



Women & Environments



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WOMEN AND WORK IN A WARMING WORLD (W4)

Opportunities and Constraints for Women in the Renewable Energy Sector in India

BIPASHA BARUAH

Gender Justice and Climate Justice

PATRICIA E. PERKINS

Gender and Government Actions on Climate Change and Work

The US Example

MARJORIE GRIFFIN COHEN

Report from the 2014 Tar Sands Healing Walk

JENNIFER MILLS

Climate Change Adaptation Among Chepang Women

JYOTI ACHARYA



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Notice of Correction

The poem titled "The Drum Is Yours" by Marilyn Lerch was first published by WEI Magazine in vol. 92-93 but the last line of the poem was left out in error. WEI Magazine apologizes to the poet and with her consent republishes the poem in its entirety in this issue, vol. 94-95.

ON THE COVER



Artist: Helma Sawatzky

Title: Detail of Data Transfers: Olympia (2009)

The Data Transfers project emerged from an effort to clean up the millions of megabytes of digital image data currently clogging the arteries of my computer hard drive space. As I sorted through the thousands of digital photographs I took over the past few years, I encountered many images that made me think of others that preceded them. I realized that my experience of the 'here and now' and my idea of what makes a good picture is mediated by and infused with the memory or afterimage of other images — images from movies, paintings, mass media sources etc. I thought that it could be interesting to intentionally merge the image data of the 'real' and the 'imaginary' in a process of digital bricolage. The resulting 'data transfers' blur the boundaries between the histories and practices of analogue photography and painting into a realm where the pixel levels the playing field for all kinds of image data, representations of the 'real' or the 'imaginary,' of 'high art' and 'low art' — Data Transfers also explore the level of threshold between representation and notions of digital pollution and image erosion.

Merging trace elements from famous paintings featuring female nudes — Henri Rousseau's *The Dream* or Édouard Manet's *Olympia* — with my own images of compost and waste materials also address the conflicted conceptions of the female body as nature, fertility, sexuality. Data transfers also play with how a mere trace of a familiar or iconic image is all that is required for the mind's eye to fill in the gaps.

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Women and Work in a Warming World

(W4)

The inspiration for this issue of *Women and Environments International* came from an international conference on work and climate change. This was held in Toronto in December 2013 by the research group *Work in a Warming World*, under the direction of Professor Carla Lipsig-Mummé. The papers in the conference's sessions dealing with women's work were the basis for most of the articles in this issue.

The problems of climate change are enormous and the under-performance of governments in dealing with them is a chronic problem. But increasingly the questions of how work can change, both to better meet people's needs and to begin to mitigate the worse impacts of climate degradation, are having some effect on public policy discussions.

The feminist literature on climate change and gender considerations in policy initiatives is surprisingly extensive. Almost every international feminist policy journal and institution talks about the need for including women's work in an understanding of ways to construct effective programs to reduce greenhouse gas (GHG) emissions. Not surprisingly, the bulk of this literature is concentrated on gender and climate change in developing nations. This is because the impact of climate change so directly affects the work that women do in providing food, working in forests and fisheries, and living on marginal land. Also clearly recognized is climate change's influence on exacerbating long-standing economic development and distribution problems. As a result of the close proximity of women's lives to the consequences of climate change, feminist groups argue that gendered distinctions are integral to the whole concept of development policy and climate justice. They point out that a gendered analysis of climate change public policy can deal with a wide range of issues, including how to reduce further contributions to climate change, policies associated with solutions and adaptation to climate change, and how poverty can be alleviated and development can be achieved in sustainable ways. The argument of

organizations like UNIFEM is pointed and stresses that gender issues should not be marginalized in the discussion of how to pursue a sustainable economy. In fact, this is a refrain that is heard repeatedly in climate change circles.

The discussion of gender and climate change in developed nations is less related to the general structure of sustainable development than it is in developing countries. In North America, researchers so far have focused most heavily on the distinction between male and female responses to climate change policy initiatives. Interestingly, this research shows that women tend to have both greater knowledge about and concern for climate



BANGKOK THAILAND – NOVEMBER 13: Scenes from Bangkok during its worst flooding in decades is a major disaster on November 13, 2011 in Bangkok, Thailand.

change than do men, and women are more likely to engage in pro-environmental behaviours than are men. Unfortunately, in discussions of work and climate change, men's work dominates, while women's work, at best, is treated as an afterthought that can somehow be slotted into programs designed with males in mind as several authors in this issue show in detail.

Altogether, climate change and issues related to labour in developed countries tend to be relegated to programs to promote 'green jobs,' but even this is mostly tokenism, when it exists at all (see Joan McFarland's article in this issue). When

climate and labour-related policies are developed, as during the Great Recession of 2008-9, some countries do initiate programs that would train for green jobs by attempts at ‘greening’ the most dirty industries, or those that have the highest GHG emissions. These are industries in the energy, manufacturing, and building sectors where males dominate the labour force. This means that whenever women are considered, it is usually in relation to how they can crash the gender barriers in the skilled trades (see the article by Linda Clarke and Christine Wall). As articles in this issue show, the programs to do this are usually an afterthought to the focus on male training and employment, and are usually ‘pilot’ programs that are one-off in design and do not lead to wider participation for females (see the article by Marjorie Griffin Cohen). Even in the Global South, green projects that include women’s work and climate change are at a fairly elementary stage (see Bipasha Baruah’s article).

The positive side is that increasingly there are attempts to see much of the work that has typically been done by women, particularly through care-giving and in the services sectors, as being inherently ‘green’ and the sort of economic activities that should be promoted. Women dominate in the services sector of the economy, which altogether is responsible for relatively low GHG emissions, and in many cases reduces energy and materials throughout the economy. Waste-pickers in developing nations, for example, prevent much more environmentally damaging primary production (see the article by Rhonda Douglas and Brenda Leifso), and thus they are doing a ‘green’ job. But even in service sectors in developed nations, such as in health care and the hospitality industries, adverse environmental practices persist and further ‘greening’ of these sectors is possible (see the articles by Lou Black and by Steven Tufts and Simon Milne).

Even more important would be enlarging the concept of a ‘green economy’ to shift its nature from one concentrating on the proliferation of many unnecessary consumer goods to one that actually meets people’s real needs more simply. Meeting needs is a common theme in feminist writing by focusing on how communities together can either mitigate climate change’s damaging effects, cope with the stress change brings, or initiate work to prevent further damage (see Jyoti Acharya’s and Patricia E. Perkins’s articles).

The message of this issue on *Women and Work in a Warming World* is that it is crucial that governments and policy makers (and even environmentalists) broaden the view of what would constitute a ‘green economy’ to include a greater emphasis on care work and the services sectors. This would shift the typical policy focus from an emphasis on cleaning up dirty industries (which of course needs to be done), to including and promoting a more rational society designed to meet people’s fundamental needs: physical, political and social well-being. If a ‘green economy’ meant not just cleaner energy and transportation, but structural sustainability, women’s work would be clearly situated as central in bringing about this transition. ❧

Marjorie Griffin Cohen and **Patricia E. Perkins**, W4 Guest Editors

Putting This Issue Together

Marjorie Griffin Cohen is a professor of Political Science and Gender, Sexuality and Women’s Studies at Simon Fraser University. She is an active feminist who has written extensively in the areas of political economy and public policy with special emphasis on issues concerning the Canadian economy, women, labour, electricity deregulation, energy and the environment, and international trade agreements. Her most recent books are **Public Policy for Women** and **Remapping Gender in the New Global Order**. Professor Cohen was a director of NewGrade Energy (Sask) and has served on several boards and commissions in British Columbia including the B.C. Industrial Inquiry Commission on the Fisheries; Board of Directors of B.C. Hydro; Board of Directors of B.C. Power Exchange. She was also instrumental in establishing the Canadian Centre for Policy Alternatives in B.C., was its first Chair, and is on its Board of Directors. She served for many years on the executive board of the National Action Committee on the Status of Women. She currently is involved in two research projects related to global warming and gender

Jessica Knowler is a Gender, Sexuality and Women’s Studies student at Simon Fraser University. Her research interests include issues of social justice in the labor market, climate justice, feminist theory and feminist methodology in research praxis.

Patricia E. (Ellie) Perkins is a Professor in the Faculty of Environmental Studies, York University, where she teaches and advises students in the areas of ecological economics, community economic development, and critical interdisciplinary research design. Her research focuses on feminist ecological economics, climate justice, and participatory community- and watershed-based environmental education for political engagement. She has directed several research projects related to gender, participatory water governance, and climate change with partners in Brazil, South Africa, Mozambique, and Kenya.

Skyler Warren is currently enrolled in the Master of Public Service program at the University of Waterloo. Her research interests center upon the deconstruction of issue framing and the application of a political sociology approach to policy analysis and methodology.



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Milking

It is early evening, it is already dark,
when someone comes to the gate

with the blue rope, the halter. Together
they cross the yard to the barn.

There is the grain. There, the glow
of a bare bulb falling through the half-door

on the scaled, blown snow.
There is the frosty station's clank.

A shoulder against her rumen.
A forehead, cheek. That snuffling

breath clouding the dim air,
warm hands underneath, tugging,

then the hollow, tinny jet
of milk on metal and she shifts

her weight, the calf kicking.
She glances behind

at the stooped back, the knees
gripping the cold pail. This one

is sad again. She is sorry.
She has given what she can.

Pump in the Yard

The girls from up the hill have finished
laundering in basins at the tap in our yard,
last in the neighbourhood to give water.

Their cooking fires smudge the noon air.
The rain we've waited weeks for arrives
briefly this afternoon, washing the sweat

from the broad black backs of the carabaos
who swish their tails in delight. I've had
plenty of ideas about things—about water,

about hard work. Men hurry out to break
the stubbled fields, heaving ploughs
behind their animals, ankle deep in muck.

I watch them out the kitchen window, filling
my kettle at the sink, turning on the gas.

Emily McGiffin is a PhD student in York University's Faculty of Environmental Studies. These poems are from her second poetry collection, **Subduction Zone** (Pedlar Press, 2014).

Opportunities and Constraints for Women in the Renewable Energy Sector in India

By Bipasha Baruah

Concerns about climate change and fossil fuel insecurity have convinced many countries to transition to low-carbon energy supplies derived from renewables such as solar, bioenergy and wind. Since producing and distributing renewables is more labor-intensive than producing and distributing fossil fuels, this shift is addressing energy poverty in remote or underserved communities and creating new employment opportunities. Applying a gender lens to the enthusiasm for renewables, however, reveals a major problem since women are underrepresented globally in employment in the green energy sector. In the absence of appropriately targeted training, education, apprenticeships, employment placement, financial tools and supportive social policies, transitioning to renewables may exacerbate existing gender inequities and hinder human development goals. This article identifies some opportunities and constraints low-income women in India face in accessing technologies and employment in the renewable energy sector. I have complemented statistical data on access to renewable energy technologies and employment in the clean energy sector with ethnographic data collected through interviews and focus groups to understand the complexity of the issues involved.

I collaborated with two organizations to conduct this research. The Energy and Resources Institute (TERI) is India's leading think-tank on sustainable energy. Its mandate includes advocating for universal energy access, promoting renewables and energy-efficient technologies, influencing policy and disseminating know-

ledge on sustainable energy. The Self-Employed Women's Association (SEWA) is a trade union founded in the city of Ahmedabad in 1972 to organize low-income women for better working conditions and social security provisions. The initiatives analyzed in this study are (1) TERI's Lighting a Billion Lives (LaBL) program, which introduced solar lighting in 640 rural communities across India and (2) SEWA's Hariyali Green Energy project, which distributes energy-efficient stoves and solar lanterns to its members in various urban and rural locations in India.

Women's access to renewable energy technologies

More than 90 percent of rural areas in India are electrified and the Government of India has recently embarked upon a major

program of grid extension and strengthening to achieve 100 percent household electrification by 2015. Despite such progress, there continues to be a strong need for access to decentralized on-and-off grid energy technologies such as wind, solar and micro hydro-power. Many rural and urban households continue to supplement their energy needs from other sources such as kerosene, firewood, animal dung and agricultural residue because they either do not have reliable access to electricity, or cannot afford the cost. Grid electrification does not always ensure equitable access for women and men. The grid in many rural communities often extends to spaces such as courtyards of households and agricultural areas that are typically occupied by men. Since rural women in India typically spend more time in their homes, they may not benefit equitably from grid extension.

The LaBL and Hariyali projects have enabled a significant number of poor rural and urban households to become users of renewable energy technologies. Although there are economic, social, health and environmental benefits of using solar lanterns and improved cookstoves, there are also persistent obstacles to the widespread diffusion of such technologies into poor households in India. The high price of the technologies and the lack of adequate and appropriate financing is the biggest impediment for their dissemination. The cost of outright purchase of the technologies is often prohibitive. SEWA's microcredit repayment scheme is designed to be accessible for low-income customers but may still be unaffordable for many households. Through its Corporate Social Responsibility



Solar entrepreneurs in rural India.



PHOTOGRAPHS: BIPASHA BARUAH

(CSR) partnerships, TERI is able to access private sector funding to ensure that a potential entrepreneur does not need to assume any of the significant initial costs (of about USD 3,250) of setting up a solar charging station of 50 solar lanterns. This fee-for-service daily rental model used by LaBL to disseminate solar lanterns is very affordable for most households but has its own limitations since renting households will over time probably become interested in purchasing the lanterns instead of continuing to rent them. Although the rental model can, at least while the technology gains popularity, work for solar lanterns, it has been known not to work well with solar cookers and improved cookstoves. Rural communities in India tend to be organized very rigidly along caste and religious lines. Social norms of pollution and purity for food preparation make it difficult to offer cookstoves for rent, or even free of charge on a trial basis.

Solar lanterns have gained popularity in low-income households in India at a much faster rate than improved cookstoves. There are a number of reasons for this. Since kerosene and other fuel for lighting is so expensive, the men in the households, who are more often responsible for making purchasing decisions, may more easily appreciate the economic benefits to the family of acquiring solar lanterns. They are far less likely to appreciate the benefits of purchasing an improved cookstove, especially since they are usually not responsible for cooking or for gathering firewood. The perception that the traditional three-stone stove (a traditional cooking arrangement requiring only three stones of the same height that can hold a pot over a fire) is “free” whereas the improved cookstove has to be purchased or financed — at what for many families is a large chunk of their monthly income — is the most widely reported barrier for its adoption. The health benefits and improvements to living conditions from eliminating smoke within the household are not sufficiently motivating for households that accept such hardships as inevitable.

Cooking with firewood provides food with a smoky flavor that energy-efficient stoves and solar cookers cannot replicate. People who are accustomed to eating food with a barbecued flavor will often eventu-

ally stop using improved cookstoves and revert to their traditional stoves. Even middle-class families in India had cooked on open fires or traditional stoves until the large-scale state-controlled introduction of liquefied petroleum gas (LPG) cylinders in the 1960s and 1970s. Large numbers of middle-class people initially expressed hesitation about using LPG because they, too, preferred the taste of food cooked in traditional stoves. Most were convinced to compromise their taste preferences only when government subsidies and easy availability made LPG significantly cheaper than other fuel sources. Since renewable energy technologies entered the Indian market several decades later and within a more neoliberal economic climate, it has not and probably will not, benefit from the strong state intervention that made LPG the norm for cooking in middle-class homes in India.

However, because the end-user of a cookstove is usually a poor woman, with limited purchasing power and low social status, the family’s lighting needs and the greater economic power of men within the household tend to be prioritized.

Men typically make major purchasing decisions in Indian families. This intra-household gendered power hierarchy ensures that poor households will purchase solar lanterns much earlier than cookstoves. The commercial sector tends to take its cues from this hierarchy and this is at least partially why investment in energy-efficient cooking technologies remains a drop in the bucket compared to investment in solar lighting. In India alone, 1.5 million people die every year from inhaling polluted indoor air, and more than 60 percent of those who die are women and children. Energy-efficient cookstoves can create much bigger improvements in health and living conditions for poor households than solar lanterns can.

However, because the end-user of a cookstove is usually a poor woman, with limited purchasing power and low social status, the family’s lighting needs and the greater economic power of men within the household tend to be prioritized. The Companies Bill, adopted by India in 2012,

which requires corporations to spend at least 2 percent of their net profit on CSR activities, could enable wider dissemination of less-profitable clean energy technologies but it could also just end up promoting technologies that are already popular and profitable.

More than 500 million people in India live on less than USD 2 per day and the economies of scale that can be generated from catering to the “bottom of the pyramid” are not lost on private sector organizations and social enterprises. However, in the interest of maximizing short-term profits and building a competitive advantage with other commercial players in the energy sector, they will continue to pursue the “low hanging fruit” first. This will ensure that solar lighting will enjoy far higher levels of investment than cooking technologies. The allocation of resources for technology development should ideally be

determined by the greatest benefit for the common good. My findings indicate that this can only be achieved through strong public-sector intervention. If we wait for the bulk of green investment to come from the private sector, as the global architects of the green economy, including the United Nations Environmental Program, recommend we do, the technologies that can make the biggest differences in the lives of poor people in general and women in particular may not be prioritized urgently enough for development and dissemination. There is a clear need for governments to, at the very least, put incentives and subsidy structures in place that direct private investment to areas that would otherwise not be prioritized.

Women’s employment in renewables

The two projects included in this research have enabled poor households to become users of renewable energy technologies. They have also created opportunities to earn incomes from selling, rent-

ing and repairing solar lanterns and cookstoves. SEWA Bank created specific energy loans to enable its members to become users as well as entrepreneurs of renewable energy technologies. TERI's LaBL program uses a CSR model to ensure that potential entrepreneurs do not have to assume the costs or risks of setting up charging stations. Despite such efforts, significant additional barriers remain for women from the poorest households. Only 32 of LaBL's approximately 640 entrepreneurs across India were women. The few women who do become entrepreneurs tend to be from better-off families.

Although the entrepreneur does not have to assume the cost of setting up a charging station, other factors such as poor and inadequate housing prevent the poorest people from becoming entrepreneurs. Setting up a charging station to house 50 lanterns requires a space within the home of at least 200 square feet and a tin roof on which the panels are installed. The homes of the poorest families in rural and urban communities have neither. Since the poorest households in both urban and rural settings in India also often tend to be female-headed, it is easy to understand why poor women in particular cannot expect to become entrepreneurs. This is not to undermine the success such programs have enjoyed in supporting female entrepreneurs who may experience deprivation and inequality along other intersecting dimensions of gender, caste and ethnicity. However, it is worth mentioning that even well-intentioned interventions more often than not fail to level the playing field for the poorest people in general, and for women in particular.

SEWA does not have the CSR partnerships that TERI does so the best that it can offer is microcredit to enable women to become technology users and entrepreneurs. Rural households in India often have monthly incomes of less than USD 34. At USD 100 the cost of outright purchase of SEWA's Hariyali package (solar lantern and cookstove) is unaffordable for such households. Even with financing, such families are often unable to afford the 16 monthly installments of 7 USD per month since it comprises one-fifth of monthly

household income. The initial cost of acquiring even 10 or 20 solar lanterns to sell or rent would be an impossibly high burden for the poorest households.

There is growing evidence that microcredit is simply not an appropriate tool to support the development of small and medium enterprises. Most poor women are interested in renewables because of the potential for income generation but they are also extremely averse to financial risk. They are much more likely to pursue opportunities if they can earn incomes without becoming indebted. Acquiring new skills — such as learning to build and repair renewable energy technologies — may be better suited for their economic realities and limitations. SEWA is aware of these constraints and does offer training in these skills, frequently in collaboration

When gender inequality is viewed as a structural issue, as it is and should be, it is difficult not to be intellectually uncomfortable with the instrumental deployment of women in awareness generation, marketing and dissemination initiatives for improved cookstoves. At the same time, it is important to recognize the creation of better-paid and less menial livelihoods for poor women.

with other NGOs in India. Women are also earning incomes from activities such as educating people about the health risks of smoke inhalation, creating awareness about the benefits of using renewable energy technologies, conducting energy audits of homes and businesses, and connecting potential customers of green technologies with financing opportunities available through banks and NGOs. Because women are typically responsible for cooking for their families, they do have a comparative advantage in reaching out to other end-users of cookstoves. When gender inequality is viewed as a structural issue, as it is and should be, it is difficult not to be intellectually uncomfortable with the instrumental deployment of women in awareness generation, marketing and dissemination initiatives for improved cookstoves. At the same time, it is important to recognize the creation of better-paid and less menial livelihoods for poor women.

The instrumental deployment of women for selling and promoting improved cookstoves does lead to a problematic tendency within the energy sector — including within the two organizations that participated in this research — to classify poor households' needs for cleaner cooking technologies as "women's needs." Categorizing goods and services that everyone needs to survive — water and sanitation are other good examples — as "women's needs" only serves to maintain the sexual division of labor and to reinforce entrenched gender inequalities. Making normative assumptions about women's nurturing roles actively perpetuates and deepens gender divides through a feminization of responsibilities and obligations. The energy sector must actively resist the rhetoric of cooking technologies as women's

needs. They must describe and promote them as general human needs. There is a material and an ideological basis for gender inequality and we must necessarily challenge both to create transformative differences in women's lives.

SEWA's renewable energy projects can create other new sources of revenue. The Hariyali cookstoves require 40 percent less fuel than existing stoves, reducing time spent gathering wood by as much as an hour per day per household. The reduction in wood used for cooking will also result in consistent annual reductions in carbon emissions. Monetizing these reductions through the sale of carbon credits would create additional income for SEWA members. The concept of carbon trading has been met with strong opposition from critics who are concerned that far from reducing greenhouse gas (GHG) emissions, it simply advances the commercialization of the atmosphere and cre-

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ates new sources of accumulation and speculation for finance capital. These criticisms are valid and well-justified but we cannot ignore the practicality and the moral logic of enabling a member-based organization of poor self-employed women to benefit financially from their efforts to reduce GHG emissions.

The number of organizations working in the energy sector in India is still quite small, given the size of the country, so there is room for more innovation in this sector for the creation of other opportunities for training, apprenticeship, employment and revenue generation. The creation of permanent and stable sources of income may remain a challenge despite such developments. Women who have been trained to build, install and repair technology continue to face the challenge of finding permanent employment with their newly acquired skills as they are often only able to earn incomes on an intermittent basis through contracts and orders placed by non-profits and government agencies.

These problems highlight the need for the state to provide adequate social security to protect against vagaries in the market, natural disasters, illness, maternity, old age, job losses and other risks to people's well-being. Women can gain optimal traction from green initiatives only if there are wider socially progressive policies in place.

Since women's ability to take advantage of new energy-related employment options is often constrained by legal or social barriers that limit their education, property rights, land tenure, and access to credit, it is crucial that government policies go beyond energy sector planning to optimize economic opportunities for women. ❧

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SEX, GENDER AND CHEMICALS

FACTORING WOMEN INTO CANADA'S CHEMICALS MANAGEMENT PLAN

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Gender in Government Actions on Climate Change and Work

The US Example

By Marjorie Griffin Cohen

Gender sensitive climate change policy is routinely championed in the international literature on labour and climate change, though it is rarely practiced in a serious way in developed nations. Where gender inclusive strategies for climate change mitigation are incorporated in labour policy, few tangible employment results occur. Of course, hope for green job creation specifically for women is contingent on policies geared toward the creation of green jobs in the first place, which have in themselves often proved elusive. Developed countries often stress gender-inclusive policies and even “green jobs for women,” yet the policies in these countries (where they exist) are predominantly informational, only sometimes involve education and training, and rarely link training to firm employment. Such programs are typically of short duration, are modestly funded, target a very small group, and are not at all integrated into a coherent climate action framework.

Part of the problem stems from inertia on ‘green jobs’ altogether. Job creation of any kind by governments is seldom a priority, except when major projects to build infrastructure are undertaken. The problem with this is that the ‘green’ components of these jobs are not strong, so the effects are rather limited. One potential exception to this was related to the massive amounts of money governments used to rescue economies during the Great Recession of 2008/9. As this paper will show, although unprecedented government ‘stimulus’ actions were undertaken, the impact on both ‘green jobs’ and the integration of women into a green workforce were typically modest.

The intersection of the need for gov-

ernment action on climate change and the Great Recession beginning in 2008 resulted in some of the money that was required to stimulate the economy being directed toward ‘green’ economic initiatives. In both Canada and the US this was primarily directed at green corporate activity, but a small proportion, at least in the US, focused on job-related programs for green employment. The table below shows what proportion of the rescue funding in select countries went toward green initiatives.

Examples of Economic Recovery Programs Funds for Green Activities

Country	Program	% funds devoted to Greening
France	Economic Revival Plan	21.2%
US	American Recovery and Investment Plan	12.0%
Canada	Economic Action Plan	8.7%
UK	Recovery Plan	6.9%
Australia	Nation Building and Jobs Plan	9.3%

In some respects the amounts spent are somewhat misleading. For example, in Canada the Economic Action Plan provided \$1 billion for a Green Infrastructure Fund (and only 3/4 of that was actually spent) that operated on a cost-share basis with the provinces. In my province, British Columbia, this went toward building a large electrical transmission line to support a new mine in a remote area. Because electricity is hydro-based, this was considered a ‘green’ initiative. There was no plan for including women in the jobs created and no green job training involved.

The situation was somewhat different in the US, where the American Economic Recovery and Investment Act 2009 did

have projects aimed at employment of women in green jobs. Of the total expenditure of about \$831 billion, about \$27.2 billion was devoted to energy efficiency and renewable energy research and investments, and \$3.95 billion towards jobs and training. Of this, a small proportion, \$500 million, went to projects to prepare workers for careers in renewable energy or energy efficiency-related jobs. A \$100 million fund was allocated to the Department of Labour for 25 special projects

(Energy Training Partnership Grants), including \$28 million going to communities impacted by auto industry restructuring and \$5 million to fund the ‘blue/green’ alliance whose focus was unemployed steel workers. While the bulk of the training in the 25 projects was for males, through the US Department of Labor’s Women’s Bureau (USDL-WB), there was a capacity for focusing some of the Department of Labor’s funding and programming on women through ‘gender mainstreaming’ and employment initiatives. Nine of the 25 projects included training women for green jobs.

This initiative, as one of the few concentrated efforts to include females in

SOURCE: TABLE CONSTRUCTED BY AUTHOR FROM ILO SKILLS FOR GREEN JOB, 2011

green jobs initiatives, seemed a good project to examine to understand what did and could work to get women employed in green jobs. I accessed information about the programs in the US through government and project documents, both published and unpublished, and through interviews with key players in five (out of 9) individual programs and with those associated with skills training for women in government departments. The programs examined through interviews represent the diverse types of programs the US Federal government supported. While clearly the programs were intended to be limited in both scope and timing, the point of this paper is not simply to state the obvious — that is, that well-funded, full-scale programs that have strong job placement aspects are what is needed — but rather to focus on what insights can be gained about what worked best, what need to be flagged as problems, and what types of programs have the potential to actually integrate women into areas that have been traditionally male-dominated. This is especially important because these programs did tend to have as their target groups of women who had multiple barriers to labour force participation.

Types of Programs

The grants to specific groups in nine different regions of the country focused on activities related to information dissemination, network mobilization, outreach and training programs for women. The list at the end of this article describes the 9 pilot projects that became operational through the Women's Bureau. The funding was on average about \$60,000 a year for each group, and often those groups receiving the funding were expected to match it. These were small-scale projects of limited duration which primarily focused on reaching a small number of unemployed and dislocated workers and those with other barriers to employment. They also tended to be related to employment in non-traditional types of employment in construction.

The actual training programs were for jobs in industries where training could be accomplished rather quickly. So, for

US Department of Labour — Women's Bureau Green Training Projects for Women funded through the Recovery Act

Vermont Works for Women: on-the-job training program for women in the fields of green construction, renewable energy, and energy efficiency.

Sustainable South Bronx: training program for women in the fields of green roofing and urban agriculture and horticulture which trained and certified women in green roof design, installation, and maintenance; landscaping; hazardous waste cleanup; and related specialties.

Women Going Green (Atlanta): training program to educate women on the diversity of career paths available in green industries, including opportunities in green entrepreneurship.

Detroiters Working for Environmental Justice (DWEJ) in Detroit, Michigan, increased the participation of, and support for, women in its existing green jobs training program through a 14 week training program in green careers.

Austin Community College: ACC offered two sections of its entry-level solar photovoltaic installer course taught by women instructors, for women.

The YWCA of Greater Kansas City, Y Women CAN (Career Action Network) and Employ Direct developed a training program to increase women's knowledge of the types of green jobs available and the skills required for those jobs.

Green Jobs Pipeline for Women in Colorado: Created by The Alliance for Sustainable Colorado. An outreach and recruitment model to increase the number of women aware of green jobs and the skills needed to prepare for a green career.

Women in Non-Traditional Employment Roles (San Francisco): Their goal was to assist women in entering a pre-apprenticeship and environmental education training program that would lead to a Green Building Certificate.

Oregon Tradewomen, Inc.: recruited and trained women to earn a green industry-recognized credential or certification, and assisted the women in identifying employment and apprenticeship opportunities.

"Think women in Green Jobs-Women's Bureau Projects," United States Department of Labour, adapted by author.

Example, the "Step Up To Green Carpentry" program offered through Vermont Works for Women provided unemployed or under-employed women with a six-week training course in carpentry 'soft skills.' These were acquired through on-the-job training in green construction where the trainees would participate as 'job shadows' mostly in residential construction. The training program included work to acquire skills in weatherization, window and door replacement, equipment operation, energy auditing, and installing solar tracing systems. While 80% of the women who went through the program were placed in jobs when they initially

left the program, when the federal funding ran out the programs were not replaced. This was one of several programs provided by Vermont Works in conjunction with other partners, including businesses and other non-profits. The main problem, according to those working with this organization, is that while there was a great deal of funding both through the state and federal governments for weatherization training, there was not sufficient demand for workers. The program was initiated at a time when households were experiencing job losses, so without specific incentives from the government to create demand for weatheriza-

SOURCE: [HTTP://WWW.DOL.GOV/WB/MEDIA/GREENPROJECTS.HTM](http://www.dol.gov/wb/media/greenprojects.htm)

tion, there was simply no business model for firms to hire workers. In this program the problem was not lack of interest from women, but lack of jobs to go to once the training was complete.

The training initiatives through existing educational institutions were different in that they were intended to increase women's participation in already existing trades-related programs. The project at Austin Community College (ACC) received a \$60,000 grant to double female enrolment in its training for 'green jobs.' Males normally dominated these training programs, with women accounting for only 10% of the participants. The main project for women at ACC was a solar program that trained people in installation and how to price and configure a system. It trained 22 people in three separate courses that lasted six or 12 weeks. While the course was called 'solar for women,' men were able to join and women accounted for 75% of enrollment. Most of these were older women in their forties and fifties. About one-half of the women made it through the program and several sat for the national examination.

Overall the ACC program was considered successful and ultimately as a result of this overture to women there was an overall increase of 2% in female participation in ACC's training programs. Two issues were cited by key people involved in the program as accounting for the program's success. One was the need for appropriate marketing to get women's attention. Images, such as 'Green Rosy' were important, but so too were 'bling' handouts (small bits of jewelry) on recruitment days. Also very significant was the use of female instructors in a team for the entry-level course. The program was considered so innovative that it was proposed as one of those focusing on women to be highlighted in a 'state of the union' address by the President. Ultimately this did not happen, primarily because those running the program felt the honour was premature.

The main problem with the program was that those completing it struggled to find jobs. The local electrical company had instituted a stimulus program that

included incentives for solar energy, but this program was eliminated just as the women's program was beginning. As was noted by the program's organizers, timing is everything, and signals to consumers are crucial. The price of solar installations decreased considerably, so the utility felt the subsidies were no longer necessary. But this sent a negative signal to consumers and demand plummeted. Another issue that is important was the distinction between how male and female training was funded. Interestingly, the programs for males were funded through a \$4.4 million Department of Energy grant through the International Brotherhood of Electrical Workers (the Blue-Green Alliance) for solar school training and there was no cost

The main problem with the program was that those completing it struggled to find jobs.

to the males attending the program. In contrast, the program for women funded through the USDL required each participant to pay \$625 for a course.

Oregon Tradeswomen, like Vermont Works for Women, has a long history of providing programs for women's employment in the skilled building trades. The infusion of cash from the USDL-WB from the economic recovery funding enabled them to include a green jobs component in their pre-apprenticeship program. The program ran for 7 weeks and its green component included aspects of 'weatherization,' such as solar installation, caulking, and window replacement. Each year there were 4 classes of 24 students in the program, and about 75% graduated and 64% were placed in jobs after completion. This is particularly significant when about 95% of the participants could be considered disadvantaged, in that they typically had incomes ranging from 50-80% of the

median family income. The program works very hard at placing students in apprenticeship programs in both the private and public sector and the success of the program is clearly related to getting women into full apprenticeship programs. But specifically targeting women and integrating them into the training programs is especially important. As the program administrators pointed out, a critical mass of women is absolutely crucial for any program in the trades and it just does not work if there are token women in them. The main problem with the 'green jobs' component, as was evident elsewhere as well, is that there was little demand for workers in this area, so continuous employment for the participants was unlikely.

Another type of program related to the skilled building trades focused primarily on outreach and recruitment. This was the "Green Jobs Pipeline for Women in Colorado" that was created by the Alliance for Sustainable Colorado. Its main goal was to increase the number of women aware of green jobs and the skills needed for a green career and to focus on recruitment and retention of women. The 'pipeline' itself was an infrastructure network that connected a wide variety of organizations that could lead women into green jobs. These included organizations with information about job openings, education and training, developing mentors for women, potential employers, and career placement services. The organization itself did not train women, and once the funding ended, so did the program. This group, like others, found that the main problem was that there were few jobs for women once they were trained for 'green' employment. Again, the issue of how the government stimulates demand for environmental upgrades is crucial for employment. One person associated with this project said that if every house sold was required to have retrofits that are up to 'green' code, there would be no lack of available jobs.

The Sustainable South Bronx program was slightly different from other programs, in that it focused more heavily on urban agriculture and horticulture,

although there was some building-related training for green roofing. The program had eight females participating in a twelve-week program, a pilot program that was not repeated. The participants were recruited through another program this group had undertaken (Best-Eco program) that gave training for gardening on roofs, river restoration, and culling invasive species. About 80% of the women in the program were living on welfare and were given \$150 a week to participate. The main training was in green roof installation, tree care, tree identification, and community garden work. All but two of the women found work after the training and a great deal of attention was paid to job placement. It is not clear how long they remained employed or whether employment continued after the first placement, but the Sustainable South Bronx program itself devotes considerable energy to job placement, with two of its total staff of 10 devoted to this. When the federal funding for the women-only program ended, the training also ended.

Discussion:

Several assumptions about green jobs seemed to guide the selection of programs for women to receive the economic recovery grants. One was that environmental issues would be a major driver in creating jobs in the future, and that programs with a focus on women could encourage women's participation in green jobs creation. The areas given priority as 'green jobs' were primarily blue-collar jobs in businesses that had some focus on green practices. The funders also wanted training in areas that would have relatively low barriers to entry, could potentially lead to relatively well-paying work, and where skills could be acquired inexpensively in a fairly short period of time. Generally these requirements seemed to fit training for secondary industries of construction, manufacturing and energy production; however in the nine projects associated with the WB funding, the emphasis was most decidedly on construction jobs. The major question is whether these pilot projects are an approach that could or should be reproduced on a larger scale,

and whether they are the most appropriate type of work for the populations of women that were targeted for training.

The target population was women, but in most projects there were also attempts to reach and/or train women who had multiple barriers to labour force participation and in some it was the entire training group. These were women who exhibited one or more of the following characteristics: they were chronically unemployed, on welfare, had dependents so needed regular work times, were visible minorities or immigrants, had criminal records, and/or

...there is a big difference between training for skills trades for women (which absolutely must be done) and thinking that the minimal training for 'green jobs' is the route through which this can be successful.

were older women. This focus on disadvantaged groups is fairly typical in government-funded job-related programs, usually because these groups are especially affected by economic recessions and it is felt that when public funding is available the most disadvantaged should have priority.

There are multiple conclusions that can be drawn from the US initiatives in integrating women into 'green jobs' through short-term programs. Two major problems are evident in training women for 'green jobs' as these are currently defined, that is, as jobs primarily in construction industries. The first is related to the chronic discrimination women historically have experi-

enced in this sector: even with legislation mandating that women be part of all federal government building initiatives, instituted during Jimmy Carter's presidency, women still are less than 6% of the skilled trades workforce. Programs to get women with multiple barriers to any type of employment into a sector that exhibits a high degree of discrimination based on race and gender are not likely to meet with success. The second major problem is that for most of the programs the skills acquired were fairly minimal, primarily focusing on 'weatherization.' As one woman interviewed for this study said, "green training doesn't help women get a construction job." This certainly does not mean that disadvantaged women should not be the focus for 'green' jobs, or that major efforts to integrate women into construction industries should not occur. But there is a big difference between training for skills trades for women (which absolutely must be done) and thinking that the minimal training for 'green jobs' is the route through which this can be successful.

Related to these two major issues was the economic climate in which the limited training occurred. Every program that trained for weatherization or solar installation jobs found the training aspects successful. Women learned what to do, but the major problem was the failure to find on-going employment when the training was complete. Because of the recession and in many cases the cancellation of energy efficiency incentives for households, the supply of workers outstripped demand for household retrofits.

There were some consistencies in the experiences of the projects for women across the country. Almost all reported 'success,' in that women were attracted to the project, and were eager to participate. The training seemed to be strongest when it provided training for a demonstrable skill and when those doing the training were either women themselves, or were specifically trained to deal with women. In some projects the trade unions were helpful in helping place women in work. But generally the over-all likelihood of a program leading to employment was tied to the equity language in the state where the train-

ing occurred and if the government itself was stable. Virtually all programs recognized the necessity of a strong buy-in by government and a willingness to insist on equity in hiring for government sponsored construction projects. As has been noted above, the willingness to link public policy to stimulate demand for workers who are being trained is especially important during an economic downturn. But in virtually all cases the programs that were specifically designed to focus on job placement and follow-up were more likely to report good outcomes for the people who were trained or mentored.

Given the limitations of the programs, the expectations that the training women were given would lead to green jobs and perhaps even encourage women to participate in more ambitious apprenticeship programs were probably unrealistic. But, once again, the willingness of women to try to break the barriers to entry in construction-type jobs needs to be encouraged. But a more serious consideration is what would be considered a more realis-

tic type of training for women who face multiple barriers to job placement. Ultimately the idea of what constitutes a 'green job' needs to be expanded to include the type of work that women typically do. Much of it is inherently 'green,' and requires skilled workers who could be trained through government funded green projects. ❧

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Explanation for termination of employment (cont'd)*

my supervisor
stops floating,
starts treading,
fumbling in the water.
panic stricken,
She's swimming,
climbing ashore,
standing tall, and
taking shelter.
i keep treading,
flailing in the pool.
a co-worker mentions
i've tackled her.
barely buoyant,
i've done it again,
inadvertently
bringing out the worst
in a middle manager.
to hell with Her
managerial ideals,
She's running at me,
marking Her territory,
pissing from the
side of the pool.
i do a somersault,
pretending not to notice,
hoping to save Her
from any embarrassment.
Her tongue is out—
She's jumping on the diving board,
waving Her arms,
panting, and
yelling for me to
get out of the pool—
Her pool.
making eye contact with me,
She realizes,
i wasn't gunning for Her job;
i was merely
mocking the system,
reveling in the absurdity
and profanity of it all.

Janna Klostermann lives and works in Ottawa, Ontario. She views writing as a way of thinking. She enjoys facilitating professional writing workshops, collaborating in #shutupandwrite sessions, and researching the workplace writing practices of contemporary workers. Say hello on Twitter @JannaKlos

*An earlier version of this poem first appeared in **Our Times**: Canada's Independent Labour Magazine.

Gender Justice and Climate Justice

Building women's economic and political agency in times of climate change

By Patricia E. Perkins

Introduction

Women, who are usually unpaid or underpaid for their work, and are more vulnerable to climate change than men for a well-documented range of reasons, have special contributions to make towards climate change adaptation. This is mainly because of gendered differences in positional knowledge of ecological and water-related conditions. NGOs, and other civil society organizations in both the Global South and the North have important expertise in building community resilience to face climate change. These are fostered through community-based education, organizing, and alliances among different types of groups.

This article analyzes some initiatives and models for community-based climate change activism, through examples in three different types of communities. It outlines the methods and results of two international projects — the Sister Watersheds project, with Brazilian partners (2002-2008), and a Climate Change Adaptation in Africa project with partners in Mozambique, Kenya and South Africa (2010-2012) — as well as the Green Change Project in the Jane-Finch neighbourhood of northwest Toronto. The main point of this paper is to show that these projects have demonstrated that local-level initiatives led by civil society organizations provide a way to address gender equity challenges by building women's knowledge, interest and engagement in water-related and climate change politics.

Women and Climate Injustice

Many organizations and authors including WEDO, the Women's Environment and Development Organization, and WECAN, the Women's Earth and Climate Action Network International, maintain



LEFT: A guava farm started by women near Guanabara Bay in Rio De Janeiro, Brazil provides local food processing and marketing employment.

BELOW: Skills training for local girls.



PHOTOGRAPHS: PATRICIA E. PERKINS

that women are disproportionately affected by global climate change as a result of poverty, socially constructed gender inequalities, gendered work and family responsibilities, reliance on natural resources for livelihoods as part of “women’s work”, and the limited financial, social, and institutional resources available to women across the globe.

However, women are often key agents of change. They possess invaluable local ecological, social and political knowledge that is crucial for climate change adaptation and mitigation. Also, in their roles in the teaching, caring, health, and administrative professions, women’s skills are central for community-building, social interdependence, and cultural change.

Everywhere, women are usually the local leaders, organizers and activists on water, food, and other environmental issues (Perkins, 2013). The women’s movement has been very important in the construction of democratic governance in many countries in the Global South (for example, Brazil, South Africa, Chile), and the degree of women’s political engagement is strongly

correlated with environmental and social priorities and even with reduced carbon emissions (Chalifour, 2014).

In times of climate change, women’s organizing has led to efforts to train women for “green jobs” in many countries. For example, the Bangladesh microcredit organization Grameen Shakti has trained 5,000 women as solar PV technicians as part of its project to install more than 100,000 solar home energy systems. And in the dry northeast of Brazil, hundreds of women are being trained in concrete construction skills as part of the “one million cisterns” program to combat drought.

But there are strong barriers to women’s political and economic involvement: gender roles and family responsibilities, the unpaid work and time commitment required, differential access to education (especially on technical issues) and public speaking training for women, to name a few. Training for both men and women in gender awareness and technical issues, as well as community environmental education, can help overcome the barriers to women’s participation.

Unions and civil society organizations are calling for training, capacity-building and mentoring for women as part of the “green transition.” The International Labour Organization and its SustainLabour initiative advocate targeted support for women’s training and gender mainstreaming in green jobs development. The Congress of South African Trade Unions, COSATU, emphasizes opportunities for gender equality in new green jobs: “New environmentally-friendly jobs provide an opportunity to redress many of the gender imbalances in employment and skills” (COSATU, 2011). Unions in South Africa and Europe have led the “One Million Climate Jobs” campaigns highlighting the labour requirements of the “just transition” to more sustainable economies. However, there is little evidence that many programs benefitting women exist and have been successful.

International climate change adaptation funding mechanisms for activities in developing countries are slowly beginning to include gender equity requirements, although these have yet to become fully operational or complete. And in any case, existing international funding mechanisms are widely recognized as being completely inadequate to address the scale and breadth of climate-related needs.

Women, Commons, and Social Change

A fundamental economic transition towards more socially and ecologically sustainable societies tends to improve women’s economic position. Advancing commons and decentralized economic governance are two strategies that improve women’s socio-economic position. For example, in Toronto, community and rooftop gardens, urban fruit harvesting and community kitchens, which build local food economies and reduce fuel use for food transportation, create interrelated commons of many kinds that are reliant on social interactions (rather than impersonal market mechanisms) and have spin-offs that increase community resilience. These new institutions also create many jobs for women and shift political decision-making to local levels where women have more confidence, voice, and power.

I have worked on two projects, one with



African project partners discussed climate change and women’s role in water governance at the project’s inception meeting in Brazil.

partners in Brazil and another with African partners, that developed methods for gendered training, community-based environmental and climate education, and interventions to increase women’s political participation. The Sister Watersheds project in Brazil and Canada (2002-2008) developed and tested training programs and workshops led by local NGO partners. Workshops focused on water management, environmental education, community development, and democratic participation. The Climate Change and Water Governance in Africa project (2009-2012) developed methods to improve watershed governance for climate change adaptation, worked to increase resilience and adaptive capacity of women, and built activist-academic climate justice networks in Durban, South Africa; Maputo, Mozambique; and Nairobi, Kenya.

Some of the methods these projects developed and used for building civil society’s and women’s effective engagement included:

- In Durban, “learning journeys”, toxic tours, community mapping, films/videos,

- In Maputo, school activities/environmental education,
- In Nairobi, building soccer fields in slum floodplains, local political organizing, and “climate debt” activism.

All of these activities tend to rely on and develop women’s local ecological knowledge and leadership, since in the Global South as well as the North, women are the mainstays of most environmental and education organizations. Even the soccer field development in Nairobi emphasized women’s participation, because the youth violence prevention organization required that young women be members of all the soccer teams involved, and the upgraded sports field created spaces for older women traders to assemble and sell snacks and drinks at the soccer games.

Most of the groups who participated in our climate justice projects are headed by women — both academic and civil society organizations. International networking creates opportunities for mentorship, funding, student exchanges, internships,

PHOTOGRAPH: PATRICIA E. PERKINS

and other career advancements for both young and older women.

Such techniques work in the global North, too. For example, a community environmental education methodology developed in Brazil at the Ecoar Institute for Citizenship called the “workshop of the future” was introduced to Toronto activists and students by Brazilian exchange students during the Sister Watersheds project, and used very successfully with youth groups in after-school programs in the low-income Jane and Wilson neighbourhood. The “workshop of the future” involves the group’s building a metaphorical “wall of tears” of paper bricks labeled with all the things people don’t like about their community (pollution, crime, racism, etc.), and then creating a “tree of dreams” with leaves labeled all the good things the community possesses (youth energy, seniors’ wisdom, local ecological knowledge, etc.). Since trees as they grow can break down any wall, the workshop helps groups realize their community’s potential to work together to create a better future.

In the Jane/Finch neighbourhood in northwest Toronto, activists are creating a Centre for Green Change on the first floor of a low-income social housing building, to promote environmental awareness and green job training. The Centre for Green Change includes a community kitchen, workshop and computer space, and a garden outside. Its programs allow community members to meet, share skills, learn about the environment, develop their skills and confidence, find jobs, and take political action on locally-relevant environmental issues. For example, seniors who meet each other at the community garden may check in on each other throughout the winter and on hot days in summer. Parents may exchange childcare as well as fruit and vegetables from the garden.

New Brunswick climate change activist Kim Reeder of the St-Croix Estuary Project has noted how community members check in on and support each other during floods and extreme weather events, creating resilience in tight-knit communities that builds on local social, political, and ecological knowledge (Reeder, 2014).

**TABLE 1: Women’s Capacity Building in Climate Politics
Bottom-Up Strategies for Water Management**

EDUCATION AND TRAINING

Green Change Agents training: Civil Society Organizations (CSOs) run workshops for local youth in certificate programs helping develop job-related skills such as environmental building audits, green construction, green roof landscaping, floodplain rehabilitation, green infrastructure, etc.

Dry sanitation: Distribution and education/advocacy/promotion of urine diversion toilets.

Leadership training: Distribution and education/advocacy/promotion of urine diversion toilets.

Water conflict mediation training: Special CSO-run training programs address water conflicts (e.g. over standpipe access, fugitive emissions of pollutants, riparian rights, etc.) through skills training and information on how to access government supports.

Academic-activist linkage building: Students get academic credit for internships with local civil society organizations, and help document their work and write funding applications; professors research and disseminate the methods and accomplishments of community groups.

Water harvesting: CSOs work with household members to develop ways of retaining rainfall from roofs and yards for home and garden use, and spread related practices.

COMMUNITY BUILDING

Community mapping: For community awareness and engagement, residents collectively draw and discuss maps of important water features in the neighborhood and how extreme weather affects them.

Community kitchens: CSOs or churches establish kitchen space for collective food preservation, processing and cooking and for feeding vulnerable community members and buffering time pressures for women.

Community-based water monitoring: Community groups work with government authorities to monitor pollution, bio-status, and flooding/drought in local waterways.

Community gardening: CSOs locate space and train and organize community members to plant gardens for collective food production.

POLITICAL INTERACTION

Collective dialogue: Local residents discuss specific water issues with government officials, in forums facilitated by civil society organizations.

Sports field and league development: CSOs and youth groups organize social and recreational activities to make use of floodplains and advocate for their preservation as open, public space.

Collaborative learning: Watershed committees bring together key civil society groups from throughout the watershed (e.g. journalists, teachers, artists, government officials) to discuss and develop needed action programs on water-related issues.

Watersheds and Climate Justice

Another way to understand and foster the changes needed for more sustainable socio-economies is to use a watershed

perspective. Entire watersheds are affected by housing and infrastructure damage due to extreme weather events (especially flooding), but low-income people are

SOURCE: PATRICIA E. PERKINS

more severely affected. Protecting the whole watershed means strengthening the weakest link, since the interests of those upstream and downstream, rich and poor, are all interrelated. Climate adaptation and mitigation takes work and produces jobs; green community development allows those in low-income neighbourhoods to train and gain experience for employment in climate adaptation and mitigation, which builds resilience throughout watersheds. Women's work, jobs, and skills are essential and can be easily recognized as climate jobs for climate justice through a watershed lens.

For example, in Toronto's Christmas 2013 ice storm (the kind of extreme weather event that is becoming more frequent due to climate change), more than 300,000 households remained without electricity for days in frigid temperatures. The whole city learned that downed power lines, besides interrupting lights, refrigeration, stoves and heat, can mean no water in apartment and condo towers if municipal pumping stations lose electricity. Social networks based around schoolchildren and their families and friends, relatives, churches, and other groups emerged as a key element of the city's resilience strategy, and valuable lessons were learned that will inform the city's official and unofficial responses in any future climate crises.

Watersheds, with their interrelated

tributaries, form a good way of understanding the branching social interactions that are increasingly essential in times of climate change.

In conclusion, community actions designed to strengthen women's confidence, access, and ability to participate in local policy-making on climate change and water issues can have powerful, beneficial results. Women's situated knowledge and leadership are crucially important to help communities deal effectively with cli-

mate change. International collaboration can support and inspire local communities' initiatives, which advance climate justice by promoting gender justice. ❧

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Agua
fuente de vida
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que corre por los senos de la madre?
con los que da de amamantar a sus criaturas
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Anastasia Candre Yamacuri

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Anastasia Candre Yamacuri was born in 1962 in Adofiki (Cordillera), La Chorrera County, Amazonas province, Colombia. On her father's side she was Okaina and on her mother's side she was Uioto. She could speak Bue, Minik and Nipode (the Uitoto dialects) as well as Spanish and Portuguese. She studied linguistics at the National University of Colombia in Leticia. In 2007, she finished her dissertation titled **Yuaki Muina-Murui: Ritual Songs of Uitoto's Fruits** for which she received the National Scholarship in Oraliture (Ministry of Culture, Colombia). Her poetry was recently included in the compilation **Pütchi, Biyá, Uai** (2010, available online).

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Are There Jobs for Women in Green Job Creation?

By Joan McFarland

While some people fear a negative employment impact from measures to fight climate change, others point out the potential for green job creation to replace jobs lost in fossil fuel and other greenhouse gas emitting production. However, as important as green job creation is, there has been little analysis of its gender impact. This is despite warnings such as the one by American feminist Linda Hirshman, who wrote in a Dec. 9, 2008 op-ed in the *New York Times* that “green jobs are almost entirely male, especially in the alternate energy area.”

I have done research that seeks to address the void in gender-based analysis of green jobs. I began with studies of green job creation in both the United States and Canada. Unfortunately, none of these studies looks at the gender impact of such green job creation. One study does, however, list the types of jobs that it is expected will be created. By finding the present gender breakdown of those jobs in the New Brunswick economy, I was able to give an indication of the gender impact of green job creation.

The statistical analysis was followed by two case studies — one in New Brunswick and one in Nova Scotia — where I gathered evidence on the gender impact of two green initiatives. The first is a case study of Efficiency New Brunswick and the second is a new plant in Nova Scotia that builds turbine parts for the production of wind energy. In each of these cases, I examined the gender impact of the green jobs created.

Next, I looked into the whole question of the training of women in non-traditional occupations, particularly in the trades, to see if there will be women prepared to work in green jobs in the future. This included examining data on women in apprenticeship programs.

At the end of this article, after having presented a summary of the evidence I gathered, I discuss the policy implications of the findings from my research. If women are severely under-represented in the green jobs created in the fight against climate change, are there ways to mitigate this effect? Could women and men benefit more equally in green job creation initiatives? In this light, I suggest certain policy options.

Estimating the Gender Impact of Green Job Creation

An important study on green job creation is *Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy*, published in 2008 by the University of Massachusetts. The authors claim that \$100 billion of infrastructure spending for clean energy transformation could create two million jobs in the US economy over a two year period. In May 2010, BlueGreen Canada published a study, *Falling Behind: Canada's Lost Clean Energy Jobs*, in which Canada's investment record in clean energy jobs is shown to be falling far behind that in the United States and other countries. The study estimates that had Canada matched the US spending on a per capita basis, an additional \$11 billion dollars would have been earmarked in Canada's 2009 stimulation package for clean energy. This, in turn, would have led to the creation of an additional 66,000 jobs, not including energy efficiency and transportation investment. Another BlueGreen Canada study, *More Bang for our Buck* (2012), found that for every two jobs created in oil and gas in Canada, fifteen jobs could be created in clean energy. With reference to New Brunswick, a study published in May 2012 by Environment

Northeast, *Energy Efficiency: Engine of Economic Growth in Eastern Canada*, calculated the potential macroeconomic effects of expanded energy efficiency programs for the region as a whole and for each of the eastern provinces individually. In terms of job creation in New Brunswick, the study found that investment in energy efficiency programs could, over a twenty-eight year period, drive the creation of between 10,700 and 24,800 jobs years of employment in the province.

None of these studies considers the gender impact of the job creation but the University of Massachusetts study, in particular, is useful in that it lists the “representative jobs” that would be created from six areas of green economic investment. These areas are: retrofitting buildings, expanding mass transit and freight rail, constructing smart energy grids, production of wind power, production of solar power and production of next generation biofuels. Each area has eight to ten representative jobs listed. For example, the representative jobs listed under building retrofitting are electricians, heating/air conditioning installers, carpenters etc.

What I did was to take that list of representative jobs to a New Brunswick Department of Post-Secondary Education, Training and Labour representative for a gender breakdown of the holders of those jobs in the province. The question that I was trying to answer is: Are those jobs that women in New Brunswick do? The most recent data comes from the 2011 census.

I will summarize some of the results. For the following representative jobs in building retrofitting, in the New Brunswick economy as a whole, women were 3.9% of managers, 2% of carpenters, 1.3% of electricians and 0% of heating/air conditioning

installers, roofers and building inspectors. For the representative jobs in wind power, in the NB economy as a whole, women were 50% of assemblers and 37.8% of sheet metal workers but only 1% of construction equipment operators and 0% of millwrights, machinists and first line production supervisors. For the representative jobs in solar power, in the NB economy as a whole, women were only 10.6% of installation helpers and labourers, 7.1% of electrical engineers, 1.3% of electricians and 0% of welders, industrial machinery mechanics and metal fabricators. For the representative jobs in advanced biofuels, in the NB economy as a whole, women were 40% of chemical engineers, 24.1% of chemists but only 10% of chemical equipment operators and mixing and blending operators, 8.6% of chemical technicians and 1.4% of industrial truck drivers. For the representative jobs in mass transit/freight rails, in the NB economy as a whole, women were 11.5% of civil engineers, 1.3% of electricians but 0% of rail track layers and welders. Finally, for the representative jobs in smart grid, in the NB economy as a whole, although 50% of electrical equipment assemblers were women, they were only 23.8% of operating engineers, 16.2% of software engineers, 8.6% of industrial engineering technicians, 7.1% of electrical engineers, 4.4% of construction labour and 0% of machinists and electrical power line installers and repairers.

In summary, the data on these representative clean-energy jobs and the gender breakdown for those jobs in New Brunswick as a whole in 2011 show that these are non-traditional jobs for women with a very low representation of women holding them. In fact, many of the jobs had no women in them at all. It is worth noting also that these results were as bad as, or worse than, those from the 2006 Census that I used in the original paper (McFarland 2013). In other words, it is not a situation that is improving.

Case Studies

Efficiency New Brunswick

Efficiency New Brunswick (ENB) was set up in New Brunswick in 2005. A Crown agency, Efficiency NB offers edu-



In summary, the data on these representative clean-energy jobs and the gender breakdown for those jobs in New Brunswick as a whole in 2011 show that these are non-traditional jobs for women with a very low representation of women holding them.

cation and incentives to NB homeowners, business and industry to persuade them to adopt energy efficiency options. There were thirty-two on staff at the Saint John office in 2012.

In order to be eligible for an energy efficiency grant, a homeowner or business has to be audited, a report written and the work inspected when completed. The auditing, reporting and inspecting is done by “energy advisors” working for private companies.

The incentives, besides promoting energy efficiency, are seen to produce local economic activity and jobs. In May 2009, Premier Shawn Graham cited estimates

that the average participant, by spending \$11,000 on energy efficiency upgrades, had contributed, in aggregate, over \$50 million to their local communities since the program began. In April 2010, Graham’s Energy Minister claimed that the homeowner program had created jobs for local contractors and improved business in the home improvement retail sector.

Some direct jobs are created by the Efficiency NB initiative at Efficiency NB itself and at private companies employing home and building energy advisors for the incentives programs. Most of the jobs, however, are created in home and building construction companies, heating contract companies, and “energy management service providers” (largely engineering companies) serving the commercial and industrial sectors.

From my surveys, it is only at Efficiency NB itself where women make up the largest proportion of the workers in the green jobs created. On the other hand, there are virtually no women who have become energy advisors in the private sector under the program. Even more strikingly, I found no women working in energy efficiency initiatives, except as office staff, in the construction, heating, or energy management sectors where the vast majority of the green jobs are created. This was not an initiative that created many jobs for women.

Daewoo

In 2010, as part of the NDP Darrell Dexter government’s economic development and new green economic initiative, the Nova Scotia government partnered with Daewoo Shipbuilding and Engineering of South Korea to convert the former TrentonWorks railcar manufacturing plant to one for the manufacture of towers and blades for wind turbines.

At its peak, the new plant employed 160 workers. Some 117 of these were tradespeople, almost all welders. Of those, only two were women. As of October 2012, there were only thirty-two working at the plant in total. The number of women was down to one.

In contrast, at the peak of the earlier TrentonWorks operation, there were forty women working as welders. This high fig-

ure is explained by a 1997 HRDC training program for women welders in the plant. Before the 1997 program, there had been no women on the floor of TrentonWorks.

Training Women for Green Jobs

If much of green job creation involves jobs in the trades, and women are very under-represented in the trades, what will the future hold? I tried to find evidence on the following questions. Are women presently receiving training in the trades? Are they entering the appropriate apprenticeship programs? Will more women be able to fill green jobs in the future than they are able to today?

Unfortunately, the trends are not very positive. A 2010 Statistics Canada study by Kathryn McMullen et al. found that, in 2007, women only accounted for between 1-2% of completions in apprenticeship training in most major trade groups. Statistics Canada gives a breakdown of women's registrations in apprenticeship programs in the trades for Canada, 2006-2010. In 2010, women in Canada only accounted for 5.9% of those training as welders and 1.5%-3.2% of those training as carpenters, electricians, heavy duty mechanics, heavy equipment and crane operators, machinists, metal workers, millwrights, plumbers, pipefitters, steam-fitters and sheet metal workers.

The New Brunswick Department of Post-Secondary Education and Training (PETL) provided data on women in apprenticeships in the province. In 2012, excluding the program for cooks, women made up only 2.4% of registered apprentices. Further, this has changed very little from the situation I found in 2003 when I did a study on women and training in New Brunswick.

Current Policy Approaches

Getting more women into employment in non-traditional occupations seems to require special equity programs/quotas in employment and training that are monitored and enforced. Without programs, the number of women in non-traditional occupations remains very low. Two studies from the late nineties allow a contrast of equity programs. The first study, conducted in 2003, involves the Hibernia

construction program in Newfoundland which started in 1997.

Although under the equity program for federal contractors, it was unsuccessful due to unworkable implementation plans. In contrast, the equity program in a Vancouver Island Highway Project (VIHP) in British Columbia, also started in 1997 and studied by Marjorie Griffin Cohen and Kate Braid in 2003, was highly successful. In the VIHP, equity hires, which in this case consisted not only of women but also of other equity groups, were made a condition of employment on the project and the government made sure that the hires were implemented. The project achieved an over 22% equity hiring rate at peak periods.

In the HRDC program in the late 1990's in Trenton, Nova Scotia described earlier, some forty of the welders in the plant were women. Nothing like this has

in New Brunswick to get women, and especially women on social assistance, into apprenticeships. Despite tremendous effort and much support from staff, these programs have not resulted in careers in the trades for any of the women.

Of course there are broader problems with women in the trades and these stem from the patriarchy. Women in apprenticeships or in such jobs find themselves at "contested sites", a reality well documented and discussed in Marcia Braundy's 2011 book, *Men & Women and Tools: Bridging the Divide*.

Redefining Green Job Creation

Beyond continuing the struggle to get women into the non-traditional jobs created in the green economy as currently defined, perhaps we need to expand both our definition and strategy of green job

Adopting such an expanded approach to green job creation which includes Stanford's "does not harm the environment" category as well as pro-active social and educational work in the necessary transition towards sustainability would balance green job creation's overall gender impact. No longer would green job creation just mean jobs for men.

been achieved before or since in the region. This also seems to indicate that a program is required to change long-standing employment rigidities.

Susan Moir et al. of the University of Massachusetts in Boston wrote a paper in 2011 for the Massachusetts Labor Resource Centre in which she discusses how a US law requiring that women make up 6.9% of contractors' work hours, in effect since 1978, has been ignored. What is needed to change the situation, she claims, is effective enforcement of the law involving monitoring, tracking and reporting of both contractors and subcontractors. She advocates setting a goal for the United States with the requirement that women make up 50% of contractors' work hours in the construction workplace by 2028.

With regard to training, several special programs have been tried over the years

creation to include sectors where women traditionally work.

Jim Stanford, in *Economics for Everyone*, has a useful discussion on "good growth and the environment" in which he considers growth that not only "helps the environment" but also growth that "does not harm the environment." Areas of the traditional green economy are included in the "helping the environment" category: retrofitting homes and buildings for energy efficiency, investment in non-polluting machinery and equipment, investment in clean energy generation etc. However, new areas for a green economy are included in the "does not harm the environment" category. These include providing more child care, youth services education, elder care, neighbourhood recreation, and other human services as well as the production of many private services. In a more sus-

tainable future economy with less fossil-fuelled car transportation, more local food and services production, better health care despite legacies of pollution and a deteriorating environment, and the need for skills transmission to help everyone to meet their basic needs sustainably, such female-dominated job categories will likely be even more important than at present. Whereas women are barely represented in jobs in the “helping the environment” category, in Stanford’s “does not harm the environment” category, women are by far the majority. According to Statistics Canada data for 2013, women in Canada were 80.4% of health workers, 69.5% of social science, education, government service and religion workers while only 6.9% of trade, transport and equipment operators and related occupations.

Adopting such an expanded approach to green job creation which includes Stanford’s “does not harm the environ-

ment” category as well as pro-active social and educational work in the necessary transition towards sustainability would balance green job creation’s overall gender impact. No longer would green job creation just mean jobs for men.

Conclusion

In this paper, while strongly supporting arguments for the need for green job creation, I have attempted to provide evidence to show that great care must be taken by policymakers to avoid a very negative gender impact from such job creation. Most green jobs (as usually defined) are in the trades, and the trades are non-traditional occupations for women. The evidence that I have gathered — from New Brunswick as well as some from Nova Scotia and Canada as a whole — shows that given women’s current patterns of participation in jobs and training in the trades, almost none of these new

green jobs would go to women, either now or in the future. We need equity programs both on the job and in training and those equity programs need to be strictly monitored, tracked, reported and enforced. In addition, we need to broaden our definition of, and strategy for, green job creation to include both jobs that do not harm the environment and jobs that help society make the pro-active transition to a more sustainable future. Jobs in health and education — the caring professions — are prime examples of these non-harmful, essential green jobs. ❧

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Women and Low Energy Construction in Europe

A New Opportunity?

By Linda Clarke and Christine Wall

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The European Union (EU) 20/20/20 targets to reduce energy use, increase renewable energy, and reduce carbon dioxide (CO₂) emissions by 20% by 2020 particularly impact on the construction sector, responsible for 40% of EU CO₂ end-use emissions. The difficulties in meeting such targets in an industry employing 14.5 million workers and contributing to 10.4% of GDP, are increasingly evident (EuroAce 2013), resulting in proposals for an overarching, binding energy target of 40% saving for 2030 focused on buildings (Fraunhofer 2013). As underpinned by the EU Energy Performance of Buildings (EPB) and the Renewable Energy Sources (RES) Directives, ‘nearly zero energy’ for new and retrofitted buildings are required through energy efficient envelopes and on-site renewables supported by new qualifications, quality assurance schemes and ‘Green Deals’.

An important initiative addressing social rather than purely technical obstacles to meeting these objectives is the extensive EU nationally-based *Build-Up Skills* programme, concerned with upskilling the existing workforce through continuing training. The German report, for instance, locates the main problem in reducing emissions in: “interfaces between trades and lack of any understanding for a house/building as one integrated system” (Build-Up Skills 2012). This suggests that requirements can only be met if obstacles are overcome that lie in a) the vocational education and training (VET) system and b) the building labour process.

In terms of VET, achieving ‘near zero

emissions’ for the European construction sector requires a workforce equipped with the necessary construction knowledge, skills and competences, supported by appropriate schemes, recognised qualifications, and a receptive building process. European studies reveal a ‘performance gap’ between design intent and energy performance largely attributable to a lack of thermal literacy (e.g. Zero Carbon Hub 2014). A key difficulty is that construction qualifications across Europe encompass a different range of occupations, activities, and know-how. The imperatives for low energy construction to meet EU 20/20/20 targets present a major challenge to VET systems, including: greater educational input to achieve thermal literacy for workers concerned; broader qualification profiles to overcome interfaces between the activities of different occupations where the main heat losses occur; and integrated team working and communication given the complex work processes involved.

In terms of the labour process, the construction of a nearly zero energy building is radically different from previous forms of building as small installation failures in insulation or air tightness are additive and result in failure to meet the “nearly zero” design requirements. To achieve low energy targets in the building envelope and in installation of on-site renewables inevitably requires more integrated teamwork, learning from feedback and greater cross-occupational understanding of low energy construction, or what we term ‘thermal literacy’. The methods deployed by the builder need to encompass the supply chain since any

change in the quality of components will impact on final energy demand. Yet the sector is highly fragmented through tiers of subcontracting, dividing the workforce into clearly-defined activities and impeding teamwork across contractual boundaries. Widespread non-formal on-the-job learning, high labour mobility, exclusively white male social networks, and varied forms of employment — including self-employment and agency work — all have repercussions for the effectiveness of work-based training schemes.

VET systems and the labour process require a transformation to remove these obstacles and this opens up the possibility to resolve one of the most intransigent problems of the sector across the EU: its white male character, which has changed little over the past 30 years.

In Britain, as in most countries in Europe, though women represent about 11 percent of the construction workforce, in the manual trades they represent less than

In Britain, as in most countries in Europe, though women represent about 11 percent of the construction workforce, in the manual trades they represent less than 1 percent (Smith Institute 2014). Yet the consistently higher numbers of women undertaking full-time construction training in colleges than are found in construction employment indicate that many women do want to work in the industry but fail to obtain entry.

1 percent (Smith Institute 2014). Yet the consistently higher numbers of women undertaking full-time construction training in colleges than are found in construction employment indicate that many women do want to work in the industry but fail to obtain entry. By 2005, women in Britain represented 3% of trainees, but of these the vast majority (7%) were in Further Education Colleges, even more in London

(9%) and far higher proportions than found in construction employment at about 0.3% (Byrne et al 2005). The obstacles to integration have persistently been shown to include: inappropriate and poor working and employment conditions, especially long working hours; discriminatory recruitment practices, based on 'word of mouth' rather than qualifications; the persistence of a macho culture, and short-term concerns with output (Clarke and Gribling 2008). Ironically, these are similar obstacles to those impeding a more energy-efficient construction process.

Though a number of initiatives have been taken to improve the participation of women, these have been largely confined to individual member states and particular occupations and have had little impact. It is nearly ten years since the European Institute for Construction Labour Research (CLR) published the book *Women in Construction* (Clarke et al 2004), detailing initiatives in Europe and globally. At the same time a survey of European construction social partners was conducted, with the help of European Construction Industry Federation (FIEC) and the European Federation of Building and Woodworkers (EFBWW), to investigate the presence of women in skilled trades and the policies, collective agreements and practices playing a role in women's integration (Clarke et al 2005). The most notable successes reported were the painters in Denmark, who long ago reached 'critical mass', and the actions of the Finnish painters' union (Pedersen 2004). Overall, whilst the response was patchy, the survey did show that, though the social partners pandered to a 'discourse' of gender equality, this was not a priority issue and did not lead to equal opportunity policies or programmes, including for social partners from east European countries where participation rates were much higher. The conclusion drawn was that 'the social partners have the platform to start to make inroads and to change the industry from within, but still need to be encouraged to put women in construction on their agenda' (Clarke et al 2005). This remains the situation today, as revealed in two EFBWW women net-

work's questionnaires, on working conditions and trade union participation.

Meeting the challenge of low carbon construction opens up the possibility to include more women, especially considering their generally higher educational achievements, their greater presence in environmentally-oriented subject courses and the persistent reports of skill shortages in construction in many European countries. The possibility of a more energy efficient and inclusive construction sector is that much greater given changes occurring in the industry. In the first place, entry is changing so that in some countries, including the Netherlands, recruitment by employers is directly from vocational colleges, where more women are generally to be found than in the labour market. With the decline in apprenticeships in many countries and increasing reliance on placements and internships to obtain work experience, this form of recruitment is likely to increase. So too are occupational labour markets whereby a worker's status depends as much on his/her qualifications as on experience. In addition, the employment relation is undergoing transformation, including through the use of agencies, so that the 'old boy's network' on which much recruitment has up to now depended is weakening and the use of more formal recruitment practices, more favourable to women, is increasing. Policy at European level pursued by the European Union and the social partners gives an added impetus to widening participation in the construction and wood sectors, including the gender dimension of the 2020 Strategy and the European Trade Union Congress (ETUC) gender equality policy. And, finally, in Britain as in other countries, the acute need for new affordable energy-efficient social housing and for retrofitting existing properties again opens up opportunities for women to train and enter the industry. ❧

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Climate Change Adaptation Among Chepang Women

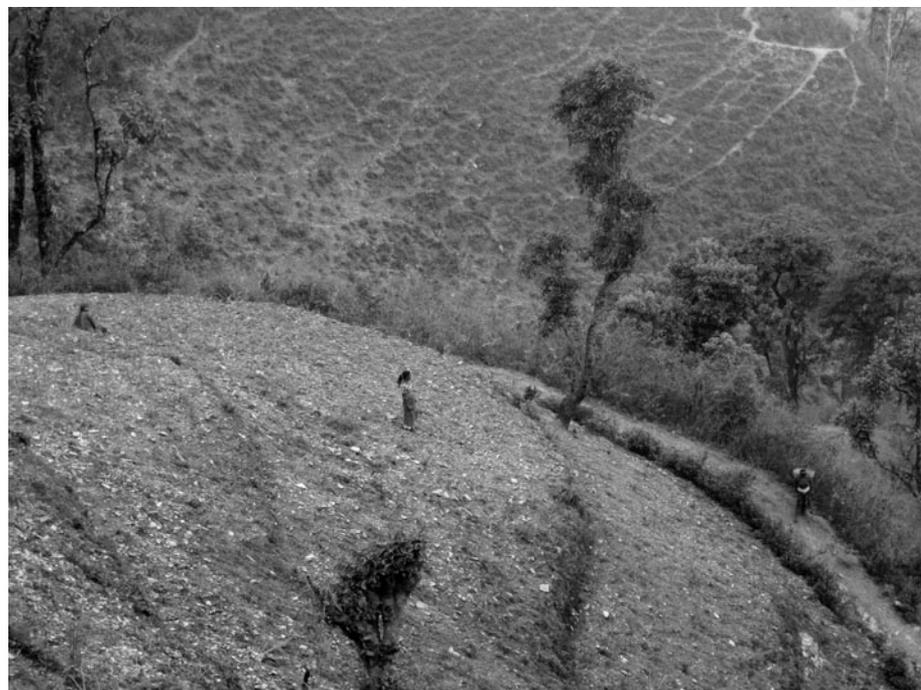
The Light Hidden in the Dark

By Jyoti Acharya

Climate change has pernicious effects on the socio-economically marginalized community worldwide. Among all people, indigenous communities who have contributed least to climate deterioration because of their pursuit of sustainable and carbon-neutral lifestyles are the first to face its impacts and suffer most. Indigenous people in general and indigenous women in particular, are most affected by the impact of climate change because of their traditional and socially-determined close association with nature. Since they are often the main providers of water and food and are the primary custodians of their families, indigenous women are the primary victims of the adverse effects of climate change.

Shortfalls in resources like fuel, firewood, fodder, water, food, etc. tend to increase indigenous women's workloads because more time is needed to fetch these resources. They have to have adaptive measures to deal with the increases in their workloads. My work in the Chepang community in Nepal's Chitwan district seeks to show how indigenous women there perceive and practice climate change adaptation, and how their livelihoods are changing as a result. That said, Nepal's indigenous women are more than mere victims: they are also key agents in adapting to climate change. They often resort to adaptive measures for their survival in the context of climate change as they are equipped with particular knowledge of ecological linkages and management of fragile ecosystems.

Besides the various scientific studies that represent global efforts towards measuring and combating climate change, there is also a real need for qualitative studies on local indigenous women's per-



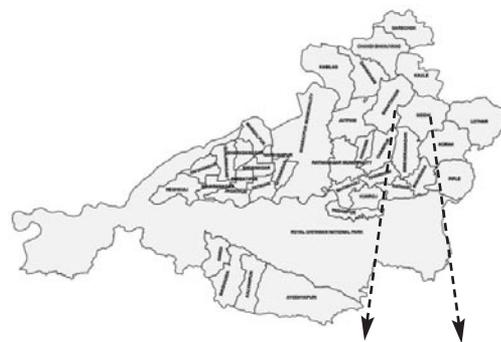
Slash-Burn (Khoriyal) Farming

ceptions about climate change adaptation and their preferred strategies towards adaptation at the local level. Scientific findings of course have their place as they explore what change is happening in the world, but they do not necessarily say how the local community is able to adapt to the changes. In this context, my work delves into the adaptive measures practiced by indigenous *Chepang* women who are suffering from climate changes and whose livelihoods are at risk of extinction.

According to the report on Climate Change Vulnerability Mapping for Nepal, 2010 by the Ministry of Population and Environment, the Chitwan district is considered one of the most vulnerable to the effects of climate change. Therefore, I selected two Village Development Committees (VDCs); Shaktikhor, which lies in



Map of Nepal showing Chitwan district.



Map of Chitwan district showing Shaktikhor and Siddhi VDCs

the vicinity of a forest, and Siddhi, an inaccessible area of the Chitwan district in the Narayani zone of southern Nepal, as the sites for my study. These VDCs of the Chitwan district were purposively selected as the study sites because they contain dense populations of the marginalized

SOURCE: [HTTP://WWW.OUAZOO.COM/0/CHITWAN/DISTRICT](http://www.ouazoo.com/0/CHITWAN/DISTRICT)

CREDIT: JYOTI ACHARYA (RESEARCHER)

SOURCE: [HTTP://YADNEPALI.BLOGSPOT.COM/2013_07_01_ARCHIEVE.HTML](http://YADNEPALI.BLOGSPOT.COM/2013_07_01_ARCHIEVE.HTML)

biodiversity-dependent *Chepangs*.

Chepang is listed as a highly marginalized indigenous group of Nepal. Since their livelihood depends on natural resources, they adopt multi-prolonged livelihood strategies such as; wage labor, collection of forest products, rearing of small livestock and selling of agricultural and forest products. There is a fascinating socio-cultural and ecological connection

carrying for children, among other tasks. At that time, I found them overburdened with their household chores. I attributed their overburdened work to their underprivileged socio-economic status. Later in 2010/2011, during an academic course, I learnt that indigenous women have often suffered the brunt of the effects of climate change. This information motivated and enabled me to explore deeply whether cli-

mate change was responsible for the *Chepang* women's increased workload. Hence, my interest in their situation assumed academic dimensions and I conducted a master's degree study to understand the different perspectives and innovative ideas of *Chepang* women who are adjusting to climate change.

This study primarily employs a narrative approach using qualitative research methods through a series of in-depth interviews and observations with nine research participants who are *Chepang* women and two focus group discussions with other *Chepang* women (excluding individual research participants). The focus group discussions also included some *Chepang* men. The narrative approach allows individual *Chepang* women to tell their stories as they unfold in a chronology of experiences, set within their personal, social and historical contexts, paying due attention to the important themes in those lived experiences.

The main themes arising from this research highlight *Chepang* women's perceptions regarding the mitigation of and adaptation to climate change. They are concerned about the prevention and toleration of loss and changes in their activities and their locations. They are conscious of the necessary adaptations that are related to agriculture, water, survival



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Leasehold Forestry

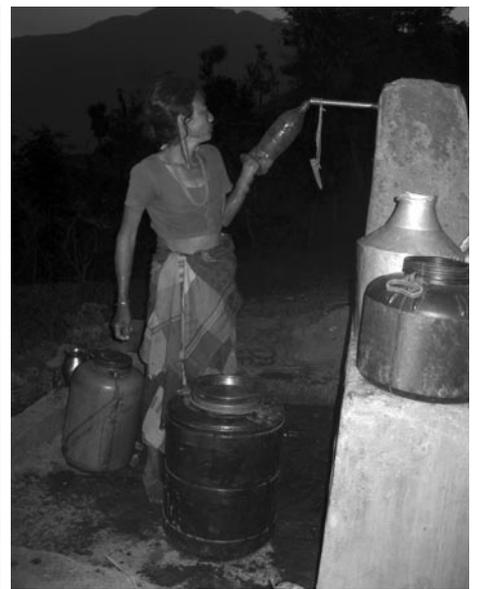
between *Chepangs*, *Chiuri* (*Aesandra butyraceae*, a plant used for vegetable butter), and *Chamera* (Wild Bats). The socio-cultural connection between the *Chepangs* and *Chiuri* owes its origin to the old *Chepang* custom of giving *Chiuri* trees to daughters as bridal gifts. In that regard, *Chiuri* trees are treated as their private resources. In terms of the ecological connection between *Chiuri* and *Chamera*, wild bats are believed to play a crucial role in the pollination of *Chiuri* flowers and hence contribute to the extension of the *Chiuri* species.

It was in 2008 when, as an ordinary observer, I first happened to come across *Chepang* women in the Chitwan district who were busy fetching water, collecting fodder and wild-fruits from the forest, working in farms, rearing livestock, and



Interviewing *Chepang* Women

CREDIT: KIRAN ACHARYA (RESEARCH ASSISTANT)



CREDIT ALL: JYOTI AGHARYA (RESEARCHER)

ABOVE: Scarcity of Water
LEFT: Drying Natural Spring

'Change' in location as an Adaptation

Bipana Chepang says "climatic variability leads to low stream discharge of water-mills present in our locality resulting no operation and we are compelled to walk a long distance to town in electric-mills for grinding agro-products."

"For the last 10 years, I have noticed that nearby water sources have been drying. So, my daughter-in-law and I fetch water from long distance water source turn by turn and store the water in plastic barrels to avert shortage of drinking water" says Akil Maya Chepang.

'Prevention' in agriculture as an Adaptation

Dalli Maya Chepang says "rise in temperature and irregularity in rainfall patterns lead to the attack of insects and diseases in the crops, causing decrease in yield and failure of crops. So, we have been using residual seed cake of Chiuri after extracting oil/ghee from it. It not only increases soil fertility and productivity but also kills insects which harm the crops and also prevent crops from diseases."



Animal Husbandry

strategies, and energy use as well as the health implications of change.

As stated by Esbjorn-Hergens, in his 2009 paper "An overview of integral theory: An all-inclusive framework for the 21st century" adaptation cannot be solely understood as external changes in the behavior and system. Instead, a sound understanding of adaptation must also pay significant attention to internal — i.e., both personal and cultural — changes. In

this regard, my study paid attention to individual *Chepang* women's understandings and experiences regarding climate change adaptation and the collective connection of *Chepang* women's adaptation to their culture. It also focused on individual *Chepang* women's adaptive behavior and activities (practices) as well as the *Chepang* women's adaptation as a group with regard to their prevalent economic, social and ecological systems.



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LEFT: Beating Chiuri Seeds in Dhiki

BELOW: Rubbing Chiuri Seeds



Chepang women have been applying different adaptation strategies in the realms of; agriculture, water, energy, livestock and forests that have changed their livelihoods. Adaptive measures are a light kindled by *Chepang* women but hidden somewhere in the darkness of climate change.

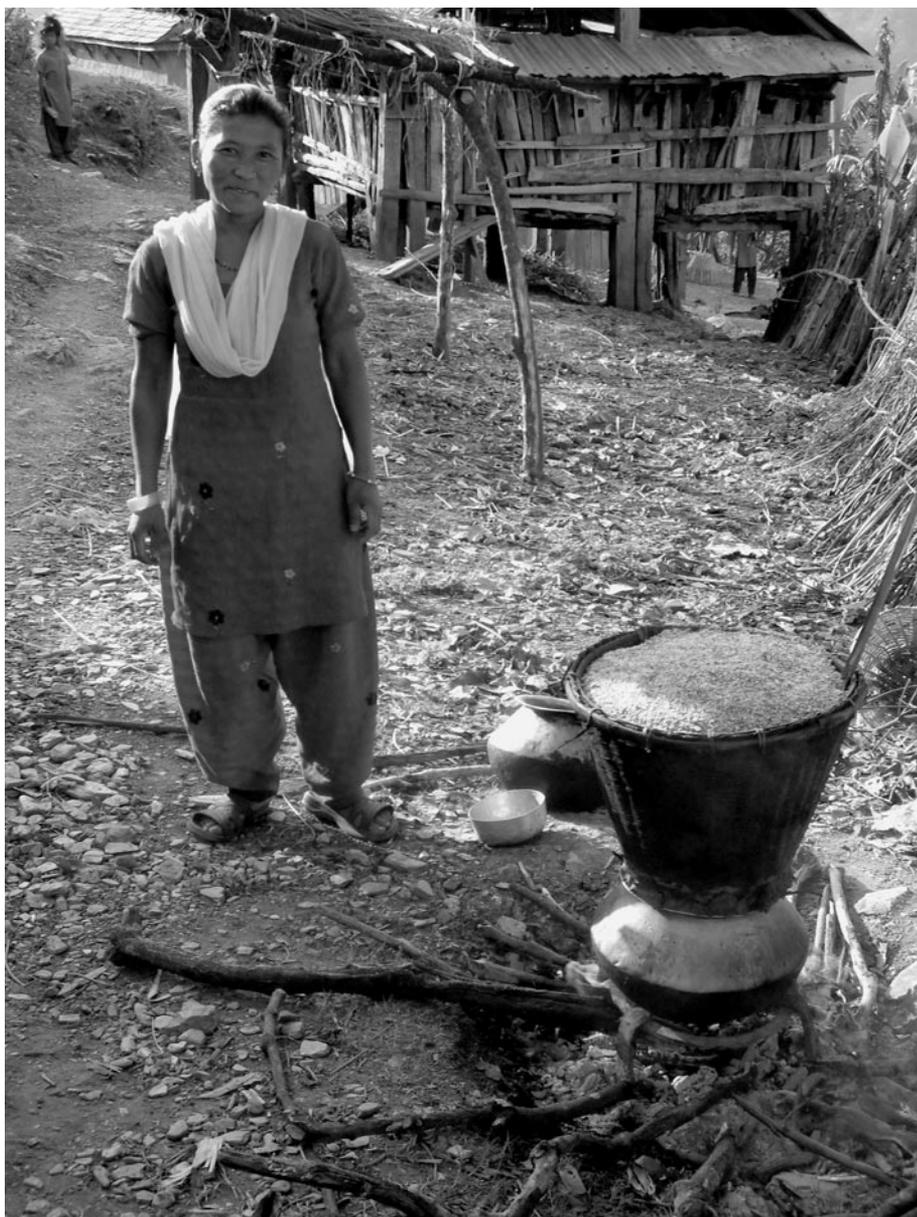
Most of their strategies have harnessed modern knowledge, such as adaptation to an integrated farming system, and Leasehold Forestry, by eliminating the traditional mode of slash-burn (Khoriya) farming system. This also involves a discontinuation of harvesting local medicinal plants and promoting the development of medical centers for health treatment. These strategies indicate the dilemma of an extermination of *Chepang* women's traditional knowledge and cultural identity with modernization. Other strategies have been rooted in traditional knowledge, such as utilization of forest resources (wild tubers and green vegetables) to fulfill a family's food require-

Adaptation in Agriculture and Food Security

Chhoti Maya Chepang says "we introduced drought-resistant, hybrid species of rice and maize and ensure adequate supply of water from nearby river by constructing irrigation channel. In comparison to the past, we have witnessed relative improvements in terms of productivity of crops. The problem of food deficit has become less intense than before."

Adaptation in Livestock and Income Generation

"I used to be a wage-laborer in the agricultural sector but my livelihood had been imperiled when I became unemployed because of my employers' loss of interest in the agriculture sector, resulting from climate change-induced decreases in agricultural productivity. In the wake of my unemployment, my resort to animal husbandry helped me in alleviating my poverty" says Mashi Maya Chepang.



Steaming Chiuri Seeds



Extracting Chiuri Ghee through Chepuwa

CREDIT ALL: JYOTI ACHARYA (RESEARCHER)

ments, generating income by selling forest products and using Chirui residuals as organic fertilizers and insecticide.

However, *Chepang* women are still vulnerable as the measures they have been using to adapt to climate change are not sustainable. Some of the adaptive practices, such as use of residual seed cake of Chiuri as fertilizer and insecticide, as well as the use of an irrigation channel, are meeting present needs but cannot be used indefinitely.

The findings of the study are significant for suitable policy prescriptions to

facilitate the betterment of the *Chepang* community in general and *Chepang* women in particular. There is a desperate need for planning and co-ordination at the village development committee level for the implementation of programs related to “*Chepang Chiuri — Conserved Areas*”— for strengthening the socio-cultural and ecological connection between *Chiuri* (*Aesandra butyracea*), *Chepang* and *Chamera* (Bats). As the study revealed, *Chepang* women are deprived of knowledge regarding climate change adaptation, therefore it is of utmost necessity to

Modern Practices versus Traditional Practices

Mashi Maya *Chepang* says “during my childhood as my mother used to prepare a home-made remedy of medicinal plants for my treatment. I did not know about medical centers but nowadays, I have to visit them frequently for the treatment of my children. This might be due to extinction of medicinal plants and divergence in knowledge about local medicinal plants.”

“We used to practice *Khoriya* cultivation of grain-crops, such as *ghaiya* (upland rice), *aaim* (fox-tail millet) and *sawan* (barnyard millet). *Sawan* is a traditional crop which that is eaten during cultural festivals and *aaim* is also supposed as sacred food item indispensable in the funeral ceremony in our community. But the productions of these crops are considerably reducing at present years, as these days we are going for integrated farming system for high yielding and for leasehold farming for income generation” says Chhoti Maya *Chepang*.

inform them about climate change and climate change adaptation. This can be accomplished through the mother groups

Question Mark in Sustainability

Chhoti Maya Chepang says, "the flow of water through Kulo (Irrigation Channel) has made a positive impact on the flow of our lives at present but what if the river start drying in near future."

— a group of women formed in the community who conduct the welfare and awareness programs that are fruitful for women and their communities. Equally crucial is their collaboration with community schools and various government and development agencies. For the enhancement of *Chepang* women's livelihood, the Praja (*Chepang*) Development Program should take the initiative by playing the role of intermediary for the creation and

marketing of their agricultural production, and as well as acting as the market center. *Chepang* women farmers should be included in incentive sharing mechanisms through microfinance and cooperatives. Finally, it should be noted that the findings of my study cannot be generalized given that they might not be relevant in other places; adaptation is fundamentally and inherently local, and response measures tailored to one situation might be irrelevant in other places. ❧

Jyoti Acharya is a researcher who has a Masters in Environment Education and Sustainable Development and is currently enrolled in a Masters in Philosophy in Development Studies at the School of Education of Kathmandu University in Nepal. She is a social worker involved in conducting

several climate change awareness campaigns for rural and indigenous women in Nepal. She is presently engaged in the initial phase of research about entrepreneurial competency of rural women involved in agriculture. She may be reached at acharyajyoti@gmail.com

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By Christine Charette

S.O.S Mother Earth Ship

She holds the map her hand carved out in blood,
Her hardened landscapes thirsty, calls out the flood.
Voice scarcely heard, dry throat succeeds the drought,
False notions born from taps of plenty spill about.
Colloidal mind reminds of stars above,
She questions if her life will thrive with love?

Near breach of thought recourse the need at hand,
Together her tribe needs faith to feed the land.
Proliferate flora and fauna, extol!
No exit plan, remain the wandering soul.
The air, the fire, the earth, the water in thee,
No longer can creature comfort decree.
Let wing not hand design with feather's touch,

Born from Mother with as little as much.

Christine Charette is a visual artist and poet from Northern Ontario, who discerns the earthly, the ephemeral, the celestial, and the historical. Themes of nesting, mothering, and environment breathe through her work. Both the cerebral and the spiritual empower her creativity. Charette has her B.F.A and B.Ed from Nipissing University.

The Drum is Yours

Between the house on the ridge and the fire pit below,
a long gravel road and fear of all things nocturnal,
on the chilled edge of a Colorado summer night
you hold a buffalo drum and wait,
spruce trees huge and looming,
surround of wilderness palpably ill-willed.

The moon's a sender arc
with just a misty hint of fullness,
no solace there, but
it's time to begin the journey down
to the women gathered around the fire
and the one who holds in thrall
the part of yourself you always trade for love.

Stride and strike, stride and strike,
each measured blow on the deep-toned drum
strips another layer, pins you
to a thousand hungry unseen eyes,
stride and strike, stride and strike,
all muscles tensed for flight.

The road bends deeper into darkness,
forest close on either side,
stride and strike, stride and strike,
beyond this primal fear, another—
cold sweat, sweet thread of desire—to leave the mead hall of
bartered weakness,
step alone and naked into the night,
arms spread in welcome and surrender,
once and for all
dimming the demon other eyes,
letting the beauty of night in.

Some way more to the terminus of fire,
stride and strike, stride and strike,
the road continues on and on
into the mountains, the towns beyond,
the moon is always full,
and the drum is yours.

Marilyn Lerch has published three volumes of poetry. Her latest is called "The Physics of Allowable Sway" published in 2013. She was president of the Writers Federation of New Brunswick from 2006-2010. Lerch currently is on the board of Autumn House, a transition home for abused women in Amherst, N.S. and is heavily involved in stopping unconventional shale gas development in New Brunswick. She lives in Sackville with her partner, Janet, of seventeen years.

Reclaiming the World's Waste

Waste Pickers Organizing for Inclusion

By Rhonda Douglas and Brenda Leifso

Waste picking — reusing and recycling what others discard — may be the very oldest “green job,” and in many places, this dirty work is largely done by women. No one really knows how many “waste pickers” exist in the world. The most frequently quoted numbers come from a 1998 World Bank report, which states that “waste pickers” constitute 1-2% of the urban population—approximately 15 million people — or even more, however no official labour statistics exist. The word “waste picker” itself is a recycled term — taking up the “picker” from “ragpicker” which is a derogatory term used by the middle classes in India to identify those who collect and live from what others throw out. The term “scavenger” is even worse and is also used frequently in India. In Latin America, “waste pickers” see themselves as business people (as entrepreneurs) and are claiming the environmental benefits of their work with the use of terms like “recycler” or “reclaimer.”

The International Labour Organization’s (ILO) *Women and men in the informal economy: a statistical picture* reports that Brazil has the highest percentage of women who work as waste pickers at 33%. The gender percentage differs among informal waste pickers from region to region and from city to city. For example; more men than women were found to be waste pickers in five of the seven West African Cities included and one of these consisted exclusively of men waste pickers. In contrast two African cities, Bamako and Ouagadougou, and urban India have a higher percentage of women than men informal workers who are waste pickers.

Marlise Matos, a professor and coor-

dinator of the Centre of Study and Research on Women (NEPEM) notes that women who work informally face severe gender discrimination or are denied equal opportunities to participate in public life in a just and dignified way. In partnership with the waste picker organizations; Red Lacre, the National Movement of Waste Pickers of Brazil (MNCR), NEPEM and the Instituto Nenucia De Desenvolvimento Sustentavel (INSEA), a current Women in Informal Employment: Globalizing and Organizing (WIEGO) project is helping to map the needs of women waste pickers. Through participatory workshops with women waste pickers, the project seeks to identify the normalized social relations including the gender divisions present in

In Latin America, “waste pickers” see themselves as business people (as entrepreneurs) and are claiming the environmental benefits of their work with the use of terms like “recycler” or “reclaimer.”

waste picking work, which make up the many levels of submission and discrimination that these women face. Results of the first workshop, held in May 2013, revealed the women waste pickers “displayed a strong desire to learn more” by acquiring literacy skills, computer literacy, public speaking, child care skills, and training in policy. As the global waste picker movement grows along with its participation at the policy table, the empowerment of women waste pickers becomes central to the empowerment of waste picker communities.

Waste pickers’ earnings are generally low and vary according to region. In Cambodia, for example, waste pickers can earn as little as US \$1 a day while in

Brazil, where waste pickers are included in solid waste management systems, some waste pickers can earn up to seven times the minimum wage. The physical labour and occupational hazards faced by all waste pickers each day in order to make that amount of money can approach the unimaginable. In Hyderabad in 2010, three waste pickers were buried alive in piles of burning trash at a landfill site as they searched for enough recyclable material to make up their daily wage. In a 2006 World Bank paper on occupational and environmental health issues in solid waste management, Sheila Cointreau notes that the occupational risks faced by waste pickers around the world include contact with; fecal matter, paper saturated by

toxic materials, bottles and containers with chemical residues, health residues, needles, heavy metals from batteries and other such hazards. Given the nature of their work — literally up to their elbows in others’ waste matter — waste pickers are often reviled by their own societies which results in, among other things, their exclusion from the social programs that could potentially improve their lives.

However, positive change is happening for this group of people, and it is happening from within. In waste picker communities in Asia, Africa and Latin America, groups are coming together in large numbers to protest their working conditions, fight back against some of the forces threatening their livelihoods and argue for the

recognition they feel their work and their humanity deserve. The forces against which they fight are the same forces of globalization that make it possible for a waste incineration plant financed by carbon credits to wipe out the daily living of thousands of waste pickers in many cities. However these same forces of globalization also make it possible for waste pickers to come together regionally and globally to share their stories and make their voices heard.

In some developing cities, waste pickers are often the only people performing solid waste management. As one waste picker in Bogotá, Colombia says in the recently published *Inclusive Cities Informal Economy Monitoring Study* (IEMS), “we clean the city — so the sewers don’t clog, so that there are no rats [or] mosquitoes... so we help prevent diseases” (Inclusive Cities, 2013). These waste pickers divert substantial amounts of waste from landfills, thus reducing producers’ reliance on virgin materials and more environmentally damaging extrac-

tion methods. Waste pickers can significantly reduce greenhouse gas emissions, especially in comparison to ‘waste-to-energy plants’, which are commonly thought of as another “green” use of garbage, that in fact waste energy. In India, for example, data from Clean

Chikarmane in Pune, India, where the waste picker collective SWaCH operates, found that “each waste picker in Pune contributed US \$5 worth of free labour to the municipality every month, and their combined labour saved the municipality US \$316,455 in municipal waste transport

In waste picker communities in Asia, Africa and Latin America, groups are coming together in large numbers to protest their working conditions, fight back against some of the forces threatening their livelihoods and argue for the recognition they feel their work and their humanity deserve.

Development Mechanism project documents show the highest reduction of greenhouse gas emissions from Delhi’s waste-to-energy plant in 2009 was 263,791 metric tons. In contrast, the environmental research and action group Chintan reports that Delhi’s waste pickers reduced emissions by 962,133 metric tons.

Waste picking also saves cities money. Research conducted by Poornima

costs” (Chikarmane, 2012).

Despite this, waste pickers face exclusionary policies and harassment from officials. Research in the IEMS study found that in Durban, South Africa and Bogotá, “over 84% of waste pickers said poor treatment by the local authority is a problem in their work. More than 89% in those cities said regulations and by-laws regarding waste are a problem, and about 80% said

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harassment is a problem,” and as a waste picker in Bogotá said, “They burn the waste and don’t let us work where we’ve always worked,” and in Durban, one waste picker reported, that “police bring their dogs when we are getting the goods from the cars, and they chase us away with the dogs.” (Inclusive Cities, 2013)

The IEMS also found that social exclusion compounds waste pickers’ difficulties. Ninety-seven percent of waste pickers in Bogotá and Durban said social exclusion was a problem in their work [and] seventy-six percent in Nakuru experienced social exclusion. One waste picker in Nakuru, Kenya said, “You are called a thief. We are always being discouraged. People do not think our work is anything,” and a Durban waste picker said, “It disturbs us to be undermined by other people when we are doing our job. It makes it difficult for us to carry on with our job” (Inclusive Cities, 2013).

Waste pickers also struggle with low and uncertain earnings, which is particularly problematic since, according to the IEMS, 65% of waste pickers sampled said waste picking work was the sole income for their households. In addition, waste pickers occupy the bottom rung in the solid waste management business and face exploitative conditions from buyers with whom they find it difficult to negotiate fair prices even if the price of waste materials increase. They are also affected negatively by price inflation in other areas, which makes it harder for them to meet the rising prices for “electricity, food, hospital costs and school fees and supplies” (Inclusive Cities, 2013).

Despite significant challenges, waste pickers are not passive actors. Through their work, they contribute to the fight against climate change and to local economies. As reported in the IEMS, their “materials translate into profits for scrap shops, recycling companies, producers and artists,” while they create jobs for themselves and others. In Durban, some wastepickers use their generated income from recycling to buy other goods to sell, therefore increasing again income for their families. Locally, nationally, and internationally, waste pickers are organiz-

ing into co-operatives and networks to fight climate change, to demand a seat at the policy table, and to improve; their working conditions, their access to occupational health and safety, their wages, and the opportunities for their children. At an international level, waste pickers have formed the Global Alliance of Waste Pickers. Led by a global steering committee, this network has participated in UN Framework Convention on Climate Change meetings and Clean Development Mechanism meetings as well as the ILO’s 2013 conference entitled “Building a Future with Decent Work.” Latin America, Asia and Africa all have active waste picker organizations, and the number of national movements is growing.

Waste pickers recognize that continued progress also comes from knowledge sharing at both the local and global levels: at 2012’s First Global Strategic Workshop of Waste Pickers, held in Pune, waste pickers relayed that they benefited “from the experiences and creative solutions of others while building an international sense of solidarity” (Vryenhoek, 2012). Through workshops like these and the fostering of strong, democratic organizations, waste pickers persevere in advocating for working and human rights and for inclusion in solid waste management systems within their cities and around the world. ❧

Rhonda Douglas holds a Master’s degree in Management for the Voluntary Sector from McGill University in Montréal, Canada. Currently, she works as the Global Projects Advisor for WIEGO and is excited to be working with membership-based organizations of informal workers.

Brenda Leifso joined WIEGO as a Communications Consultant in 2012. With a background in magazine management, digital communications, and writing, Brenda holds bachelor’s and graduate level degrees in; History, with a focus on indigenous and women’s histories, English and Creative Writing. Her newest book is forthcoming with Pedlar Press in 2015. More on Brenda’s work with non-profits can be found at www.littleplumcreative.com.

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'What women need' to green BC's healthcare work

By Lou Black



People usually enter hospitals and other healthcare facilities for the purposes of restoring or improving their health. Ironically, these same locations of health promotion threaten health by exposing workers to toxins, using high quantities of disposables, incinerating waste, and emitting carbon emissions. Women are disproportionately affected by healthcare's unsound environmental practices because they comprise 78 percent of health care workers in BC (Statistics Canada, 2006), and thus more often face exposure from toxins on the job. As housekeepers and foodservice workers, women also feel the burden when policy makers implement certain *sound* environmental practices resulting in additional work without consulting them. They are likely to experience the greatest impacts and so should also have the greatest input into the changes being made. The health care sector on the whole requires further legislation to unify standards across BC's health authorities, with designated funding for greener operations and holding all providers, including private providers and contractors, to the same standards.

Healthcare is far from being a model green sector in BC. Its energy consumption, purchasing, and waste creation and disposal require substantial improvements in order to green the jobs in this sector. Healthcare is the largest carbon emitter of all the public sectors, responsible for 27% of all Greenhouse Gas emissions in 2012 — 228,548 tonnes CO₂e from all public sector sources covered by the *Greenhouse Gas Reduction Targets Act*. Hazardous wastes that are pathogenic, chemical, explosive, toxic or radioactive comprise 10-20 percent of the 500 metric tons (MT) generated by Canadian hospitals daily and

entering our environment. Several audits conducted in Ontario show that a large portion of waste is incinerated unnecessarily.

As healthcare workers, women working in many occupations including; housekeeping, laundry, foodservice, sterile processing, pharmacy, labs, and direct care, are exposed to numerous toxins and chemicals including those found in cleaners and disinfectants; glutaraldehyde, formaldehyde, ammonia, phthalates, glycol ethers, triclosan and volatile organic compounds. They are also exposed to harmful cytotoxic drugs used in chemotherapy and related waste which are categorized by the International Agency for Research on Cancer as possibly or probably carcinogenic to humans, as well as mercury which is found in electrical equipment, thermometers and manometers. Long term exposure to the latter affects the central nervous system and eventually causes kidney damage. A number of mercury spills are reported to Worksafe BC each year. Exposure to toxic substances accounted for 2,175 of all accepted claims in BC's healthcare sector for the years 2008 to 2013. Anaesthetic gases, "noted as being up to 3,766 times more powerful than carbon dioxide when it comes to greenhouse gas potential", are regularly released into operating rooms and vented into the atmosphere (Canadian Coalition for Green Healthcare, 2011).

It is possible to adopt safer technology. For example, safer thermometers, digital, battery operated, and other alternatives exist. Some hospitals have taken thorough inventories of equipment containing mercury and replaced it throughout their buildings. Others, like the Washington Hospital of California's Employee Green Team, in conjunction with their regional

district have extended the effort outside their walls and are also offering to exchange local residents' mercury thermometers for digital ones in order to keep toxins out of local waterways. The University Health Network of Toronto sites were among the first hospitals to introduce new protective technology in anaesthetics, by using canisters that prevent the release of anaesthetic gases. The impact of using this technology in Toronto and six other Ontario hospitals is estimated to be the equivalent of taking 8,600 cars off of the road annually (Canadian Coalition for Green Healthcare, 2011).

Women feel the impact of environmentally risky practices, but also experience an increased burden in their jobs with the implementation of better environmental practices. A gendered analysis shows that where there are increasing demands to recycle in the household, make greener consumption choices including re-usable diapers and fewer disposables generally, and use more 'home cooked' organic food and less processed food, the added work falls to women (Hunter, Hatch & Johnson, 2004). This division of labour is likely to follow women into their workplaces as well to the degree that women continue to be employed in roles in which they are cleaning, cooking, caring for children and caring for the ill.

Anecdotally, through informal discussion in my role as a healthcare union researcher, women members, particularly in cleaning and food service roles have described feeling heightened frustration and increased pressure on their time to meet the demands of new systems of operation designed to divert waste. Assembly line food tray workers, for

example, communicated that changes following a new municipal policy improving waste diversion of BC's Lower Mainland hospitals resulted in more work for them and co-workers to the point that they felt unable to take their breaks. Instead of being able to throw most of the items returned from a patient's tray into the garbage, they now had to carefully disassemble the tray and place items in their appropriate bin. Doing this for hundreds and hundreds of patients with a handful of workers within already tight schedules has understandably angered these members. Research to further explore the issue of added workload and workers' experience of changes to green their worksites would be beneficial. The changes are positive environmentally and need to happen, but should not be occurring at the expense of workers already charged with unrealistically high demands on their time.

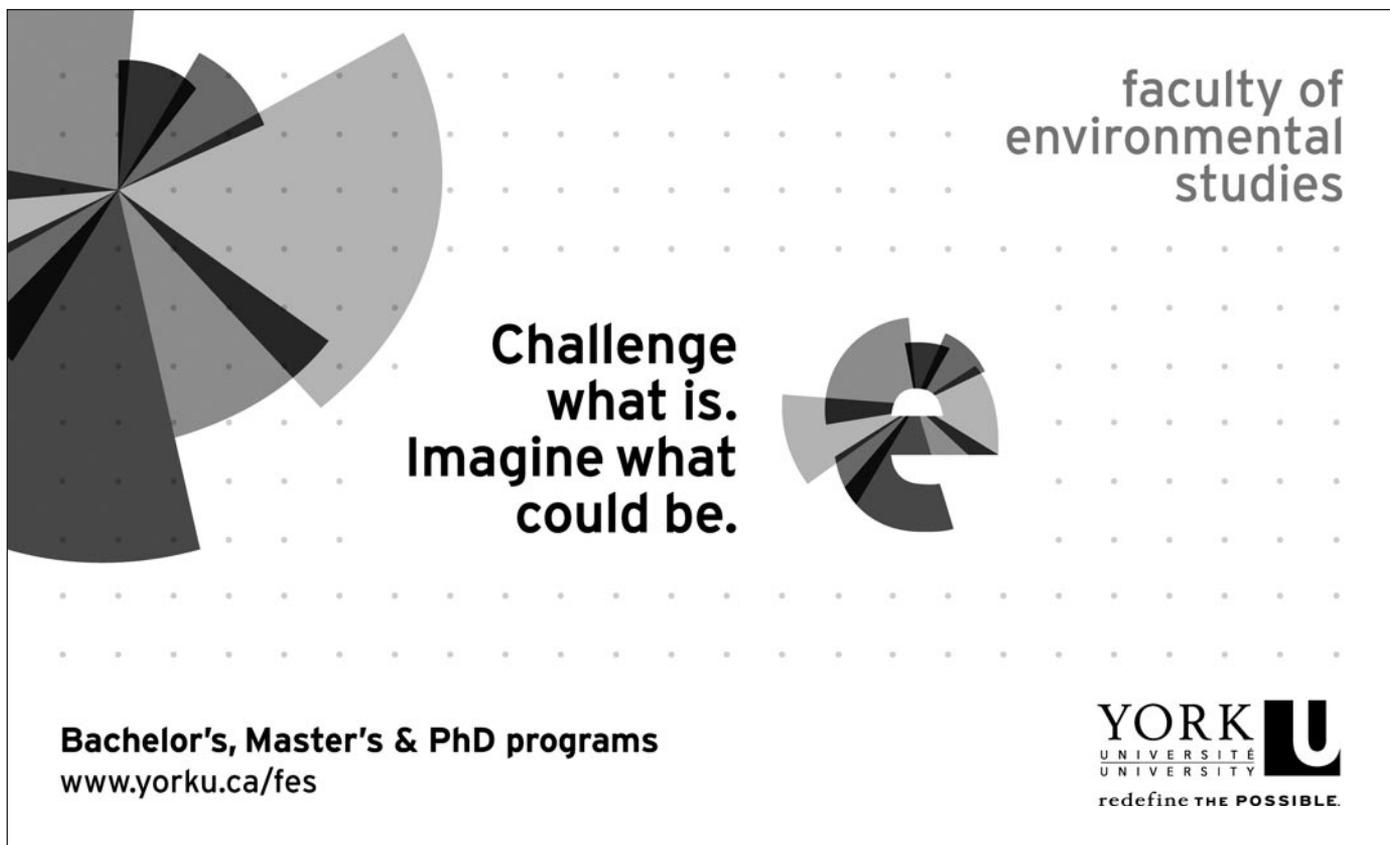
It is less likely that green changes would play out like this if workers were given genuine input into sustainability policies, practices, and plans for implementation. In collecting our members'

Anecdotally, through informal discussion in my role as a healthcare union researcher, women members, particularly in cleaning and food service roles have described feeling heightened frustration and increased pressure on their time to meet the demands of new systems of operation designed to divert waste.

knowledge and perspectives on greening their workplace through various surveys and questionnaires, it is evident that healthcare workers have expertise on green alternatives, can identify operational improvements, and possess environmental leadership capacity. The key is to engage them meaningfully and to give them the time and, in some cases, the material means to carry out the change.

Most employers fail to place workers at the centre of sustainability change. Women's expertise and leadership abilities are routinely overlooked in workplaces generally. Interestingly, BC's

health authority tasked with most things environmental, houses a program designed to create leadership and model behavioural change called *Green Plus Leaders*. It demonstrates promising practices in worker engagement and cultivating healthcare workers' leadership in the transformation of organizational culture into one that is more sustainably thinking and acting. The program's creators recognize that most healthcare workers face heavy workloads. The program permits *all* workers in the direct employ of the health authority to take up to 4 hours a month to carry out campaigns and co-



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worker engagement. Unfortunately this time is not available to the vast majority of cleaners, foodservice workers, and laundry workers who work for private contractors. Their employers do not give time for non-management employees to participate. It is particularly unfortunate because, according to reports from workers, the use of private contractors has come with increased use of disposables and pre-packaged and processed food in avoidance of more labour intensive and green processes. Our members witness

enormous waste and would like to be part of eliminating it.

In BC there have been numerous and varying initiatives to deal with environmental issues at health care sites but unfortunately, there has also been inadequate action from the government to set provincial standards that would unify and expand these efforts. Health authorities have inconsistent sustainability policies, some adopting stronger language than others. The province's legislative commitment to GHG reduction was a significant and pos-

BC's healthcare workers, the majority of whom are women, must be given broader and greater input into the greening of their work, including how to reduce exposures to chemicals and toxins, and how to ensure fairness in managing environmental change.

itive step. It looks much different though, than Victoria, Australia's Climate Change Act of 2010 with attached funding to the act, a portion of which was being used specifically for healthcare (Department of Human Services, Victoria). A provincial green procurement policy with resources to implement it should also be established. Examples of cost savings, waste reduction, GHG reduction and the strengthening of local economies are numerous and support more environmentally sound procurement.

BC's healthcare workers, the majority of whom are women, must be given broader and greater input into the greening of their work, including how to reduce exposures to chemicals and toxins, and how to ensure fairness in managing environmental change. They possess the expertise, ability to influence, and sheer numbers to be powerful agents of change in advancing environmental practices in their facilities. Ample alternatives in green technologies, operational processes, purchasing practices and effective legislation exist. The changes need to be consistent across all health authorities, achievable, and apply to all healthcare workers regardless of whom they work for. If BC's healthcare facilities are to be successfully transformed, fulfilling the medical mantra of "do not harm", they must elevate the role that the women working in healthcare perform as well as support this work with dedicated funds housed within a strong provincial mandate. ❧

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Greening, Green-Washing, and Union Activism in Hospitality

Steven Tufts, Department of Geography, York University, Toronto, Ontario, Canada

Simon Milne, New Zealand Tourism Research Institute, Auckland University of Technology, Auckland, New Zealand

In the accommodation and foodservice sectors, new environmental practices are implemented in ways that can either discipline or empower workers. In some instances, new environmentally-friendly practices are used by management to reduce the overall labour required. In others, workers and their unions have been able to advocate for environmental responses that raise standards and gain leverage over employers. The contest over how best to ‘green’ (or in some cases, ‘green-wash’) these industries has important implications for industrial relations and the over-represented number of women and racialized women who work in hospitality services (see Box 1).

in the late 1980s in response to a hotel’s appeal to guests to not have their sheets changed daily (Hayward, 2009). Management green-washing persists as firms respond to consumer demands for action on the environment and climate change. Despite the appeal, many actions have marginal impact on the environment and are largely voluntary and unregulated by government. Further, green-washing can be used as a means of justifying the reduction of labour necessary to produce goods and services.

Hotels are now ‘marketizing’ minor environmental initiatives by sharing savings with consumers. In 2010, unionized room attendants and a delegation of com-

reduction in energy and chemicals used to clean the rooms and launder linens has significant environmental benefits. The workers represented by UNITEHERE Local 75 argued that there was no real reduction in harm to the environment, only a significant cost savings to the employer as room cleaning is their highest labour cost. The union further argued that non-serviced rooms consume almost the same amount of energy to clean as a room maintained daily, and that work is intensified for room attendants who clean rooms on a quota system (UNITEHERE Local 75, 2010). The ‘Green Choice’ program therefore not only decreases the number of rooms to be cleaned each day, but intensifies the labour process as rooms which have not been serviced take room attendants more time to clean. Room attendants, largely migrant and racialized women, are the largest group of workers in metropolitan hotels and among the lowest paid in the hotel sector.

UNITEHERE, the largest hospitality union in North America, dates back to the 1890s and now represents over 260,000 members, mostly in large metropolitan hotels but also represents 90,000 members in foodservices. The union has responded to management ‘green-washing’ by critically questioning the value of programs such as ‘Green Choice’ and other eco-certifications that are largely self-administered. UNITEHERE has also developed alternative campaigns that integrate sound environmental and labour-friendly policy. These initiatives raise important questions about how workers can intervene in the environmental practices of firms.

UNITEHERE has historically used consumer boycotts against hotels. Over

	Total Labour Force	Accommodation	Food and Beverage Services
Female % (2006)	47.4	61.4	59.6
15-24 % (2006)	15.0	22.8	48.1
Full-time, Full-year % (2006)	53.7	39.4	31.0
Born Outside Canada % (2006)	22.1	26.1	25.2
Visible Minority % (2006)	15.1	19.0	22.7
Union Coverage % (2012)	26.7	16.9	3.5

Box 1: Demographic Characteristics of Accommodation and Food Service Workers in Canada

SOURCES: CTHRC 2008 NATIONAL SUMMARY: DEMOGRAPHIC PROFILE OF TOURISM SECTOR EMPLOYEES, 2006 CENSUS CANADIAN TOURISM AND HOSPITALITY RESEARCH COUNCIL: OTTAWA/MARTIN, TERRENCE 2014 HUMAN RESOURCE MODULE OF THE TOURISM SATELLITE ACCOUNT, 2012 CAT NO 13-604-M-NO 72. STATISTICS CANADA, OTTAWA

‘Green-washing’ has been an issue in hospitality and tourism-related industries (e.g., hotels, airlines, restaurants) for some time. In fact, ‘green-washing’ itself is commonly attributed to Jay Westerveld, an environmentalist who coined the term

community supporters entered the Sheraton Centre hotel in Toronto to protest the ‘Make a Green Choice’ program which gives guests a \$5 per night discount if they choose not to have their room serviced at all. The hotel company claims the

the last decade the union has adopted information and communications technology to develop its Union Hotel Guide, first with a web-based search engine for union friendly hotels and more recently a smart phone application. The Guide identifies union hotels as well as hotels (union and non-union) that are currently under boycott for labour-related infractions. While the union has not integrated 'green' criteria into its hotel patronage campaigns, environmental issues are evident in its more recent efforts to raise standards in the institutional foodservices sectors. In 2012, the union launched its *Real Foods. Real Jobs* campaign. This is a comprehensive strategy based on three principles (see Box 2). 'Real food' is where the 'green' elements of the campaign are focussed, with advocacy for healthy meals and the ethical and local sourcing of foods. Here, there is also an intervention that calls for the 'skilled' fresh preparation of food rather than the 'de-skilled' preparation of pre-processed meals. The 'real jobs' component (in 'bold' font in the campaign logo) represents the call for increased standards for workers and democratic rights in the workplace. The final principle, 'transparency', is directed at institutional employers demanding full disclosure of food sourcing and employment policies. The logo itself is a graphic summary of the campaign pillars of workers' rights (clenched fist), healthy food (fork) and local sourcing (green leaf).

The campaign has been initially focussed on airports, but is also aimed at public schools and universities. The union has had some initial success with its campaign for 'greener' airport foodservices. *Real Foods. Real Jobs* is claimed to be a North American based campaign, but it is unevenly spatially developed and has largely emerged out of Chicago's UNITE-HERE Local 1's efforts to secure union jobs in the midst of a \$3 billion upgrade of O'Hare International Airport (ORD). The campaign's incubation at ORD follows a long lineage of Local 1 organizing concession workers at O'Hare and the timing of the reinvestment.

The strategy of Local 1's campaign is to build community support in its fight to

What do we stand for, and what do we want?

1. Real Food: We support a food system that emphasizes fresh cooked meals rather than processed items, prioritizes the local and ethical sourcing of ingredients, and utilizes production methods that are humane and respect our environment.

2. Real Jobs: Food workers should be paid a living wage (with health and retirement benefits), including enough to afford real food for their families. Workers should be free to publicly disclose food safety or quality issues, and to form a union through a legal and democratic process of their own choosing without threats and intimidation.

3. Transparency: Transparency is fundamental in changing our food system. Universities — and all food service institutions — should fully disclose the source of their food purchases, and the wages and benefits paid to food workers.

Box 2: Real Food. Real Jobs

SOURCE: [HTTP://WWW.REALFOODREALJOBS.ORG/PRINCIPLES/](http://www.realfoodrealjobs.org/principles/), LAST ACCESSED NOV 8, 2013

organize the workers of new food concessions developed throughout ORD's upgrade. The campaign, launched in early 2012, began with a survey asking consumers what type of foodservices they demand at the airport. The union highlighted the demands of travellers for 'local' products in airports as a best practice, inspired in part by 100 mile diet and other 'eat local' campaigns. Another consumer-based strategy was a 'positive boycott' that attempted to direct consumers to unionized high quality airport concessions. One campaign attempted to intervene in an USA Today readers' choice 'best airport' restaurant poll by encouraging customers to vote for the unionized nominees.

The union also bases the campaign with its members and the community. Workers feature as advocates for locally grown food and unionized jobs. Member activists are also sent to events organized by the local food security community to talk about how airport sourcing and employment practices can fundamentally change the food system. Community engagement is a significant part of the overall strategy.

In the spring of 2013, Local 1 released its key report advocating for sustainable foodservice practices at O'Hare and listing its key demands. In *Putting Sustainability on the Table* the union makes its case for standards at the airport drawing on findings from a survey of 200 airport concession workers. Specifically, the

union demands were: 1. 'ORD-er' fresh, healthy and local (10% from US Midwest) food; 2. Limit food waste through better management and the donation of surplus food; and 3. Make 'real food work' through the creating of living-wage unionized jobs and a peaceful 'transition' as new concessions are awarded (UNITE-HERE Local 1, 2013).

The report was not simply promoted through the media as the union organized several events and actions around its release. It was recognized that the powerful Chicago Department of Aviation (CDA) would need to face public pressure before it responded to the demands of the report. In April 2013, ORD announced its Green Concessions Policy, which the union took as a first victory in its ongoing struggle. The CDA released the policy on April 21, 2013 in time for Earth Day. In 2011, the CDA established its own certification program, the Green Airplane Rating, for tenants. Indeed, the Green Concessions Policy did require concessions to use more sustainable packaging and disposable utensils and even donate surplus food.

There was, however, no mention of labour standards or guarantees of union recognition. Questions remain over what the overall environmental impact of their demands will be in the future (e.g., uptake, perceived versus real benefits of localism) and more importantly, the long-term compatibility of 'green' and 'blue'

demands in the airports. Strategically, integrating environmental criteria in union strategies to raise standards for workers will continue in a number of sectors. For airport foodservices, which employ large numbers of women, migrant and racialized workers, action to improve working conditions and wages is necessary.

There are, however, lingering questions about such campaigns, which will continue to confront workers and unions. First, it may be easier to change environmental practices than raise labour standards in the short-term. Will unions commit to such campaigns over the long-term if labour standards are not also raised? The programs are also limited geographically to places with significant union density and presence. UNITEHERE, for example, does not have a presence in a large number of North American airports that could also benefit from such campaigns. Creating a North American wide *Real Foods. Real Jobs* campaign will be a challenge. Lastly, there are real contradictions in such campaigns, the most obvious being can airports and air travel

really be sustainable at all? Air travel is responsible for only 5% of greenhouse gases, but they are among the nastiest emissions and occur at high level in the atmosphere. 'Real' environmental campaigns may very well have to consider how much air travel should occur and how many airports (and airport workers) are needed in the future. These are difficult questions for unions representing already marginalized workers dependent upon travel and tourism activity, but may very well be necessary for larger discussions of economic and environmental change with just transitions for racialized women in the industry. ✂

Steven Tufts joined York's Department of Geography in 2007 where he is currently Associate Professor and Chair. His research focus is on the geographies of work, workers, and workplaces. Current research projects include labour market adjustment in the hospitality sector, the response of unions to climate change, labour union renewal in Canada, and organized labour and rising populism.

Simon Milne is Professor of Tourism at Auckland University of Technology where he also directs the New Zealand Tourism Research Institute (www.nztri.org). Simon's research interests focus on the links between tourism, information technology and community economic development.

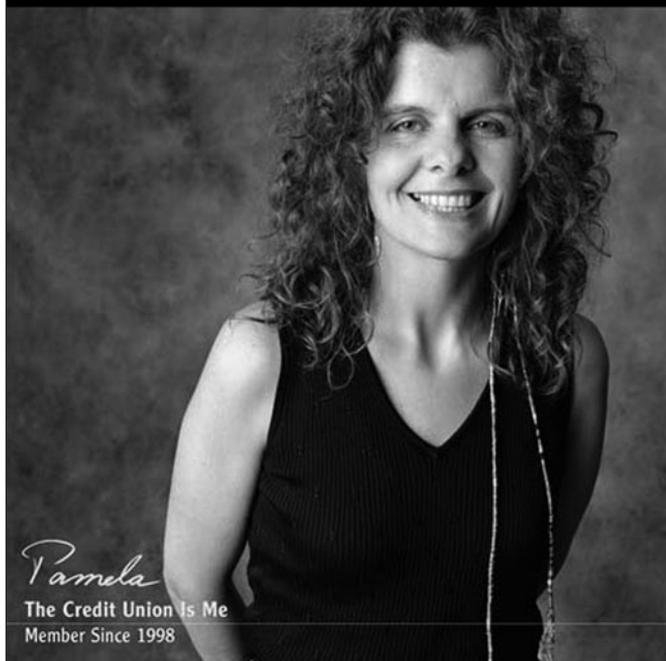
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Report from the 2014 Tar Sands Healing Walk

By Jennifer Mills

“We’re here, we’ve always been here, and we’re not going anywhere.”

– Crystal Lameman of the Beaver Lake Cree Nation

Indigenous communities and allies from across Turtle Island and beyond came to Treaty 8 territory near Fort McMurray, Alberta for the fifth Healing Walk and camp, held June 27-29, 2014. The Walk was a 16-kilometre journey around the Syncrude tar sands extraction site. Framed not as a protest but rather as a gathering for learning and healing, the Walk was led by local indigenous people and centred on ceremony and prayer. While the local landscape may look to outsiders like a write-off, the quote above shows that the exploited land is still the territory of the First Nation and Métis communities who continue to live there and have an important connection to that place.

At the start of the walk, a thick grey cloud of smog hung in the air above us. The initial sickening smell of petroleum became disturbingly normal after a short time. The oppressive heat and lack of shade made the sandy terrain feel like a desert. The only sources of water we encountered were vast ponds filled with mining waste, over which air guns sounded to scare off birds. After walking around the site for hours, I had the sense of being completely surrounded by the petroleum industry in a way that photographs cannot convey. Trucks drove past us constantly, often honking in support. Some workers are from the area and have few employment options outside of the industry. During the walk, we passed tar sands sites in various stages of reclamation that were all fenced off. Even if the vegetation can be restored, which is uncertain, the fences

further signify the irreparable separation of living things from the land that has taken place. Halfway through the walk, and while most of us were utterly exhausted from the heat, Dene drummers from nations in Manitoba and northern Alberta continued to keep spirits high with their energetic singing and drumming.

Female elders led many of the Healing Walk ceremonies: prayers to the four directions while we were walking and a water ceremony at our campsite. Before the water ceremony, elder Kathie Moses of the Saddle Lake Cree Nation spoke of her motivations for participating. She said, “I am not an

activist. I am a mother, grandmother and great-grandmother”. She spoke of the anxieties felt by parents in remote communities who do not know if the wild meat they feed their children will be good for them or will make them sick. Participants brought water from lakes and rivers near tar sands infrastructure, but only clean water from a spring could be safely consumed during the ceremony. We were taught about the role of women in Cree culture as the protectors and keepers of the water.

When announcing that this year’s Healing Walk would be the last, organizers made it clear that this space for sharing and strategizing would continue in other places. Eriel Deranger and Melina Laboucan-Massimo wrote that the walk has achieved its goal by “creating First Nations solidarity in communities throughout Alberta, and also the rest of Canada and the United States”. The focus will now spread to communities impacted all along the chain of oil production, from initial extraction to pipelines, refineries, storage, and emissions from consumption. Two female elders came all the way from Africatown, near Mobile, Alabama, to speak out against plans to install bitumen storage tanks across from a school in their community. Their struggle highlights the



Photo of desert-like conditions of land that has already been mined in 2014.

PHOTOGRAPH: JENNIFER MILLS



TOP LEFT: Elders lead Healing Walk 2014.
LEFT: Healing Walk participants pass by tar sands site 2014.
BELOW: The route of the Healing Walk

environmental racism experienced by marginalized communities affected by the oil economy across the continent.

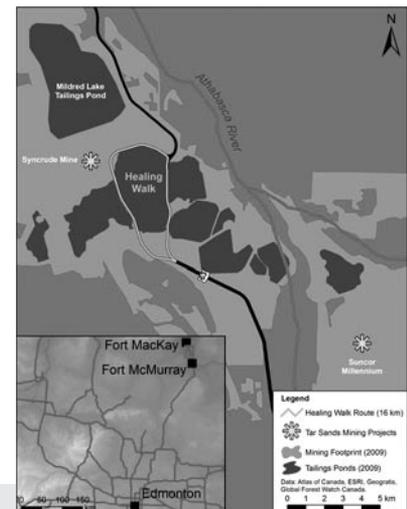
Despite the sadness generated by the destruction we witnessed, the weekend overall was filled with feelings of hope and determination. There was excitement over the June 26th Tsilhqot'in Nation v. British Columbia Supreme Court decision. By granting a declaration of Aboriginal title, the Supreme Court strengthened the recognition of Aboriginal title to traditional territory and increased the level of justification needed for the Canadian government to infringe on that title with projects like logging, mining or oil extraction. Other ongoing legal cases provide hope for change to current government policies, such as the Beaver Lake Cree case going to trial in 2015 over the cumulative impacts of the tar sands industry. We were also reminded, however, of the attacks on the rights of indigenous peoples by provincial and federal governments in Canada. Albertan regulators have approved production of 5 million barrels of oil a day by 2030, a sharp increase from the 1.8 million barrels a day produced in 2012. Regulatory changes in Alberta have also restricted the opportunities for First Nations to participate in hearings over proposed projects on their traditional territory. Clearly, more awareness is needed of the local impacts of the tar sands industry as well as how it affects and implicates all Canadians. This includes the growing *in situ* extraction of bitumen, whereby steam is injected into the underground reservoirs to heat the bitumen and facilitate extraction through pipes. While this method causes less deforestation than mining, it releases more greenhouse gas emissions

per barrel and leads to land fragmentation with a web of pipelines, roads, and other infrastructure. The unclear risks of this method are demonstrated in Cold Lake, where a spill has continued for over a year with little media coverage or response from the Canadian government.

Some of the strongest voices against treaty violations and environmental destruction are those of indigenous women. The petroleum industry infringes on the treaty rights to hunt, fish and trap by restricting access to traditional territory, driving away wildlife, and contaminating the environment. Communities living near the tar sands have experienced higher than average cancer rates and have found signs of illness in local animals. Many of these women were also the main organizers of the Healing Walk. Some are mothers, who speak passionately of their concerns and responsibilities to their children. Jesse Cardinal, of the Kikino Métis Settlement, asked, "What will the land be like for our children?" given that the local environment is already compromised. When I asked her why so many of the organizers are women, she was quick to point out the important roles men took on in providing security at the camp and keeping the fire lit all weekend. Everyone had a part to play.

The Healing Walk was full of contrasts. The tailings ponds, smog, and desert at the extraction site were juxtaposed with beautiful sunsets on the lake at the camp, otters swimming by, and dancing and singing into the night. The gathering was a powerful reminder of what we can accomplish in unity, and what we need to protect. ❧

Jennifer Mills is a PhD student in the Faculty of Environmental Studies, York University. Her dissertation research focuses on indigenous rights and consultation processes relating to petroleum extraction in Canada and Norway. She is an organizer with the Mining Injustice Solidarity Network and the fossil fuel divestment campaign at York.



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For information on current developments related to tar sands, First Nations, and land claims, see:
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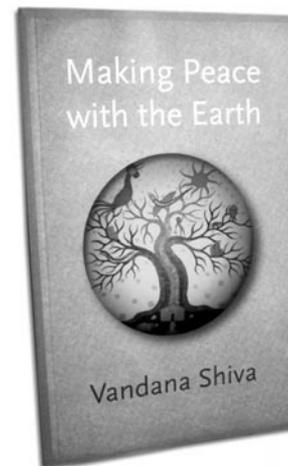
Making Peace with the Earth

By Vandana Shiva

Fernwood Publishing, co-published with Pluto Press in 2013

288 pages, list price \$24.95 CAD

Review by Skyler M. Warren and Jessica L. Knowler



Vandana Shiva's most recent book, *Making Peace with the Earth*, provides an enlightened account of the environmental injustices taking place in various communities throughout India. She expertly maps the proliferation of land grabs, the commodification of fresh water, the privatization of seeds, among other destructive trends, that are espoused by the neoliberal economic framework and realized through a coercive dissemination of globalization, where corporate personhoods and market-based principles reign unchecked. Her analysis is both authoritative and humble, in that she remains firmly planted in the experiences of those who endure these injustices most closely, rendering her exposition accessible, readable and highly persuasive even to the unconverted.

Skepticism of the words 'peace' and 'war' when discussing environmental issues is common in the industrialized nations who profit from systems of capitalist globalization and live comfortably. However, Shiva's illustrations of the devastating consequences that exploiting the earth's resources have when they are externalized to the Global South, demonstrate that the concept of 'eco-apartheid as war' is not just a metaphor, but a harsh reality. Descriptions of forced displacement and increasing food and water scarcity for the most marginalized in Indian society, despite India's recently touted economic 'growth', read neither gratuitously severe nor timid: they are an evaluation of the damage caused by international bodies, such as the World Bank, as well as governments and multinational corporations, who

expedite the privatization of nature.

Shiva foregrounds the words 'peace' and 'earth'; the connotations of which have become framed as both romantic and irrational, as well as ultimately contradictory to mainstream understandings of 'growth' and 'development'. Exposing common-sense understandings of words like 'efficiency'— used to justify the commodification of natural resources — maps out the ways that such terms have been co-opted into the current paradigm for insidious purposes.

Shiva meticulously shows that neoliberal ideas of growth only hold up when natural and social costs are externalized,

value-less, where compensation is either unjust or non-existent. She describes this narrow understanding of what constitutes value as a key element in the ecological crisis, and fundamentally reliant upon the concept of separateness. Separateness is the ultimate tool of corporations, and corporatized states, because it creates more hunger and scarcity, the results of which arbitrarily increase demand and then concentrate its profits into the hands of the few. She describes peoples' identities as bound up in the land from which they derive their subsistence, yet the very framework for an 'efficient' economy is one that treats this material identity as a

Skepticism of the words 'peace' and 'war' when discussing environmental issues is common in the industrialized nations who profit from systems of capitalist globalization and live comfortably.

which she characterizes as an ideology of apartheid. When natural and social capital are internalized into calculations of growth, the current model's true inefficiency, unsustainability, and ultimately, its violence against the Earth and the majority of its people, is unmistakable. Borrowing from Marilyn Waring, Shiva reiterates that an economy reliant upon trade to create value is made separate from the 'informal economy'; home-work carried out by women is seen as economically value-less because nothing is 'produced' for trade. As well, much of the work in food production done by women is considered equally

commodity to be appropriated, marketized, and eventually privatized for the profit of those who degrade it. It is precisely a different kind of understanding to which Shiva points — an understanding that requires the re-claiming of language more suited towards qualitative imagining and a collaborative system where holism, richness, and complexity replace separation and reductionism.

It is at this entry-point that a rights-based understanding of earth-centered economics is most apt: taking a rights-based approach, Shiva evades the growth/no-growth tension by noting the need to

COVER DESIGN: MELANIE PATRICK/COVER ART: DHAVAT SINGH

“...strengthen human rights by deepening the recognition that humans depend on the earth” (pp.264). A shift from ‘terra nullius’ to ‘terra madre’ must underpin the ideological justification for enacting environmental and social justice. Her ideas are not reactionary or idealistic, they are critical of a system that perpetuates injustice and calls it ‘development’. Shiva does not seem to argue that ‘globalization’ is inherently evil, but rather that it is highly problematic because of the way that it takes place and because of the current goals, principles and capital that inform it. A globalized community does not have to preclude collaborative, ecological, earth-centered and truly democratic processes of sharing, wherein we come to realize the interconnectedness of ourselves with one another and with the earth. Instead, she argues that;

“[a]n ecological and feminist agenda for trade needs to be evolved based on the ecological limits and social criteria that economic criteria must adhere to, if it is

to respect the environmental principle of sustainability and the ethical principle of justice.” (p.257)

Shiva rejects the idea that alternatives need to be realized in the future by non-existent technologies and shows instead that real alternatives already exist with bio diverse ecological farming practices, which are sets of knowledge that have been locally cultivated over the course of thousands of years. Learning from traditional practices of subsistence is an important tool to reconcile the current unsustainable growth model with the economic and ecological changes that, in the wake of climate change, most of us now recognize as imperative. Ultimately holding us back is a hierarchy of power derived from a neoliberal perversion of democracy — sustained through an ideology of apartheid — that disables the necessary political will to change. ✂

Jessica Knowler is a Gender, Sexuality and Women’s Studies student at Simon Fraser University. Her research interests include issues of social justice in the labor market, climate justice, feminist theory and feminist methodology in research praxis.

Skyler Warren is currently enrolled in the Master of Public Service program at the University of Waterloo. Her research interests center upon the deconstruction of issue framing and the application of a political sociology approach to policy analysis and methodology.

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Canada

Indigenous Message on Water, Anthology

Editors Juan Guillermo Sanchez Martinez and Felipe Quetzalcoatl Quintanilla with associate editors Darlene Sanderson and Sophie Lavoie.

London, Ontario: Indigenous World Forum on Water and Peace, 2014.

222 pages e-book price \$7.00 CAD from www.waterandpeace.wordpress.com

Proceeds support the organizing of the Indigenous World Forum on Environment and Peace.

Review by Patricia E. Perkins

Tortugas volviéndose historia/
Turtles becoming history

This lovely book is an illustrated, collaborative anthology of poetry and other writings by more than 50 indigenous people from all over the world on water and its significance. As the editor says in the Introduction, it “showcases a mix of generations, traditions, cultures, and ways of understanding both words and nature. Depending on the local and colonial histories and on personal experience, each author has brought before us a droplet from his/her own harvest.” The writings are translated into both English and Spanish, and many are also included in the original languages: Apache, Maori, Mayan K’iche’, Wayunaiki, Mapuche, Palenque, and others. There are full-colour plates of illustrations by the artists Achu de Leon Kantule and Daniel Andres Molina Sierra.

The Indigenous World Forum on Water and Peace (IWFWP) has emerged since 1999 through calls at World Water Forums, UN meetings, and indigenous conferences, and organizing led by the Indigenous Environmental Network. By raising awareness of indigenous voices guiding the way toward the preservation

of water, the Forum’s work is for all humanity and all life on earth. Writes associate editor Darlene Sanderson, “IWFWP is just one step in reclaiming balance; knowledge, experience and traditional wisdom will contribute to the dialogue of science, offering solutions for a sustainable future that are rooted in language and cultural practices.”

The diverse and interesting writings in this book are impressive in their global breadth as well as their down-to-earth perspective on water — essential for life,

sacred and awe-inspiring, interwoven with all aspects of indigenous cultures.

Below is a poem from the book (p.141), by Pin@y Filipina/US cultural worker Holly Calica:

Patricia E. (Ellie) Perkins is a Professor in the Faculty of Environmental Studies, York University, where she serves on the Equity Committee. Her research focuses on gender, climate justice, and participatory water governance.

JOYOUS 33, A PACIFIC VOYAGEUR

...she sails, glides over waves del pacifico ~ madre del mundo ~yemanja ~ she sails, aboard ~ a vaka amongst many Austronesia brothers, sisters, fathers, mothers, niños del mar ~ primos del amor, hermanos de tiburones, los delfines y las ballenas ~ even with tears falling still bailando con splashes everywhere ~ skyhopping and sharing ~ amor with us despite our pollution, our modern technology, our carbonized lifestyles ~ of destruction ~ yet she sails, a birthday girl following a dream, a pin@y with hula chants ~ tucked away, the call of the ancestors luring her west, reliving our past bringing us ~ forward into a future with our breath filling her sails to join the effort in saving our blue ~ planet, nuestra pachamama ~ our sister, a joyous one, makes the voyage for us ~ ~ ~



COVER ART: OSWALDO DELEON KANTULE "ACHU"

Climate Change is here and now

5 Videos show how it affects women

Review by **Reggie Modlich M.Sc.**



Prevailing powers, especially corporations of the wealthier countries of the north, relentlessly continue their profit driven course, which furthers climate change. They build more gas and oil pipelines, more air ports, and more highways. Meanwhile, countries of the south are already struggling with the effects of climate change on a daily basis. Those responsible for raising and feeding the young and vulnerable in most societies, — overwhelmingly women — suffer most from the effects of climate change.

Ironically it is voices from the north, who have released five short videos on women and climate change. All are less than 10 minutes long; four are produced by Oxfam, as part of their 2008 “Sisters on the Planet” series, and one by Deutsche Welle, released in 2012.

1. Muriel’s story

(Oxfam: <http://www.youtube.com/watch?v=AdmEXWoqE8g>)

Muriel Saragoussi is a senior member of Brazil’s Environment Ministry. She narrates a global overview of how climate change causes catastrophic changes in weather, including floods and droughts. This is destroying the ability of women to raise traditional crops and livestock and nurture their families. She concludes by admonishing all of us about our responsibility to do our part to curb this human tragedy: “If you are on a boat, that’s sinking, it’s useless to say it is someone else’s fault.”

2. Sahena’s story

(Oxfam: <http://www.youtube.com/watch?v=WqYgDGy8Z4M>)

Bangladesh experiences yearly floods of 1/3 of her land surface; climate change has altered the seasons making it difficult to predict planting and harvesting times. Sahena is a young village woman, who overcame the opposition of her husband

and brothers in her traditional patriarchal society to monitor radio broadcasts, and play a leadership role. She warns her village, about coming floods and ensures that people, animals, cooking fuel and food are relocated to high and dry grounds in time.

3. Martina’s story

(Oxfam: http://www.youtube.com/watch?v=iSMB8m4_4BM)

Martina, in rural Uganda, is sad to have to raise her family at this time. Drought has wreaked havoc with seasons in her region. She and other village women have to travel ever further to find fruits, fire wood and water to sustain their families — not to mention the increased risk of assault during their ever lengthening forays. They have to dig ever deeper to find ground water and when the rains do come, they come with such impact that they destroy the crops.

4. Melissa’s story

(Oxfam: <http://www.youtube.com/watch?v=hU5qw751XxY>)

Melissa is a British journalist who traded her career for that of an educator. Environmentally conscious since childhood, she was concerned about her society’s fixation on consumerism and disposable goods. Her career change enables her to help youth cope with their fears about the future and guide them to positive action on Climate Change.

5. Women in Bangladesh fight Climate Change

(Deutsche Welle: <http://www.youtube.com/watch?v=F7p65xqtMA>)

Julia Heinrichmann filmed this story, published by Deutsche Welle, Germany, in 2012. She describes a campaign developed by the Centre for Global Change (CGC), a local NGO in Bangladesh, to assist rural women to respond to changes in their climate. Industrialized shrimp cultivation has

rendered much of the soil too saline, to allow much else to grow. In such an increasingly barren environment, men have migrated to the cities and left women and children stranded. Rural development advisers from CGC work with women in planting chilly during dry season and raise crabs during wet season; efforts with more resilient rice species are also showing promise. The women are also encouraged to raise chicken. The video shows Dr. Ahsan Uddin Ahmed, the Executive Director of Centre for Global Change (CGC) explaining the need for change to village women. He has been engaged in climate change related research since 1990 and is a member of IPCC since 1996.

The videos are not cinematographic masterpieces. Yet, they all convey the vivid and unequivocal message that Climate Change is here, and that it affects women most immediately in their everyday lives and responsibilities to sustain their families and communities. The Bangladesh videos, two and five, are the most hopeful. They show women being empowered through positive responses. Aid and development work that starts at the grassroots, and empowers women — one woman at a time — can make a real difference. “Why Good Intentions Aren’t enough,” Winter 2014, *Herizons*, a recent interview with Tory Hogan, aid worker turned aid critic, expressed this message. Mega projects, such as dams, or other corporate, top-down ventures, funded by mega loans by the World Bank or IMF, put poor countries only further in debt and force social infrastructure cut-backs. Such projects rarely consult those directly impacted and are frequently skimmed off by multi-levels of patriarchal corruption. ❧

Reggie Modlich is a feminist activist and retired urban planner who worked with women in rural India in her younger days.

Women at COP 20 Blast Failure for Real Action in Lima

“Time to Stop Calling and Start Doing. Leaders, You Have 12 Months to get it Right.” [Lima, Peru; Sunday, 14 December]

By Bridget Burns

As COP20 came to a close, the members of the **United Nations Framework Convention on Climate Change (UNFCCC) Women and Gender Constituency (WGC)**, representing hundreds of thousands of women and men from around the world, responded to the failure of the Lima outcome to reflect the urgency of the climate crisis.

For over two weeks in Lima, WGC and Women’s Caucus members participated directly in the negotiations, held press conferences, conducted advocacy trainings, wrote articles, released reports and briefing papers, joined demonstrations

and marches and collaborated with dozens of colleagues from around the world who participated through all this action in the COP in Lima or in support activities back home in local communities. In spite of these efforts, and those of many allies in Civil Society, the COP failed to move substantially forward towards the ultimate goal of agreeing on a plan to avert climate catastrophe, although in the final hours it agreed to an outcome in order to keep work moving towards Paris next year.

Bridget Burns, of the Women’s Environment and Development Organization in the US, and co-focal point of

the WGC summed up the WGC’s evaluation of COP 20: *“Governments should be immediately implementing a renewable and safe energy transformation, protecting threatened ecosystems, and ensuring that the rights of the most vulnerable and impacted communities, including women, children and indigenous peoples and ecosystems are respected and protected, but here at COP 20 in Lima, in spite of working almost 2 days overtime, they did not come close to reaching this goal.”*

Although COP 20 did see the launch of the ‘Lima Work Programme on Gender’, which aims to advance implementation of



PHOTOGRAPH: WOMEN AND GENDER CONSTITUENCY

gender-responsive climate policies and mandates across all areas of the negotiations, this critical initiative faced challenges as well, with governments trading language on “gender equality” for “gender balance.”

Burns continued: *“The WGC insists that a fundamental framework of a strong ‘rights-based’ agreement that is focused on climate justice must be the goal for COP 21 to be held in Paris, France, in 2015. Without gender equality, women’s rights, indigenous peoples rights and climate justice, including financing for loss and damage, a rapid transition to safe and renewable energies, massive commitment and emissions reductions by the developed world, and full participation of those most impacted, the programme of work to be done will be incubated and launched within an empty shell and will do little to support the lives of millions nor protect the precious ecosystems upon which we depend for our survival.”*

Reinforcing the frustration felt by all, the words of **Marina Parvin, from the Indigenous Mundas community in Bangladesh and representing the Asia Pacific Forum on Women, Law and Development (APWLD)** were read by **Carmen Capriles of Bolivia** to bleary-eyed delegates around 3:00 AM in the closing moments of the extended negotiating session, *“I have travelled all the way from Bangladesh, leaving my home and family, hoping to see a commitment to an effective and equitable new agreement that is binding, ambitious and transformative; a commitment to uphold human rights, gender equality, and the rights of future generations.”*

Parvin continued: *“It pains me that when I go back, I will tell my people that wealthy governments just talked about which lands will be lost, communities displaced, cultures destroyed and which lives are less important.”*

AWLPD’s Regional Coordinator Kate Lappin, based in Thailand emphasized the key demands of the Women and Gender Constituency at COP 20, *“We didn’t come here to negotiate gender equality on a dead planet. We’re not asking for women to be half the displaced population, half of those killed, half of those who lose their livelihoods and future. Every single word of this document relates to*

women’s human rights and we won’t rest until every single word is fair and serves to create a just, sustainable and equitable future for women and men.”

Sabine Bock, Energy and Climate Director for Women in Europe for a Common Future said, *“We can only get an ambitious and adequate agreement, if women and men equally decide, contribute and benefit from all climate policies and actions. Provisions on Technology and Mitigation will also only be effective when Gender Equality is included in the implementation of climate-safe technologies. And, in fact, at WECF, we have seen in our work on a daily basis that women and men are already jointly implementing climate solutions in local communities — for example solar collectors in the South Caucasus and Eastern Europe. These solutions must play a major role in the Paris Agreement — and the Agreement must reject completely big hydro, nuclear and fossil fuels of any kind.”*

Mrinalini Rai, an indigenous activist from India and Nepal, added, *“It is time to recognize that we need ‘System Change, Not Climate Change’, and that System Change should begin by recognizing the rights of the most vulnerable and making them central to the climate discussion, not in the periphery.”*

Isis Alvarez, from Colombia and representing the Global Forest Coalition in the WGC, found encouragement for the future outside the walls of the UNFCCC meeting. *“I am glad the Peoples’ Climate Summit was also held in Lima parallel to the UNFCCC COP 20 negotiations. While listening and following at the latter, one could lose all hope for real climate action and climate justice, but at the Summit, you could actually get to know the ‘real’ people on the frontlines of climate change, listen to their voices and hear their proposed solutions. It helps you believe again in local and genuine actions that we can take now. If we all wait in line for an agreement between governments (that might already come too late or not even come at all) we might just cook ourselves together with the planet while we are waiting.”*

Trish Glazebrook, U.S. Representative for Gender CC: Women for Climate Justice, made clear: *“Gender is*

not an ‘add-on issue’. Women are half the world’s people. We are most of the world’s farmers, health-care workers and teachers. We deserve and demand equal partnership in climate negotiations and implementation.”

Osprey Lake of the Women’s Earth and Climate Action Network (WECAN) in the United States, where the battle over the Keystone XL Pipeline and the development of the Alberta Tar Sands is raging, addressed the failure of the COP to deal with the central point of ending fossil fuel extraction: *“With the COP taking place in Peru, it is the first time a UNFCCC meeting was held in an Amazon country. Indigenous women from the Amazon echoed what social movements are demanding worldwide: if we want to address climate change, we have to have a transition away from extractive economies. We must leave 80 percent of the current fossil fuels reserves in the ground.”*

The climate talks have again failed to reflect the daily realities of peoples and communities around the world, and the words of **Usha Nair, co-focal point of the WGC from All India Women’s Conference,** are clear. *“The Women and Gender Constituency wants the agreement to focus on real solutions — not false solutions like nuclear energy, fracking, geo-engineering and mega dams. We are concerned at increased corporate involvement in climate action that encourages profit motives and moves away from social commitment and compassionate involvement. We urge increased focus on public-citizen participation for more democratized actions on climate change. We also call for sufficient finance, appropriate technology and adequate provision for loss and damage.”*

“From now to Paris we need leadership at all levels — local, national and international. And we need leaders to deal seriously and honestly with the crux of these talks — global inequality and historical responsibility — and to make progress on a fair, just, equitable and transformative global partnership to combat the ever escalating climate crisis.”

For further information visit the Women and Gender Constituency website at www.womengenderclimate.org ☞

COP20 Closing Statement

You have negotiated only which lives, communities and lands will be lost!
[Lima, Peru; Sunday, 14 December]

By **Bridget Burns**

At the close of COP20, two days behind schedule, Carmen Capriles delivered the statement prepared by Marina Parvin, from the Indigenous Mundas community in Bangladesh and representing the Asian Pacific Forum for Women in Law and Development (APWLD), to bleary-eyed delegates around 3:00 AM in the closing moments of the extended negotiating session:

“I have travelled all the way from Bangladesh, leaving my home and family, hoping to see a commitment to an effective and equitable new agreement that is binding, ambitious and transformative? a commitment to uphold human rights, gender equality, and the rights of future generations.”

Parvin continued: “It pains me that when I go back, I will tell my people that wealthy governments just talked about which lands will be lost, communities displaced, cultures destroyed and which lives are less important.”

Read the full statement below:

Thank you Chair. I am Marina Pervin, from Bangladesh, where up to 20 million people may be displaced by 2020.

For the Indigenous Mundas women that I work closely with, poverty and extreme vulnerability are a daily reality. We no longer have any soil to plant, and we fight harder and harder to make our families and communities survive floods, salinity, droughts and typhoons.

I expected that negotiations would lead to an agreement that will assure the Mundas women and all women, children and men, the right to imagine a future. I have travelled all the way from Bangladesh, leaving my home and family, hoping to see:

- *a commitment to an effective and equitable new agreement that is binding, ambitious and transformative?*
- *a commitment to uphold human rights, gender equality, and the rights of future generations.*

I am deeply horrified to see you negotiating away women's futures, women's rights and the security of our planet. It pains me that when I go back, I will tell my people that wealthy governments just talked about which lands will be lost, communities displaced, cultures destroyed and which lives are less important.

It shocks me that even gender equality was traded away. Ministers, don't backtrack! You have mandates established over twenty years ago through the Beijing Platform for Action and other international conventions. Restore your commitment to women's rights. Ensure gender equality as a guiding principle for the new agreement.

We simply cannot achieve a sustainable, just and livable planet without gender equality and there can be no gender equality on a dead planet. Your lack of urgency and will in this meeting has left us dismayed. But it's not too late. You must shape a new future and design a new world—redistribute wealth, power, resources and opportunities to allow Mundas women to imagine a future.

Ministers, you have to prove that all life is important. We will not allow you to fail us.

Thank you ✘

RECENT SIGNIFICANT RESOURCES ON GENDER AND CLIMATE CHANGE

Jessica L. Knowler and Skyler M. Warren

GREEN ECONOMICS

The advent of climate change has feminists looking for solutions to the ecological and economic crises caused by the austere neoliberal policies of the past forty years. Green jobs are crucial for a sustainable future, but the intersectional aspects of current 'gray' jobs and future green jobs must be examined to ensure equitable development in greening economies.

Bauhardt, C. (2014). Solutions to the crisis? The Green New Deal, Degrowth, and the Solidarity Economy: Alternatives to the capitalist growth economy from an ecofeminist economics perspective. *Ecological Economics*, 102, 60-68.

Demonstrated here is how alternative approaches to the capitalist growth economy can be improved upon by the integration of eco-feminist economic principles. In order to achieve economic change that also meets claims for gender equity, it must be recognized that many proposed alternatives are still deeply gendered in their assumptions concerning women's labour.

Hegewisch, Ariane, Hayes, Jeff, Bui, Tonia, Zhang, Analan. (2013). Quality employment for women in the green economy: Industry, occupation, and state-by-state job estimates. Washington, DC: Institute for Women's Policy Research.

This report examines women's share of employment in the occupations predicted to see the highest growth in the green economy in the US, and investigates strategies for improving women's access to quality employment in the green economy.

International Labour Organization (ILO). (2011). Promoting work in a green economy: ILO background note to 'Towards a green economy: pathways to sustainable development and poverty eradication' UNEP, 2011. Geneva: International Labour Organization.

This report demonstrates that green investments contribute to reducing environmental damage while boosting economic growth and creating jobs, and considers social dimensions as equally important in the process of shifting towards a more sustainable economy.

Liu, Y.Y & Keleher, T. (2009). Green equity toolkit: standards and strategies for advancing race, gender and economic equity in the green economy. Oakland, CA: Applied Research Center.

This toolkit provides a guide for incorporating racial, gender and economic equity into the design, implementation and evaluation of initiatives involving green jobs.

FEMINIST METHODS

The resources in this section provide examples of incorporating feminist approaches to research methods that include gender and intersectional analysis, as well as social dimensions, which have been largely excluded in the dominating discourses on climate change.

Carr, E. R., & Thompson, M. C. (2014). Gender and climate change adaptation in agrarian settings: Current thinking, new directions, and research frontiers. *Geography Compass*, 8(3), 182-197.

Exposed here is that most contemporary environmental analyses are predicated on a construction of gender as binary (men versus women), that are likely to result in increased vulnerability of the most marginal, and therefore advocates for intersectional methodological innovations.

Chalifour, N. (2010). A Feminist Perspective on Carbon Taxes. *Canadian Journal of Women and the Law*. 21(2), 169-212.

The author argues that it is important to consider how policies will impact upon different segments of society and to ensure that they are designed in a way that is fair and without further entrenching systemic inequalities. This is done by examining carbon taxes from a feminist perspective, specifically considering how carbon taxes impact upon women.

Cohen, Marjorie Griffin. (2014). Gendered Emissions: Counting Greenhouse Gas Emissions by Gender and Why it Matters. *Alternate Routes: A Journal of Critical Social Research*, 25, 55-80.

A feminist approach to quantitative methods is applied by measuring the greenhouse gas emissions through work by gender. It shows that aspects of consumption can be separated by gender, and that knowing the gendered distinctions in GHG emissions can be informative for climate justice issues and public policy strategies to mitigate climate change.

ADAPTATION AND MITIGATION AND GENDERED EFFECTS OF CLIMATE CHANGE

In an attempt to illustrate alternative and effective approaches to mitigation and adaptation we have included literature that best demonstrates adaptation and mitigation strategies from a bottom-up perspective and natural resource management at the community level.

Figueiredo, P., & Perkins, P. (2012). Women and water management in times of climate change: Participatory and inclusive processes. *Journal of Cleaner Production*, 1(1), 1-7.

This paper discusses community engagement focused upon the inclusion of women in water management and is a valuable contribution to the discussion of global North-South collaboration in that their initiatives endeavor to expand grassroots participation, especially of women, in political processes.

Djoudi, H., & Brockhaus, M. (2011). **Is adaptation to climate change gender neutral? Lessons from communities dependent on livestock and forests in northern Mali.** *International Forestry Review*, 12(2), 123-135.

This piece discusses the development of adaptive strategies by women in response to the drying out of Lake Faguibine in northern Mali, which face barriers to success because of the gendered barriers that women face.

Perkins, P. E. E. (2011). **Public participation in watershed management: International practices for inclusiveness.** *Physics and Chemistry of the Earth, Parts A/B/C*, 36(5), 204-212.

This paper outlines a number of examples from around the world of participatory processes for watershed decision-making, and discusses how they work, why they are important, their social and ecological potential, and the practical details of how to start, expand and develop them.

CLIMATE JUSTICE

There is a need for accountability of governments in the global North for climate policy that facilitates equitable collaboration with the global South in adapting to and mitigating the effects of climate change.

Agostino, A., & Lizarde, R. (2012). **Gender and climate justice.** *Development*, 55(1), 90-95.

Using a gender lens, the authors propose that those in the South who are most affected by environmental changes need to receive justice from those in the North who are most responsible for climate change.

Rooke, A. (2012). **Doubling the damage: World Bank and climate investment funds undermine climate and gender justice.**

This piece illustrates some problematic initiatives of the World Bank and discusses how inequitable policy has been resisted by environmental activists and gender justice groups. http://boell-india.org/downloads/Doubling_the_Damage_Final_hbf-GenderAction.pdf.

Tuana, Nancy. (2013). **Gendering Climate Knowledge for Justice: Catalyzing a New Research Agenda.** *Research, Action and Policy: Addressing the Gendered Impacts of Climate Change.* Eds. M. Alston and K. Whittenbury, pp. 14-31.

Because knowledge and power reinforce each other, current understandings of climate change and its inequitable impacts omit many complexities related to women's perspectives and knowledge.

USEFUL INTERNET RESOURCES

Daub, Shannon, Jonathan Taggart, Shane Gunster, Joshua McNab, and Amazing Factory Productions. (2014). **The Good Life — The Green Life.** (film) Vancouver, BC: Canadian Centre for Policy Alternatives. Available from: <http://goodlifegreenlife.ca>.

United Nations Women Watch: http://www.un.org/womenwatch/feature/climate_change/#commit

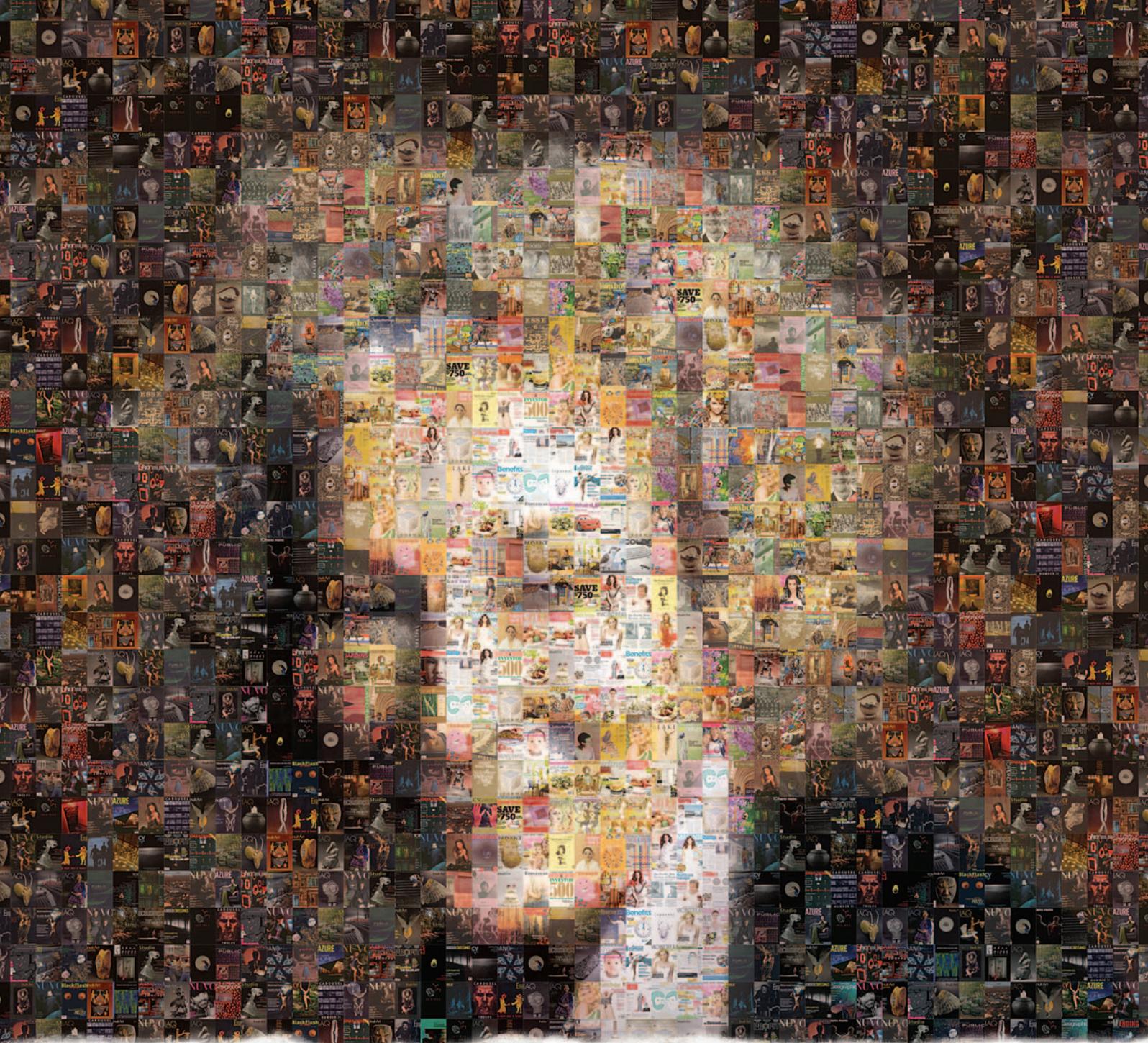
United Nations Women: <http://www.unwomencanada.org/>

Featured artist **Helma Sawatzky**

ARTIST'S PROFILE

Helma Sawatzky lives in Surrey BC, Canada. Her interdisciplinary academic background includes undergraduate degrees in music education (The Netherlands, 1991) and visual arts (Emily Carr University of Art + Design, 2009), and an MA in Communication (2011). Alongside her practice as visual artist and musician, she currently pursues PhD studies at Simon Fraser University School of Communication. Her research focuses on photography, embodiment and mediation.

In both her art practice and graduate research, she explores the phenomenological dimensions of media — ways in which various media technologies participate in shaping and transforming the lived experience of time, space and embodied being-in-the-world. Using photographic image data as raw materials for image creation, Sawatzky explores different thresholds between the virtual and the real.



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Helma Sawatzky, Data Transfers: Olympia (2009), archival inkjet print, 16 x 24 inches, edition of 5. See artist's profile on page 54.