change impacts women differently than men. In case of water resources, crisis of water is felt all globally as fresh water sources and quality of water are declining. Thus, affects water use for domestic and productive tasks. In most of the developing countries it is on women's shoulder to fetch water to meet their essential needs. Significant time is spent daily transporting water from distance sources. Moreover this long hauled water rarely meets their requirement. This has negative impact on women's and family health and also on agricultural products, livestock. Additionally, it expands women's work burden as she will be responsible to collect, store, protect and distribute water among family, agriculture, livestock. Women's health is impacted of climate change because of water scarcity and water contamination which leads to higher incidence of infectious disease such as malaria and so forth. This means that women further have to allocate time to provide care to her family who are infected by disease along with her other responsibilities. Situation will be worst during the time of natural disasters. Despite of the psychological, emotional, physical trauma, it is women who are responsible for the management



of water for the house. In agriculture women are often not recognized as farmers, resulting in limited control and access to land and water. Women and men often cultivate different crops, on different types of soils, using different techniques. More and more women are farmers on their own account, at the same time men migrate to towns, without handing over the needed land and water rights. This will impact women especially at present situation of feminization of agriculture. In urban areas rivers and dams are becoming the major dumping sites. Women use water supplies from these sources. These water sources tend to dry during dry season and are more exposed to water-borne disease.

Likewise, in case of energy sector, there is a gap between rich and poor countries, within countries too urban and rural and so forth as energy provides essential services such as cooking and heating, lighting, education and health services, food storage, transportation and the like. More than two billion people globally are dependent on wood, biomass and agricultural residue to meet their energy needs as they do not have access to efficient sources which is within their affordability. Use of such biomass means more indoor pollution which will impact on women's health along with other family members. Many women are taking short cuts in food preparation as a result of energy poverty with less nutritive meals to compensate for increasing fuel and food shortage. As large population are dependent on agriculture and environmental resources for their livelihoods, women in developing countries are more vulnerable to the depletion of natural resources and the impacts of climate change. Like in other sectors, it is men's responsibility to deal with different energy mediums where women are more usually excluded from discussion on energy plans and policies. It is women who sets long hours of travel time to gather energy which is a physically laborious task. Also lack of recognition of the role of women in energy sectors leads to gender blind policies which fails to address some of the most important factors affecting the capacity of developing countries to adapt and mitigate energy crisis in the present context of climate change.

Women suffer disproportionately when common resources are degraded. After short insight on women's dependency on some of the natural resources it will not be wrong to say that the extreme weather conditions may bring devastating human rights consequences for millions of people. The extreme weather conditions will increase the shortage of water, energy, food security along with the problems of hunger, malnutrition, and increase in water borne diseases. It is evident from the increasing natural disasters that climate change has affected the economic and social rights of countless individuals; this includes their rights to food, health and shelter. As climate change will inevitably continue to affect humanity, it is thus important to place women at the heart when responding to environmental and humanitarian crisis.

Today, climate change is a development challenge. It is time to move out from table talks on climate change move towards identifying adaptation and mitigation measures. Men and women face their social, economic and environmental reality in different ways; how they participate is also different and is

closely related to age, socio-economic class and culture. For a person to be born as women bring financial, political, social and economic barriers which will eventually limit them from coping capacity. Therefore, how women and men adapt to climate change should not be side-tracked as women and their livelihood is particularly vulnerable to the risk posed by environmental depletion.

Women's contribution to environmental resource management should not be ignored. Patently women are absent from climate change decision making process. As a result, climate change debates are not being able to address the existing marginalization of women nor their need to be intergraded in environmental policies. Poor women are more vulnerable because she is unable to make choices that might improve their living conditions and protect natural resources. Hence, reducing poverty must be about ensuring that the poor women have access to, control over to reproductive resource along with facilitates of information, irrigation, technology, health care, education and so forth. Notably, these are crucial to resource management and biodiversity conservation.

Women for the most part are not well represented in environmental policy formulation. So far climate change debate continues to under-value women's contribution to environmental management. Also, women's indigenous knowledge of environment management and contribution in agriculture goes unrecognized although they receive a great deal of lip service. It is important to put women in heart of the environmental policy for the reason that they are directly dependent on the natural environment and have their own way of management and conservation. For instance, environmental degradation in the rural communities may increase women's work burden as she will have to walk longer distance in search of water, fuel wood in order to perform her daily household chores which is a part of her gender roles. Although it is agreed that women are the hardest hit from climate change, there is an absence of policy and also mechanism for which ensures women's participation, nor are they a part of policy making where they can have their say. Adaptation funds too do not prioritize the adaptation needs of poor women.

It does not mean that ensuring women's participation in these debates will assure many issues faced by women will be addressed. Suitable women should be part of decision making process not because they are weak or the helpless victims but because they have different perspectives and experiences to share which are context specific and needs appropriate responses. Men and women are affected differently by change because they have different roles in society. Although both women and men are vulnerable to climate change, their experience of change is different, as is their capacity to cope and adapt. Women, like men, have particular socially conditioned vulnerabilities and capacities; these have developed through the socialization process and, therefore, must be dealt accordingly. Women are vulnerable not because they are "naturally weaker," but because they face different conditions of vulnerability than men. Gender inequalities will be wider if gender does not get deserved attention. Women can either be the victims or change agents. If they choose to be the passive victims

they will have to face greater challenges. For instance, as crop yields decline and resources become scarcer, women's workloads will expand, jeopardizing their chances to work outside the home in productive sectors or to attend school. Similarly, in times of drought, they will also have to spend more time performing other typical women responsibilities like carrying, purifying and supplying the family's water and yet is not sufficient.

Policies, programs and treaties to combat climate change will not be successful if they will not place girls and young women at the heart. Yet there are little evidences of specific efforts to target women in adaptation activities funded as part of bilateral and multilateral programs. Gender is one of numerous important socio-cultural dimensions typically included in climate change vulnerability assessments but it is rarely incorporated in adaptation research and planning. Doubtlessly poor women are disproportionately affected by climate change; there is a strong case to ensure that adaptation funds effectively support women's adaptation to climate change. Climate change interventions that fail to address women's needs will fail to support those most affected by climate change and reinforce the disparity between men and women in their capacity to adapt to it.

It is well recognized that women are not well represented in policy making and decision making tires of environmental issues. However, very little specific efforts to target women explicitly in adaptation are made. No matter how little are the efforts it is far away from poor women in rural areas of developing countries. There are women who are adapting to climate change by their own efforts without waiting for support from others. Women are challenging the tendency which presents women as victims, by being agent of change or agents capable of contributing to solutions.

Similarly, climate patterns have changed in recent years and rains have become increasingly stronger and less predictable in Bangladesh. A woman named Sahena from Gaibandha district tried to deal with the flood patters. She had to face resistance from her husband and other members of her community including women. Standing against them she has organized a committee in her community to prepare women for floods. The committee teaches the women to make portable clay ovens, raise their houses, and use radios to hear of possible floods or climate change. She is now president of the committee and has earned the respect of the community. Efforts such as hers save lives and empower women.

### **From thatched to concrete house**

Ms Durga is an example from flat land of Nepal who is a change agent and a role model in her community. Her residing belt is highly productive. Despite of soil degradation, declining water sources, changing temperature, erratic

rainfall the production is high. It is because people here are commercial farmers and there is excessive use of synthetic fertilizers. Ms Durga was a poor daily wage laborer. Her love towards cultivation made her take the challenge of starting organic farming in a small rented piece of land. “I am now able to buy a plot of land and I am constructing a modern house next to my thatched house from the savings I made from four years of organic farming. I agree that we all are facing impacts of climate change. Since I am into organic farming, climate change is not impacting my farming. I find it as a sustainable method and thus encourage others to do so.” She did not have to worry about the consumers for her although the organic products are relatively expensive. There is no single instance where she had to waste her products. Recalling her past, “People used to laugh at me when I used to collect biophysical manure for my farm.” So far she have trained more than 70 women from here community. From her story it can be assumed that women from her community are motivated and are supported by their family members to take up organic farming because Ms Durga is vocal and publically shares that she is able to add physical asserts in four years time from her saving from organic farming. Her added physical asserts are visible, has monetary value and for others it works as motivational factor. Today she is a well known social worker and the community gives her a position of unequal respect.

From the two cases presented from Asia above it is evident that women are also capable of bettering themselves and of becoming empowered or changed. So, women are not submissive, nor do they only receive help – rather, they are active agents with different capacities to respond to the challenges posed by climate change. Thus, women are not always the passive and helpless victims of climate change. There are thousands of women like Durga and Sahena all around the globe who can be inspirational to many others. There is a need to make them visible.

Climate change is a reality. Systematic and effective efforts are to be made at present to identify the appropriate adapting and mitigating measures with the aim to address gender specific impacts of climate change in all the sectors of natural resources. Due consideration should be taken in terms of women's gender based vulnerabilities based on unequal access to resources like education, credit, services, information, technology, training, skill development programs which might help to ensure their full participation in climate change initiatives. It is important to make women understand the process which will give women confidence and she will not feel that she is being pushed somewhere unknown.

Existing gender norms and power inequalities shape the ability of men and women to adapt to climate risks. Minuscule cultural details are not to be ignored as culture shapes human's life. Also, culture is context specific and cannot

be understood in isolation. Thus, should be dealt accordingly. For example, during the emergency caused by hurricane Katrina in the United States, most of the victims trapped in New Orleans were African-American women with their children, the poorest demographic group in that part of the country. Similarly, in Sri Lanka, it was easier for men to survive during the tsunami because mainly boys are taught how to swim and to climb trees. This social prejudice means that girls and women in Sri Lanka have very few possibilities of surviving such disasters in the future.

Ironically, adaptation measures do not explicitly refer to gender as an issue. If prompt attention is not given to gender perspective then gender inequalities will be widened and numerous problems will arise which are associated with it. Almost always many programs are designed without prior consultation with women which makes the program fail. It is realized that women are at the centre of sustainable development but their knowledge is not recognized. By recognizing their potentials greater gender equality can be ensured so that the society will be benefited. “Bottom-up” approach should be promoted when preparing plans and programs to assess marginalized people’s knowledge, instead of applying a model that favors only opinions that come from above. Reason behind it is that these poor marginalized people have experienced and are impacted by climate change directly. Anyone on top cannot simply understand it better than those who are facing it on everyday life. However this does not mean that top most position should be given to those who are facing the impacts. Taking into account a variety of perspectives from different social groups would lead to improved measures and mechanisms – that is, solutions that reflect the interests not only of the powerful, but also of less influential groups whose voices are rarely heard at national, community level and also in international conferences. Because of all these women focused gender issues are not part of mainstream debates on environmental and climate change issues. Even if they are happening it is a piecemeal, too slow and often an afterthought.

Over the last decades the climate change debate has focused on how to reduce greenhouse gas emissions to stop global warming. There is a shift now in the debate and increasing recognition that, unless the most vulnerable countries and their people are helped to adapt to climate change, progress in social and economic development is going to be a dream rather than a reality. As a result, the pressure on rich countries to fund adaptation to the climate changes that they are largely responsible for is mounting, and additional sources of financial and technical assistance are emerging to support adaptive processes in developing countries which forms of the poorest and most vulnerable countries. For adaptation funding to be effective and efficient, as well as equitable, it is crucial that poor women are fully involved, and that their experiences and needs are reflected and prioritized in both policies and interventions for adaptation to climate change. Adaptation fund must recognize that the poor are affected the most and ensure by keeping it in the top most priority that the fund reaches to them according to their needs. It should allocate funds to directly improving their livelihoods and

securing their adaptation capacity. Taking into account a variety of perspectives from different social groups would lead to improved measures and mechanisms – that is, solutions that reflect the interests not only of the powerful, but also of less influential groups whose voices are rarely heard at international conferences. We should appreciate Clean Development Mechanism- a mechanism in Kyoto Protocol which industrialized or developed countries invest in the projects which will increase economic productivity and can reduce environmental problems of developing countries. The flip side of such projects where they do not give much attention for capacity building of poor, ensure their self reliance is attained so that the future generation do not have to clean my the environment mess and pay its price for which they did not generate.

It is a matter of fact and should not be overlooked that power dynamics have an important role to play in climate change. Climate change has been gaining economic emphasis resulting into power dynamics where rich countries dodge the real issues. While smaller or less powerful countries keep quite as they do not have bargaining power and accept whatever concessions are made by big and powerful countries. Power dynamics makes poor countries mute as these debates are very economic, political, technical where gendered implications are totally ignored. In such situation the position of poor women living in isolated rural areas will surely be overlooked. While the truth is poor women are more vulnerable and at the same time they have more difficulties to keep forward and to present their agendas. However, poor powerless women are not the passive recipient of climate change. The cases presented above shows that women can play an effective role in her community where they find their own way to cope with climate change. These experiences make it abundantly clear that women, while disproportionately vulnerable to the adversities of climate change, are not passive, and can become agents of change.

Social inequalities, in particular, have serious repercussions on many women's lives, limiting their access to land ownership, housing, education, health care and participation in policy-making and decision-making – in other words, limiting their human freedoms and options. Large sectors of society are often excluded based on their socio-economic condition, gender, age or ethnicity, which places them in a situation of inequality. Promoting women's equal access to land ownership and other resources needed for effective socio-economic participation, such as capital, technical assistance, technology, tools, equipment, markets and time is must though it is a time consuming process. Both men and women have a right to the conditions they need to enjoy their fundamental human rights, as well as simply to survive. Respecting women's capabilities and avoiding them from overburden should be a main mantra as they already have a very heavy workload and many family responsibilities.

Generalization should be avoided to defy stereotypes. All initiatives should be based on knowledge of the specific contexts and differences of each culture, economic situation, as well as politics and gender. Also, human rights approach should be used for democratic and participatory initiatives which aim to help

women and girls more. Similarly, small initiatives which will have a lasting impact like training should be designed. Both women and men should be a part of trainings programs to increasing their productivity with new technologies that may allow for greater productivity in a changing climate which in return reduces gender inequalities. Some examples of such trainings are techniques for nurseries, site selection, species selection, land preparation, sowing, weeding, and maintenance.

The exclusion of women from climate change decision-making processes silences the voices of half the world's population, denies women their rights, fails to uphold human rights principles and deprives society of many skills, experiences and capacities unique to women. Indeed, women's environmental resources, knowledge, and practices are key elements in climate change adaptation. They are the home of great wealth of indigenous environmental knowledge. There is a need that this knowledge is trapped and incorporated in mainstream policies. This will transfer and share knowledge while it will also build women's capacity and provide a platform where they can utilize their potential. If these knowledge is not transferred or documented than it will b becomes these knowl- edge will be disappeared.

Climatic change is gaining priority in terms of economics while social impacts are less or not at all taken into consideration as a result gender and specifically women's impacts are always on side track. It is true that women's invisibility and the diminution of their roles is one of the reasons why gender asymmetries have been stark but different layers of vulnerabilities should be peeled off and relevant incentives should be provided so that women and men can complement their efforts for a sustainable future, help each other to flight against inequalities to make this world a equitable world for both women and men.



# Rural Nepalese women's issues in climate change

“Climate change hits the women hard”, “climate change has disproportionate burden on women”, “women are more vulnerable to climate change since 70% of the world's poor are women,” These are the current buzz statements that warns us of women's share of disproportionate burden during climate change impacts which could be detrimental to development based outcomes. To understand the nature of women's burden it is first important to understand the causes of their burden. Unequal gender division of labor consisting of gendered roles and relations are mostly known as the main causes of women's burden in the Southern regions. Moreover, within the gendered relations where male supremacy, authority and control over resources prevail, women often become vulnerable dependents. However, gendered relations are shaped by gendered roles wherein it would be interesting to know that women not only perform role of a caregiver, cook, and cleaner and become dependent on men for economic needs but they also perform an important role of an agent. Most of the women in the South, who are affected by climate change, live in the rural areas that consist of forests, agriculture, fisheries, and mangroves. These natural resources which are the main source of livelihood are used and managed by women as women's role as water and fuel wood/fodder gatherers, as well as caregivers, cleaners and cooks bring them in association with the natural resources. Hence, women play an essential role in ensuring their family's physical survival by providing food, water and care services which are basic human needs. Women's role as the users and managers of natural resources and protectors of family's physical survival can contribute to climate change mitigation and adaptation.

Hence, it is critical to understand both the vulnerability and agency of women in order to understand the causes of disproportionate impacts of climate change and women's capacity and capability to respond to such impacts. The understanding will further facilitate the visioning of the possible solutions that are realistic enough to counteract women's disproportionate burden, empowerment, and mainstreaming of gender equality in climate change policies.

First of all, I would like to briefly discuss about gender/women's issues in climate change, which are the real life issues of women in rural Nepal.

I started to understand gendered roles and relation and the burden women face in the rural societies in the South as I began studying the critical challenges

facing development and its impact on changing gender roles and relations in rural Nepal, my home country. Although I collected a bunch of information through books, journals, magazines and newspapers, I got to understand the reality once I stepped into the real world. I started trekking to the rural and remote areas of Nepal where women were targeted by various microcredit and microenterprise programs that promised of reducing women's drudgery and empowering them while reducing the poverty. Many programs were inclined towards targeting poor women whose families were living under the poverty line. I visited the villages in far eastern and central Nepal in the year 2009 which were mostly affected by the 2006, 2008 and 2009 drought.

During one of my visits to a small village in central Nepal on a rainy day, I had to trek the slippery hills which were quite steep and there was also a risk of falling off the hill. It was hard for me to keep up the balance. As I walked slowly, the road reminded me the story of a woman living in a rural area of far eastern Nepal. She told me that she was pregnant and was trekking the hills to fetch water for her family. She was not exempted from fetching water even during the time of pregnancy, because traditionally it is women who perform the task of providing water and firewood to the household as they are responsible for cooking and feeding their family. Hence, the male and other senior members of the household would not perform these tasks that are deemed feminine and usually are performed by the lower status female member of the households (mostly daughter-in-laws). These women also face risk and anxiety of falling off from the hill if they strike into stone or anything hard in the steep road. Not only their physical burden but also their mental trauma increases in times of natural resources depletion as they have to walk longer hours in search of water, fuel wood and food placing their pregnant and sick bodies at risk.

Upon my arrival at the meeting point in the village, I could not find a single woman I was supposed to meet on that day. I came to know from small kids that their mothers ran into the rice fields. I followed the kids to the rice fields and saw the women planting rice paddies. Later, I was told that the rainfall came after long time in their village so they had no choice but to grab the opportunity to plant rice otherwise their children would have to starve. The women echoed each other while sharing their story with me,

“We have planted rice even at night.....even during minimal rainfall.....we do not have choice. While all our family members are asleep, we stay awake, to listen to the rainfall drops. Sometimes we stay near the window and keep the window open. If the rainfall is minimal then the sound of the drops would be smaller.....we have to stay alert and we should not fail to hear even the small drops of rainfall.....”

Although both men and women in rural Nepal perform agricultural work, gender division of labor prevails in the agricultural work setting. As men plough the field and market the extra product outside the village, women engages in time consuming work such as planting, transplanting, weeding, harvesting, milling as well as the collection of water, firewood and fodder. The work was divided based

on strength and skills. Few years ago, men use to till the lands with bulls but now with advance technologies they use tractors that are faster and easier. Women's agricultural work is seen as easy and trivial, although in fact, it is the most tedious work women perform.

In such situation, access to credit and microenterprise creation can make a huge difference to the threatened rural livelihood and to the empowerment of women. However, to my dismay, I found many women not only physically but also mentally burdened by the drought and its impacts. Since most of the women in rural Nepal (90%) work in the agricultural farm and live in forest areas; their source of livelihood comes mainly from the agricultural production and forests resources. The enterprises that were introduced to women were mostly seasonal and were the extension of their agriculture or home based activities that did not yield profit which could reduce their poverty or economically empower them.

Moreover, most of the women belonged to the lower caste (secluded caste in Nepal) and hence, their economic status as well as educational level was quite low. They even believed that the drought was brought by God of Rain because women failed to please God. Hence, by taking the religious guilt upon themselves, they even did not hesitate to dance naked at night to please the God of Rain asking for blessings of rain shower. On the other hand, men did not have to take such guilt as it was considered women's responsibility to provide food and water to their family and thus they were to ensure the provision of food and water by pleasing the God of Rain. Such religious responsibility only added to women's existing anxiety. Some women even ate less in order to provide for their children.

It should be noted that women do not belong to homogenous groups. Hence, difference in needs, interests, knowledge and capacity to adapt to and mitigate climate change impacts not only occurs between different gender but also within the same gender with different ages, location, education, status/class, ethnicity/caste, etc that shape the social/familial roles and relations of men and women. Hence, gender inequalities coexist with other social inequalities that shape the social structure where both men and women live, interact and adapt to.

It is therefore necessary that while planning strategies to reduce women's burden/drudgery, we take into account not only the gender based differences but also differences based on different backgrounds women represent. This paper represents women from rural context of Nepal where religious/social values and norms not only influence gender roles and relations but also hierarchical relations that subjugates the younger women more than the elder/older women.

Hence, it is highly important in this context to understand the plight of younger women who are mostly married off at an early age and who often end up becoming a maid cum reproducer of their husband's family, receiving the lowest status in the hierarchy. These younger women are the majority of natural resource gatherers, users and managers.

Education is a key that will help to reduce burden of women and empower them. In Nepal, in the past, education was provided to only males, encouraging them to take higher status in the society. However, recently, various international, national and local projects and programs offering free education to disadvantaged females have reached even the rural part of Nepal. Although, slowly girl children are going to school, many adolescent girls drop out of school early, to prepare for their marriage. They are often trained by their mothers from an early age to learn all the household and agricultural works which are considered as the best qualities a girl can possess to please her husband and his family. Hence, for parents, marriage is the most critical part of their daughter's lives and education is even seen as a hindrance to their marriage and family life. This leads to incomplete education and women remain occupied within the household and agricultural work for the rest of their lives, providing food and water their family, nursing them in times of calamities, and ensuring their physical well-being. Many young women also believe in superstitions making themselves a guilt ridden victim of climate change impact. For example, women believing that the God of Rain brought the drought due to their fault and thus they should dance naked to please a male God shows that women have remained ignorant of the anthropogenic causes of climate change, due to lack of education and proper knowledge.

Moreover financial freedom is also a key to reduce women's drudgery and burden, and empower them which would enhance their agency and leadership in the climate change policy making. Microfinance programs providing micro-credit and other microenterprise related services could be a key tool in relieving women's burden and could be effective in women's empowerment if the programs introduce more remunerative enterprises to women that would lead them in the microenterprise sector par with their male counterparts. Women's mobility should not be restricted to household arena but it should be increased at the market arena. But the important caution here should be to make sure that while women advance in the economic sector, men do not leave their work and become dependent on women, further burdening women with multiple responsibilities and tasks to perform.

Moreover, it is now time to let the actual women face climate change impacts, talk about their issues, interests and needs in the climate change policy making. To do so, it is necessary to organize grassroot women's groups and advance their environmental knowledge. It is also highly desirable that programs pay attention to the mothers with children and housewives who may not be exempted from household work to come to talk about their issues and participate in the policy making. In such cases, it is desirable that the programs include both men and women and let them come together and discuss their respective issues, needs and interests. In this way, nobody feels left out and there is a chance of cooperation and understanding.

Finally, the program and policies should include both men and women and if possible, other adult household members to facilitate a desirable outcome. As

the society/family is sensitized towards both vulnerability and agency of women, women's burden may reduce and it may become easier for women to participate in programs, enhance their knowledge, and voice out as their husband and in laws would look after the children or fetch water or cook for the family in women's absence. Where there is cooperation and understanding, there is ray of hope.

# Enhancing community resilience through engaging women in the climate sensitive Sunderbans delta of West Bengal, India

*This paper tries to explore the new strategies, approaches, ideas required for gender inclusion in both DRR and development in times of changing climate. The paper begins by exploring the establishment of a resilience fund and its linkages to other sectoral benefits by providing a framework. Later, it goes on to discuss some of the key issues for greater inclusion of women in the disaster and climate risk reduction programs.*

*Keywords: Climate Change Adaptation, Disaster Risk Reduction, Resilience, Vulnerabilities*

## Introduction

Climatic disasters are on the increase as the earth warms up with increase in global greenhouse gas emissions. This is in line with scientific observations and computer simulations that model future climate. As the climate hazards are growing in number, more people are being affected by them mostly those who live in extreme poverty, fragile eco systems or are affected by powerlessness, population growth, or by the movement and displacement of people to unsafe locations.

The total number of natural disasters has quadrupled in the last two decades. Over the same period the number of people affected by disasters has increased from around 174 million to an average of over 250 million a year (*Climate Alarm Oxfam briefing paper no. 108:2007*). In less developed countries particularly South Asia such disasters hit vulnerable population and women with its absolute intensity.

It is a well known fact now that drastic variations in climate will pose fundamental threats to communities dependent on traditional livelihood systems such as fishing, subsistence agriculture etc. Sunderbans is one such fragile eco system which often faces cyclones, floods, soil erosion, loss of vegetation etc. The impact of climate change on various sectors particularly agriculture and livelihoods

are quite visible in the region. The changes in climatic patterns is disturbing people s farming practices, their crop patterns and their livestock and making it even more difficult than it already is to feed their families and earn a livelihood. The region is particularly vulnerable as the agriculture is mostly rain fed and extremely weather sensitive. The large proportion of the population lives on subsistence agriculture and this makes the situation even worse. They generally do not have the disposable income to buy foodstuff from the market and their situation is expected to become more precarious in times of growing climate threats.

## Understanding differential vulnerabilities

As vulnerability and its underlying causes play important roles in determining impact, it becomes essential to understand the dynamics of vulnerability in the context of climate change. Kelly and Adger (2000:328) describe vulnerability as “the ability of or inability of individuals or social groupings to respond to, in the sense of cope with, recover from, or adapt to, any external stress placed on their livelihoods and well-being”. Majority of developing countries lack resources and adaptive capacity. There are two major reasons for this One- they do not have enough money to fund appropriate adaptation programs and Two- that there is an apparent lack of data which makes the situation highly uncertain. There are very few studies on local vulnerability and adaptation practices. Both the climate change and vulnerability literature emphasize differential vulnerabilities to climate change. “Communities, social groups, sectors, regions and nations differ in the degree of vulnerability to climate change i.e. there exists differential vulnerabilities” (Bhole et. al. 1994).

It is this differential vulnerability that determines the severity of impact on a particular social group. It has been seen that women are the worst sufferers especially adolescent girls, pregnant and lactating mothers, old and women headed households. In poorer households women are the main collectors of water and fuel wood and depend most directly on access to natural resources to feed their families; they have fewer assets than men to fall back on, and often less power to demand their rights to protection and assistance. Climate change carries the potential to accelerate drastically the magnitude of the global poverty and inequality and those who are least responsible for green house gas emissions are sometimes hit the hardest. The changes in climate would be uneven globally and hence it would be distributed unevenly across the globe. The uneven distribution of wealth and resources would be crucial in determining the impact of the climate change. IPCC (2001:15) recognizes that “even within regions, impacts, adaptive capacities and vulnerability will vary”.

There is growing empirical evidence that shows that women die in disproportionately and unacceptably greater numbers in disasters than men for example, women accounted for 61 percent of the deaths in Cyclone Nargis in Myanmar; 55 to 70 percent of Banda Aceh tsunami deaths and 91 percent in the 1991 cyclone in



Bangladesh of the total deaths (ADB, 2008). This calls for greater involvement of women in resilience building programs. There are several programs in the region which deal with generating livelihoods especially in the context of post cyclone Aila which hit Sunderbans during May 2009. However, very few programs focus on women as change agents involving them in a process that sustains beyond project duration considering them more than mere beneficiaries.

## **The idea**

The idea tries to bring together number of organised groups of women in Sunderbans for ensuring food security on the one hand and effective local implementation of Hyogo Framework of Action (HFA) on the other. The premise of idea is based on the revolving fund approach, as revolving funds allow community groups to share and re-utilise the same grants and resources made available to them. Revolving funds activities are easy to replicate as they directly generate cash, a visible and direct impact outcome. Funds managed by women are an active demonstration of the capacity to undertake activities involving money collected and productive management.

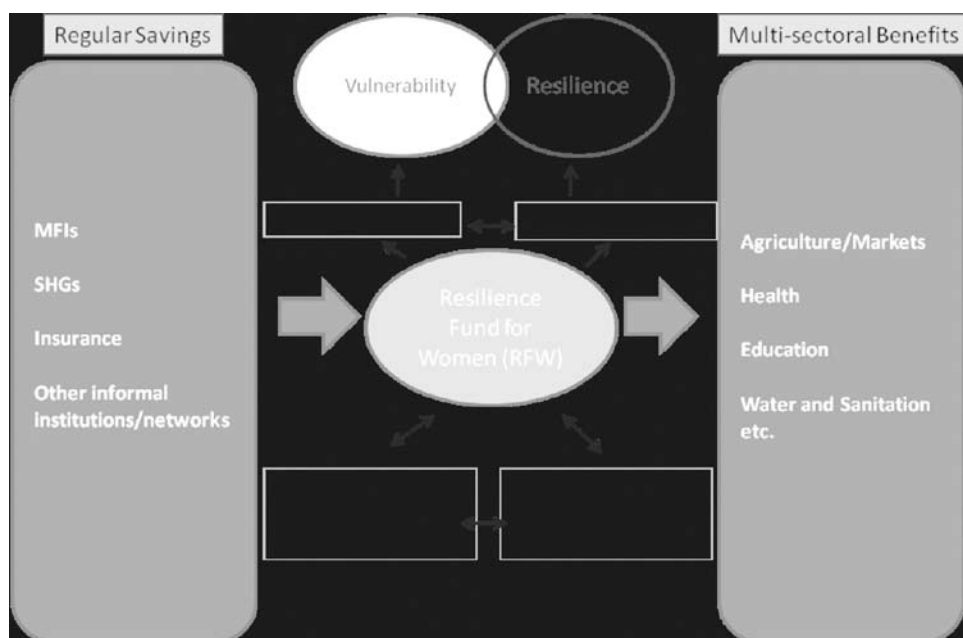
Collective funds are also used to help individual community members to pay for high single-event costs like health, marriage, education etc. The idea is to set up a local emergency/Risk Reduction fund with small monetary contributions from each household which can in turn become investment during years when no disasters affect communities and can be used for multiple reasons. This fund would be kept separate to the existing saving and credit schemes being run by different organised groups. The creation of fund is expected to bring about change in following ways:

It could increase women's active role in disaster resilience and management building on existing inter village networks with greater use of new ideas which could lead to filling existing gaps in coordination with local institutions.

Secondly, DRR and resilience activities involving women coupled with financial independence of women is expected to have direct effects on women's empowerment by increasing and giving them greater mobility to meet with other women and access commercial spaces such as the marketplace. This is also expected to bring about a change in women's engagement in Agriculture which is very limited as of now. They do not have much of a say in term of crops, seeds to be cultivated. Their involvement might not allow replacement of suitable traditional local practices related to changes in crops to be planted and might generate new strategies to adapt to climate change. The idea tries to bring them at par with men when it comes to making important decisions in other areas such as Health, Education, Water etc.

## Moving beyond regular savings in times of changing weather patterns:

As the climate change brings newer challenges with increased frequency and greater magnitude, it becomes essential to think for innovative ways to address these challenges. The existing initiatives may not be sufficient and would require more robust strategies to tackle the problems originating from climate change. Using the above background as a starting point, a framework indicating relationship between exposure of a community and sensitivity to changing weather patterns is developed. The framework shows the role of resilience fund in times of climate change and its linkages with other sectoral benefits for women. It has been observed by the author that many disaster risk reduction or recovery programs in the region offer short term solutions to the issues related to climate change and disaster risk having a long term impact on the population. It is therefore necessary to come up with innovative ideas involving the vulnerable sections



especially women to not only ensure food security as also to secure other sectoral benefits.

### Framework showing transition from regular savings to a more focused resilience fund

The above framework brings out the critical importance of a resilience fund for women (RFW) for achieving a greater access to markets and other sectoral benefits. It also indicates the increase in women's participation in other development activities of the village by ensuring economic stability leading to greater social participation. The fund is envisaged to be located at the community level giving women direct control to use the fund as per their requirements during both normal and emergency periods. It builds on the existing Self Help Groups,

Grain Banks or other institutions/instruments of savings amongst the rural communities and moves towards a more focused resilience fund which could be used for meeting other capital intensive requirement both during disasters and normal times in the eco-fragile Sunderbans delta of West Bengal.

## **Positioning women as leaders for resilience building**

The Hyogo Framework of Action (HFA) 2005-2015 states that “a gender perspective should be integrated in all risk management policies, plans and decision making processes, including those related to risk assessment, early warning, and education and training”. This would require effective policies integrating gender perspective at the national platform level on the one hand and the involvement of women in the risk reduction initiatives at the implementation level on the other. However, mere participation of women or integrating their concerns may not be enough to address the differential needs and change at the grassroots. As per the action research conducted in 23 grassroots women focused organisations in 13 countries across the globe supported by Global Network for Civil society Organisations for Disaster Reduction “ Only 15% of the total women community representative stated that satisfactory, sustained support to participate in community decision making”. Some of the other major findings points out to the exclusion of women from emergency preparedness and response program, lack of access to information on national policies, potential of organised networks of the grassroots women for local implementation of HFA etc.

Hence, there is a need to encourage and motivate them to take the lead roles so as to ensure that their voices are heard and acted upon. There have been several initiatives that gave women an opportunity to lead from the front having positive implications on other dimensions of their lives. For example- the author of this paper visited one such initiative, as a part of his internship assignment in the remote part of the Assam, India. This area faces recurring floods from the mighty Brahmaputra river affecting both lives and livelihoods of the people, especially women and marginalised. Here, a local NGO known as RVC with support from rural women started a initiative called „Amar Bazar . This is basically a market run and managed by women, where they sell the products being produced by them having total control over their earning. The concept was initially tried in few villages by providing very little seed money to the women and have now grown and reached to many other villages. This not only gave women an option to earn and invest in flood preparedness but most importantly empowered them to fight for their rights by attending regular Panchayat meetings, auctions of the markets, raising their concerns with the local block development officer etc.

Similarly, there are examples from the hill state of Uttarakhand, India where women are not only involved in regular savings but have engaged themselves in developing nurseries to tackle the problem of de-forestation in the lower Himalayas in collaboration with the local block development office and forest department. The plants raised by them are procured by the forest department

and planted in the region providing resilience from the landslides and other environmental benefits to the population. These are few examples where women have not only build their capacity as also increased the resilience of the others households<sup>1</sup>. There are number of practices which demonstrate that the involvement of women brings multiple benefits to the communities with sustainability.

## Conclusion

Adaptation or people's resilience is not new. Throughout history, people and women have been adapting to the changing conditions and they have wealth of knowledge in coping with the seasonal variation of the climate. However, the changing frequency and magnitude of disasters seen in many fragile eco systems including Sunderbans are not something community traditional knowledge alone can address. It calls for new strategies having greater involvement of women and other stakeholders to build on existing community strategies to meet complex challenges.

The recently developed Climate Smart Disaster Risk Management Approach (CSDRM)<sup>2</sup> reinforces the inclusion of women and other marginalised groups to address poverty and vulnerability and their structural causes. It is important to empower women groups to influence the policy decisions of the national governments, NGOs and other international organisations. The institutionalisation of a resilience fund is a step towards the empowerment of women having potential of bringing substantial changes in their lives as also influencing policies through demonstration of good practices from the ground.

However, we still need to do a lot to bring about change in the lives of the millions of grassroots women and that would require newer ideas and strategies to engage with them for resilience building. Some of the important issues that need to be addressed for their inclusion and participation are as follows:

- **Need to think beyond beneficiaries:** New approaches, strategies that allows women to participate as active actors in the whole process to raise their voice for shaping policies
- **Greater mobilisation of resources:** Building on existing initiatives and drawing on their knowledge and practices, women can mobilise additional recourses for other activities related to basic services and infrastructure.
- **Wider dissemination:** Effective dissemination of successful women grassroots initiatives for learning and scaling up.

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- 1 The FAO (2003:7) defines a household as a group of people who eat from a common pot and share common stake in perpetuating and improving their socio-economic status from one generation to the next it further mentions that there could be no single definition of a household because as a category it is socially constructed and varies in different socio-cultural settings.
  - 2 CSDRM is developed by Dr. Tom Mitchell, Overseas Development Institute, and Maggie Ibrahim, Institute of Development Studies (IDS) as a part of the strengthening climate resilience consortium funded by UK Department for International Development (DFID).

- **Introduction of rewards:** Appropriate rewards/competition for successful initiatives and wider public recognition.
- **Engagement as Facilitators:** Engaging with women as facilitators/trainers in the whole process. Avoid creating dependency by providing direct short term solutions.
- **Social Safety Nets:** Promoting risk reduction initiatives that uses existing social networks and capacities for resilience building.
- **Creation of local platforms:** Local platforms for risk reduction to exchange of local knowledge and practices and scaling up.
- **Budgetary allocations:** Need for separate budgetary allocations for engagement of women in adaptation and disaster risk reduction measures in India.

The above are the some of the points that could accelerate the inclusion and involvement of women in risk reduction and development programs in the most vulnerable and hazard prone regions. However, it is absolutely critical to have a political will to bring about effective changes at the policy level to mainstream gender concerns in development and establishing systems to monitor its progress.

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