



community choices

unit three

U3L5A3 | 5 Ws and How

overview

In this activity you will research in greater depth one aspect of a sustainable food system. By completing the worksheet 5Ws and How you will look beyond the PowerPoint on a specific topic. Using the PowerPoint U3L5P1 as a starting point and the reference provided to assist you as you fill in the worksheet.

learning goal

- To research in depth, one factor in creating a sustainable food system.

success criteria

- Completion of the 5 Ws and H worksheet on one aspect of a sustainable food system.

Inquiry Question

- Who, what, where, when, why and how does one specific factor (such as food miles) make up a sustainable food system?

Provide time and access to computers to explore one aspect of sustainable food system. The goal is to research one aspect using the worksheet 5Ws and How. This worksheet can be found in the PowerPoint U3L5P2 student worksheet on sustainable food systems. Print off articles that relate to the sustainable food system to assist groups. Access to the Internet will help students go beyond the PowerPoint presentation. Be sure to share with the rest of the class on what you have discovered on each aspect of a sustainable food system. This may be done through presentations, small group discussions or through Google docs.

UN urges global move to meat and dairy-free diet

Lesser consumption of animal products is necessary to save the world from the worst impacts of climate change, UN report says

Felicity Carus

Wednesday 2 June 2010 18.09 BST

A global shift towards a vegan diet is vital to save the world from hunger, fuel poverty and the worst impacts of climate change, a UN report said today.

As the global population surges towards a predicted 9.1 billion people by 2050, western tastes for diets rich in meat and dairy products are unsustainable, says the report from United Nations Environment Programme's (UNEP) international panel of sustainable resource management.

It says: "Impacts from agriculture are expected to increase substantially due to population growth increasing consumption of animal products. Unlike fossil fuels, it is difficult to look for alternatives: people have to eat. A substantial reduction of impacts would only be possible with a substantial worldwide diet change, away from animal products."

Professor Edgar Hertwich, the lead author of the report, said: "Animal products cause more damage than [producing] construction minerals such as sand or cement, plastics or metals. Biomass and crops for animals are as damaging as [burning] fossil fuels."

The recommendation follows advice last year that a vegetarian diet was better for the planet from Lord Nicholas Stern, former adviser to the Labour government on the economics of climate change. Dr Rajendra Pachauri, chair of the UN's Intergovernmental Panel on Climate Change (IPCC), has also urged people to observe one meat-free day a week to curb carbon emissions.

The panel of experts ranked products, resources, economic activities and transport according to their environmental impacts. Agriculture was on a par with fossil fuel consumption because both rise rapidly with increased economic growth, they said.

Ernst von Weizsaecker, an environmental scientist who co-chaired the panel, said: "Rising affluence is triggering a shift in diets towards meat and dairy products - livestock



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now consumes much of the world's crops and by inference a great deal of freshwater, fertilisers and pesticides."

Both energy and agriculture need to be "decoupled" from economic growth because environmental impacts rise roughly 80% with a doubling of income, the report found.

Achim Steiner, the UN under-secretary general and executive director of the UNEP, said: "Decoupling growth from environmental degradation is the number one challenge facing governments in a world of rising numbers of people, rising incomes, rising consumption demands and the persistent challenge of poverty alleviation."

The panel, which drew on numerous studies including the Millennium ecosystem assessment, cites the following pressures on the environment as priorities for governments around the world: climate change, habitat change, wasteful use of nitrogen and phosphorus in fertilisers, over-exploitation of fisheries, forests and other resources, invasive species, unsafe drinking water and sanitation, lead exposure, urban air pollution and occupational exposure to particulate matter.

Agriculture, particularly meat and dairy products, accounts for 70% of global freshwater consumption, 38% of the total land use and 19% of the world's greenhouse gas emissions, says the report, which has been launched to coincide with UN World Environment day on Saturday.

Last year the UN's Food and Agriculture Organisation said that food production would have to increase globally by 70% by 2050 to feed the world's surging population. The panel says that efficiency gains in agriculture will be overwhelmed by the expected population growth.

Prof Hertwich, who is also the director of the industrial ecology programme at the Norwegian University of Science and Technology, said that developing countries - where much of this population growth will take place - must not follow the western world's pattern of increasing consumption: "Developing countries should not follow our model. But it's up to us to develop the technologies in, say, renewable energy or irrigation methods."



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HUNGERCOUNT 2014

A COMPREHENSIVE REPORT ON HUNGER AND FOOD BANK USE IN CANADA, AND RECOMMENDATIONS FOR CHANGE



Why do we need food banks in a country as rich as Canada?

Study looks behind the data

Even though we often read about it in the news, it may come as a shock to Canadians that hundreds of thousands of people each month need help from a food bank just to make ends meet. It is surprising that a country that seems to be doing so well has so many people who are not. The *HungerCount 2014* report examines this disparity and puts forward ideas to change Canada for the better.



ABOUT FOOD BANKS CANADA

Food Banks Canada supports a unique network of over 3,000 food-related organizations in every province and territory, assisting more than 800,000 Canadians each month. Together our network shares over 200 million pounds of essential, safe, quality food annually, provides social programs that help to foster self-sufficiency, and advocates for policy change that will help create a Canada where no one goes hungry. Visit foodbankscanada.ca for more information.

RELIEVING HUNGER TODAY. PREVENTING HUNGER TOMORROW.

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To obtain more information from the *HungerCount* survey, including multi-year tables and data not included in this report, please visit www.foodbankscanada.ca/HungerCount.



841,191 CANADIANS turn to food banks every month

In a country as wealthy as Canada, close to a million people need food banks just to make ends meet each month. Why have we not seen any significant change to this situation after so many years, and after so much has been written about hunger? *HungerCount 2014* uncovers the hard data on food bank use, tells the story behind the numbers, and digs deep to explore the root causes of hunger in our country. It then provides our recommendations to bring about real and lasting change.



EXECUTIVE SUMMARY

In March 2014, 841,191 people received food from a food bank in Canada. Food bank use increased by 1% compared to the same period in 2013. It is dismaying that the number of people utilizing this service remains 25% higher than in 2008. This means that each and every month, 170,000 more people walk through the door of a food bank than was the case before the economic downturn.

WHO IS BEING HELPED?

Food banks come to the aid of a wide segment of the population, including:

Children and families. More than one-third of those helped by food banks are children. Nearly half of households helped are families with children, and close to half of these are two-parent families.

Single people. Forty-three percent of households receiving food are composed of single unattached individuals – essentially, people who live alone, without a spouse or children. This group has grown from 30% of households assisted in 2001 to almost half in 2014, increasing from 80,000 to 157,000 households every month.

Workers. One in every six households helped by food banks have income from current or recent employment.

For a more complete picture, turn to Results, page 5, or National & Provincial Findings, page 22.

WHY DO WE NEED FOOD BANKS IN A COUNTRY AS RICH AS CANADA?

Without poverty, food banks would not need to exist. Whether because of a sudden illness, the loss of a job, family breakup, or other unexpected circumstance, every year hundreds of thousands of Canadians face a major loss of income and are unable to get the help they need to offset it.

Once one has fallen on hard times, it can be very difficult to climb back up. This is true for any person in Canada, and particularly for people managing long-term physical or mental health issues, people with disabilities, indigenous peoples, immigrants, and refugees. The systems we have put in place to ensure individuals and families do not fall into destitution often fail to do the job, with people struggling without the necessities of life for too long. (See our case study, page 13.)

This year's *HungerCount* takes a deep look at the "why" of food banks (see Analysis, page 9), and the picture is not a positive one. Though the causes of food bank use are well known – the massive loss of well-paying blue collar jobs, too many people without the skills for

today's labour market, inadequate social programs for people facing hard times – we have largely not taken the steps necessary to address these problems head-on.

OUR RECOMMENDATIONS

HungerCount 2014 offers five areas for action (explored in greater depth starting on page 17) that we believe will significantly reduce the need for food banks in Canada. They are:

- 1 Invest in affordable housing at the federal level.
- 2 Address the extremely high levels of food insecurity in Canada's North.
- 3 Replace the stigmatizing and ineffective social assistance bureaucracy at the provincial level with a basic income administered through the tax system.
- 4 Provide more effective support to low income families with children by replacing the current alphabet soup of federal child benefits (CCTB, UCCB, etc.) with a strengthened Child Well-Being Benefit.
- 5 Help Canadians with low levels of literacy to upgrade their skills for the jobs of today.



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While the level of food bank use clearly evolves in response to larger economic factors like unemployment, the number of people receiving food assistance in Canada has not dropped below 700,000 per month for the better part of the past 15 years.

RESULTS

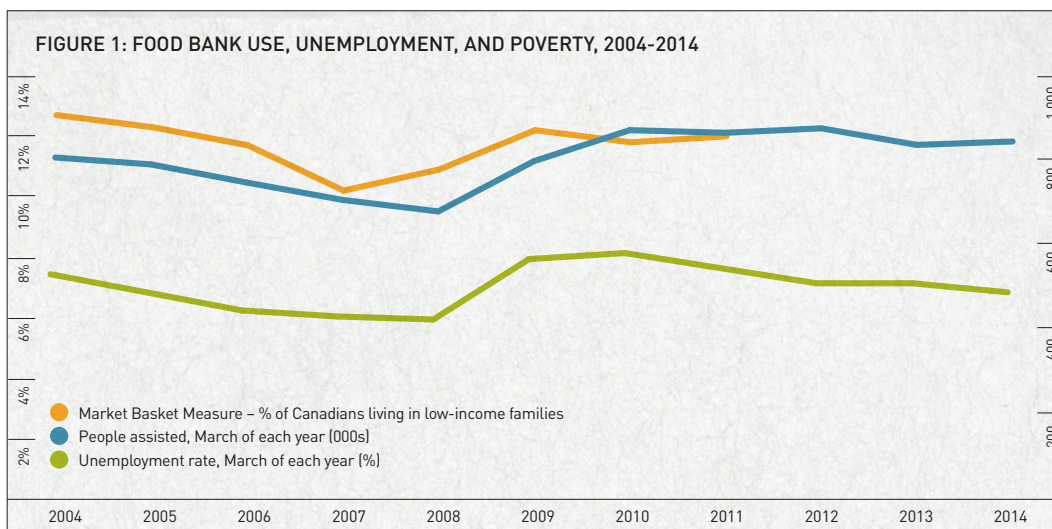
This year's *HungerCount* survey results show some disturbing trends, with food bank use increasing slightly but steadily across most of Canada.¹ Furthermore, the number of people utilizing this service remains 25% higher than in 2008, just prior to the last major recession. Some of the key findings about food bank use from this year's study include:

- In March 2014, **841,191** people received food from a food bank in Canada.

- Food bank use increased by **1%** compared to the same period in 2013.
- **Thirty-seven percent** of those helped by food banks are children.
- Food bank use increased in **six of 10** provinces this year. If access to food banks in the Maritimes had not been restricted due to severe storms and consequent power outages and transportation difficulties in late March,² we believe that usage would have increased in at least eight of 10 provinces.

Though we are now five years past the 2008-09 recession, food bank statistics – and the people behind them – continue to be shaped by its influence. After reaching its lowest point in many years in 2008, food bank use shot up by 20% in 2009, and by another 10% the year after. It reached its highest recorded point in 2012, and continues to hover at very high levels.

Over and above the 841,191 people helped by food banks in March 2014, soup kitchens, shelters, school breakfast initiatives, and other programs also





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841,191

people received food from
a food bank in March

310,461

of those receiving food
were children

87,533

people asked for help from a
food bank for the first time in March

served 4,308,140 meals and snacks to a broad population of Canadians.

FIRST-TIME VISITS AND YEAR-LONG STATISTICS

In March, 87,533 people asked for help from a food bank for the first time – more than one out of every 10 who received food. By the time March 2015 rolls around, this group of people will have used a food bank eight times on average. Some will ask for help only once; some will request assistance five times, or seven, or 12. Many will have gotten back on their feet and won't be seen at the

food bank again – and other new entrants needing food assistance will take their place.

The 841,191 people who were helped in March made 1,181,521 visits to food banks that month (i.e., a portion of those helped made multiple visits). Given that March is an average month for food bank use, Canadians will make more than 14 million visits to food banks over the course of 2014.

We estimate that food banks will provide food to 1.8 million unique individuals in Canada this year.

INCOME AND FOOD BANK USE

As Figure 1 shows, recent changes in food bank use have closely followed the national unemployment rate³ – which suggests that as food insecure people find work, they are less likely to access food banks. At the same time, 12% of those helped by food banks are working, and an additional 5% are receiving Employment Insurance – showing that a job does not always lead one away from the food bank.

While the level of food bank use clearly evolves in response to larger economic

TABLE 1: FOOD BANK USE IN CANADA, BY PROVINCE

Province/Territory	Total Assisted, March 2014	Percent Children, March 2014	Total Assisted, March 2013	Total Assisted, March 2008	Change, 2008-2014	% Change, 2008-2014	Change, 2013-2014	% Change, 2013-2014
British Columbia	97,369	30.8%	94,002	78,101	19,268	24.7%	3,367	3.6%
Alberta	49,766	42.9%	48,653	33,580	16,186	48.2%	1,113	2.3%
Saskatchewan	26,820	45.8%	22,465	17,751	9,069	51.1%	4,355	19.4%
Manitoba	61,691	44.3%	60,229	40,464	21,227	52.5%	1,462	2.4%
Ontario	374,698	35.0%	375,814	314,258	60,440	19.2%	-1,116	-0.3%
Quebec	156,895	37.3%	156,750	127,536	29,359	23.0%	145	0.1%
New Brunswick	19,590	33.9%	19,989	15,638	3,952	25.3%	-399	-2.0%
Nova Scotia	19,664	29.2%	21,760	16,915	2,749	16.3%	-2,096	-9.6%
Prince Edward Island	3,432	38.0%	3,502	2,892	540	18.7%	-70	-2.0%
Newfoundland & Labrador	26,617	37.7%	26,412	27,260	-643	-2.4%	205	0.8%
Territories	4,649	47.0%	3,522	1,340	3,309	246.9%	1,127	32.0%
Canada	841,191	36.9%	833,098	675,735	165,456	24.5%	8,093	1.0%



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RESULTS

110,754

people received food from rural food banks in March

14,178,252

visits will be made to Canadian food banks in 2014

4,308,140

meals and snacks were served by soup kitchens, shelters, school breakfast initiatives, and other programs

factors like unemployment, the number of people receiving food assistance in Canada has not dropped below 700,000 per month for the better part of the past 15 years. A quick glance at the primary sources of income of a large portion of those walking through the doors suggests a clear reason for this:

- 48% of households accessing food receive provincial social assistance (welfare).
- 18% of households helped live primarily on provincial disability-related social assistance benefits.
- 7% of those helped report that a pension is their main source of income.⁴

There is an obvious connection between government-controlled income supports – particularly social assistance – and food bank use. Later sections of the report will address this connection in more detail.

WHO IS BEING HELPED: A SNAPSHOT

The households that ask food banks for assistance are almost evenly divided between those that have children and those that do not:

- 45% are families with children; nearly half of these are two-parent families.
- 55% are households without children; the grand majority of these are single unattached individuals, which

have grown from 29% of households helped in 2001, to 43% of the total in 2014 (see page 9 for more detail on this phenomenon).⁵

The majority of those receiving food live in rental housing:

- 64% pay market rent.
- 20% live in social or otherwise subsidized rental housing.
- 7% own their home.
- 4% are virtually homeless, i.e. living temporarily with family or friends.⁶

One in seven individuals receiving food self-identify as First Nations, Métis, or Inuit (up from 11% in 2012 to 14% in 2014).⁷ Twelve percent of those helped are immigrants or refugees – rising to 20% in cities with populations greater than 100,000.⁸

SMALL TOWNS AND RURAL AREAS

Food banks located in towns with populations of less than 10,000 provided food to 110,754 individuals in March 2014 – 13% of the national total. This is 1.6% higher than the number helped one year earlier.

As with food bank use in Canada as a whole, 37% of those assisted in small towns and rural areas are children. However, the population utilizing food banks outside Canada's larger cities differs in several important ways:

- Those accessing food are older:
 - 5.4% are seniors (compared to 4.3% overall).⁹
 - 9.2% report that their primary income is from a pension (7% overall).¹⁰
 - 14% are couples without children living in the home (12% overall).¹¹
- They are much more likely to self-identify as First Nations, Métis, or Inuit (26% compared to 14% overall).
- They are more likely to own their home (17% compared to 7% overall).¹²
- They are less likely to be living in subsidized/social housing (12% compared to 20% overall).¹³

More than 600 rural food banks, in every province and territory, participated in the *HungerCount* study. This fact alone attests to the incredibly broad reality of household food insecurity in Canada.

For more in-depth information on the people helped by food banks, please see Table 1 to the left, and the national and provincial data tables beginning on page 22.



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Economic change has created a reality where undereducated single Canadians must either upgrade their skills or be left behind. This is easier said than done, particularly for individuals managing long-term physical and mental health problems.

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500 Hostel City: C...

ANALYSIS

Numbers are integral to the *HungerCount* survey, which is the only comprehensive study of food bank use in Canada. Just as important as collecting data is making connections between facts. This kind of analysis helps us understand the stories that the numbers tell, which can then lead us towards identifying the changes that will reduce the need for food banks.

FOOD BANKS AND SINGLE CANADIANS

Single adults who live alone, without a spouse or children, have been gradually increasing as a share of Canadian households. Since 2001, this type of living arrangement has grown from 26% to 28% of the population.¹⁴

This household type has also grown as a proportion of households helped by food banks – from 29% in 2001 to 43% in 2014. Whereas food bank use is currently 19% higher than it was in 2001, food bank use among single person households has effectively doubled – from 80,000 households per month in 2001 to 158,000 in 2014.

Social assistance benefits have not increased with the cost of living for about 20 years

The overall growth of single person households in Canada cannot fully explain the explosive growth of food

bank use among this population – other factors are clearly involved. Given that 50% of households helped by food banks live primarily on social assistance benefits, and that these benefits have largely *not* increased with the cost of living for about 20 years, the state of social assistance would seem to account for a large piece of the explanation.¹⁵

John Stapleton, a noted Canadian expert in this area, has explored the links between being single and living in poverty, with particular attention to single people on welfare. His research highlights some important facts:

- If welfare incomes had increased with inflation over the past 20 years, single people on social assistance in Ontario (as one representative example) would be provided with \$944 per month to live on. Instead, welfare incomes for singles currently stand at a little more than \$600 per month, or \$7,200 per year – nearly \$10,000 below the Market Basket Measure of low income in a mid-sized city.¹⁶
- Over the past 15 years, social programs for *lone parents* have had significant

success, and have helped many people find their way out of poverty. In contrast, during the same period social policy has succeeded in forcing *single people* into extreme poverty. In particular, single people on welfare “receive basic incomes that are close to destitution levels – much less than in other developed countries.”¹⁷

The extremely low benefit levels provided by provincial welfare programs sit in an uneasy relationship with a job market that has been, to say the least, unkind to people with low levels of education – particularly for Canadian males. There is a notable connection between being male, undereducated, unemployed and receiving welfare.^{18,19} The key shift has been the drastic loss over the past two decades of blue-collar jobs that were accessible to this population.²⁰

Finally, single Canadians who are employed yet still have low incomes do not have access to the types of government programs made available to families with children. While families can count on the Canada Child Tax

Benefit, the Universal Child Care Benefit, and several child-related tax credits, unattached employed individuals have access to very few government supports, with the notable exception of the valuable but small Working Income Tax Benefit.

In short, economic change has created a reality where undereducated single Canadians must either upgrade their skills or be left behind. This is easier said than done, particularly for individuals managing long-term

physical and mental health problems. The current state of federal, provincial, and municipal policy is simply not up to the task of effectively assisting this population.

FOOD BANK USE AND FOOD INSECURITY

“Income-related household food insecurity” describes a situation where an individual or family worries that they won’t be able to afford enough food, eats suboptimal food because they can’t afford better, or skips meals because they are unable to purchase enough.

Household food insecurity and food bank use are unique concepts, and not everyone who is food insecure will access a food bank.²¹ However, they are clearly linked.

Each year, 1.8 million Canadians receive food from food banks. In 2012, nearly four million Canadians lived in food insecure households, of which approximately 800,000 lived in households that were severely food insecure.²² This simple comparison shows that food banks do not provide assistance to all those who are food insecure. The limited research assessing the reasons for this gap suggests that three overlapping factors are involved:

1 Some people who are food insecure make the choice to not use a food bank. Reasons for this include a belief that circumstances are not bad enough to warrant asking for help, the stigma associated with food bank use, and the feeling that the food that would be received would not meet personal needs and preferences.

2 Some people who are food insecure face barriers to access. These barriers may be related to distance or lack of transportation, food bank policies (e.g., hours of service, intake procedures), or lack of information about the existence of food banks, where they are located, how they work, and hours of service.²³

3 Households that experience moderate levels of food insecurity are less likely to access food banks. On the other side of the coin, individuals and families who are forced to skip meals or eat less than they think they should – i.e. those in more desperate circumstances – are more likely to ask for help.²⁴

62% of food insecure households earn the majority of their income from employment

One of the most notable distinctions between people who are food insecure and those accessing food banks concerns source of income: while 62% of food insecure households earn the majority of their income from employment,²⁵ this is true of about 20%

of those helped by food banks. The key factor here is almost certainly the extremely low levels of income provided by social assistance (also known as “welfare”), which forces households into severe levels of food insecurity: 70% of households that receive social assistance are food insecure, and 30% of these are severely food insecure. Among households whose main source of income is employment, only 1.5% are severely food insecure.²⁶

There are two takeaways from these facts. First, it is a mistake to think that food banks or other charitable food programs are able to adequately address household food insecurity over the long term. There are simply too many food insecure people who do not use them, even though they might benefit from the help. Second, the very low levels of income provided by provincial social assistance programs take away people’s choice of whether or not to access a food bank, making it nearly impossible to avoid it.

WHY DO WE NEED FOOD BANKS IN A COUNTRY AS RICH AS CANADA?

Canada currently ranks 11th out of 186 countries on the United Nations Human Development Index.²⁷ In the first three months of 2014, two trillion dollars' worth of goods and services were produced in the country.²⁸ How, in the midst of such wealth, do so many people need to access food banks just to have enough to eat?

The following section attempts to provide an answer to this question in two parts:

- **Part 1** offers information on just how little income several million Canadians live on, forcing them to make extremely difficult choices – choices like, do I pay the rent or buy food? Do I cancel my phone service or go to the food bank?

- **Part 2** takes an anecdotal approach, looking at two years in the life of an individual accessing a food bank, in order to describe the twists and turns that lead a person to this situation.



At any point in time, there is a sizeable population of Canadians with extremely low levels of income – far too low to afford even the most elemental needs of adequate shelter, nutrition, transportation, and communication. The following examples, building on information from the HungerCount study, show just how little some of our neighbours have to work with.

Nearly one-fifth of households helped by food banks are working or are receiving Employment Insurance (EI) and have worked recently.

- Canada has a booming low-wage economy, thanks in part to a confounding, ongoing loss of well-paying blue collar jobs. For example, the well-paying manufacturing sector accounted for less than 10% of Canadian jobs in March 2014, compared to 14% in 2004 – a loss of 400,000 jobs during a time of steady population growth. Meanwhile, lower-wage retail, accommodation, and food service jobs continue to grow at

a rate equal to or greater than the population, consistently accounting for one in every five jobs in the country.²⁹

- For Canadians who find themselves unemployed, EI provides a maximum income of \$514 per week before taxes, for a maximum of 45 weeks. The benefit is lower for those who earn less than \$49,000 per year; for example, a person with a gross income of \$35,000 receives only \$370 per week.³⁰

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Half of the households accessing food banks report that welfare is their primary source of income.

- Depending on their province of residence, the annual welfare income for a single person considered “employable” is drastically low – ranging from \$6,801 to \$10,813 per year.³¹ Even in the most generous province (i.e. Newfoundland & Labrador), this level of income is 40% below the lowest poverty line.³²

One in five households helped by food banks rely on disability-related benefits as their main source of income; in the majority

of cases this income is provided through provincial benefits linked to a long-term disability or health issue.

- Depending on their province of residence, the annual disability-related income for a single person ranges from \$8,838 to \$13,772.³³ The most generous provincial disability benefit for an individual is still more than 10% below the lowest poverty line. In the worst case (New Brunswick), it is nearly 50% below the poverty line.

A small but significant percentage (7%) of those helped live primarily on income from a pension.

- Seniors who live alone have a highly elevated risk of living in poverty, with nearly 15% of this population reporting incomes below the poverty line.³⁴
- A single person who depends on a public pension as their only source of income receives a meagre \$15,800 per year through Old Age Security and the Guaranteed Income Supplement.³⁵

The chart on pages 14-15 provides a graphic representation of the income disparities that help to explain the presence of household food insecurity in the midst of prosperity.



Low income is just one part of the equation that leads to food insecurity and the need for food banks. Just as important are the systems, led and managed by our federal, provincial, and municipal governments, that exist to ensure Canadians do not fall into destitution. These overlapping yet under-coordinated and sometimes conflicting systems are failing too many.

One in every eight Canadians lives in a family without enough money to afford the goods and services that most take for granted.³⁶ While it is true that hundreds of thousands of Canadians climb out of poverty, it is also the case that hundreds of thousands fall under the poverty line each and every year. While public policy and government programs help many out of low income, the system is far from optimal.

Modern social policy for working-age adults in Canada begins with the assumption that the more government

gives, the more people will take.³⁷ Because of this over-generalized and pessimistic assumption, benefits provided by government programs like social assistance, Employment Insurance, and Old Age Security are set at extremely low levels to discourage use as much as possible.

Individuals who find themselves in a situation of severe food insecurity are at the beginning of a long and difficult path. They may already have been forced to move themselves and their families to cheaper, lower quality housing. They may



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have been forced to sell or pawn some of their possessions. They are eating lower quality food and skipping meals because they can't afford enough.

NO WAY UP: JOHANNA'S STORY

Here is a hypothetical – but realistic – example illustrating the difficulties faced by someone in this situation. Let's say "Johanna" is a woman in her late 20s who had to quit her job for health reasons last year, and has been surviving on social assistance for 12 months or so. She has used her local food bank for eight of those months. With social assistance and various federal and provincial tax credits, she will have access to about \$8,000 in net income over the course of 12 months³⁸ – an amount of money that is basically impossible to live on without considerable sacrifice.

Let's say her health improves, and Johanna finds a part-time job while on social assistance. Her provincial government will deduct about 75% of her work income from her social assistance benefits. Suppose she earns \$500 per month after taxes, for a total of \$6,000 in annual employment income. Her net income will increase from \$8,000 to only \$9,500 – which is still nearly \$6,000 below the poverty line. If Johanna is accessing multiple social programs (such as subsidized housing or child care), which reduce support as her income increases, she could actually

reach the end of each month with less money than she had before she started working.³⁹

If after a few months Johanna is able to find a job that pays \$14 per hour for 30 hours per week (which is a realistic reflection of the lower end of today's job market)⁴⁰ she will be earning \$420 per week, or \$21,840 for the year. At this point she will be earning too much to receive welfare benefits. She will have access to more than twice the amount of income she received while on welfare; however she will also lose certain non-cash benefits and therefore see her expenses grow. Two of the largest of these are subsidized housing and prescription drug and dental benefits.

If Johanna has a long-term mental health issue that is managed with medication, the loss of prescription drug benefits will have a significant impact. With respect to housing, Johanna will face paying \$600 to \$800 (at least 33% of her income)⁴¹ for a decent bachelor apartment or \$400 to \$600 (at least 22% of her income) for a small, substandard room with few amenities.

Let's go a bit further and say that after a year, Johanna loses her job through no fault of her own, and applies for Employment Insurance. The highest weekly benefit she will receive is \$231. Realistically, she can expect to receive a payment for 28 to 38 weeks, for a maximum possible total of \$8,778 over

ANALYSIS

a period of about nine months. In other words, slightly better than a welfare-level income, but without any of the non-income benefits of welfare, which Johanna would not be able access while she is eligible for Employment Insurance.

While this is a worst-case scenario, these are the stories that food banks hear every day. It is the worst-case scenario that leads people to the door of their local food bank.

The drawbacks inherent in the supports that exist for vulnerable people are written into the histories of tens of thousands of non-profit and charitable organizations – food banks, homeless shelters, children's aid societies, mental health organizations, hospital emergency rooms, and many others. For the most part, these organizations reach individuals after the worst has happened, after they have lost so much.

The next section offers recommendations on how we can reach the people helped by these organizations, *before* the worst has happened.



THE INCOME GAP

With hundreds of thousands of well-paying blue-collar jobs lost over the past two decades, too many Canadians are stuck in part-time, temporary, low-paying jobs. Those who can't work are forced to depend on meagre government benefits.

Canadians go to food banks when their basic expenses outgrow income – when they run out of breathing room. This infographic examines how incomes from various sources stack up against the Market Basket Measure of low income. It illustrates how much breathing room Canadians in various situations are living with, and how close they are to needing help from the food bank.

BASIC STANDARD OF LIVING¹²

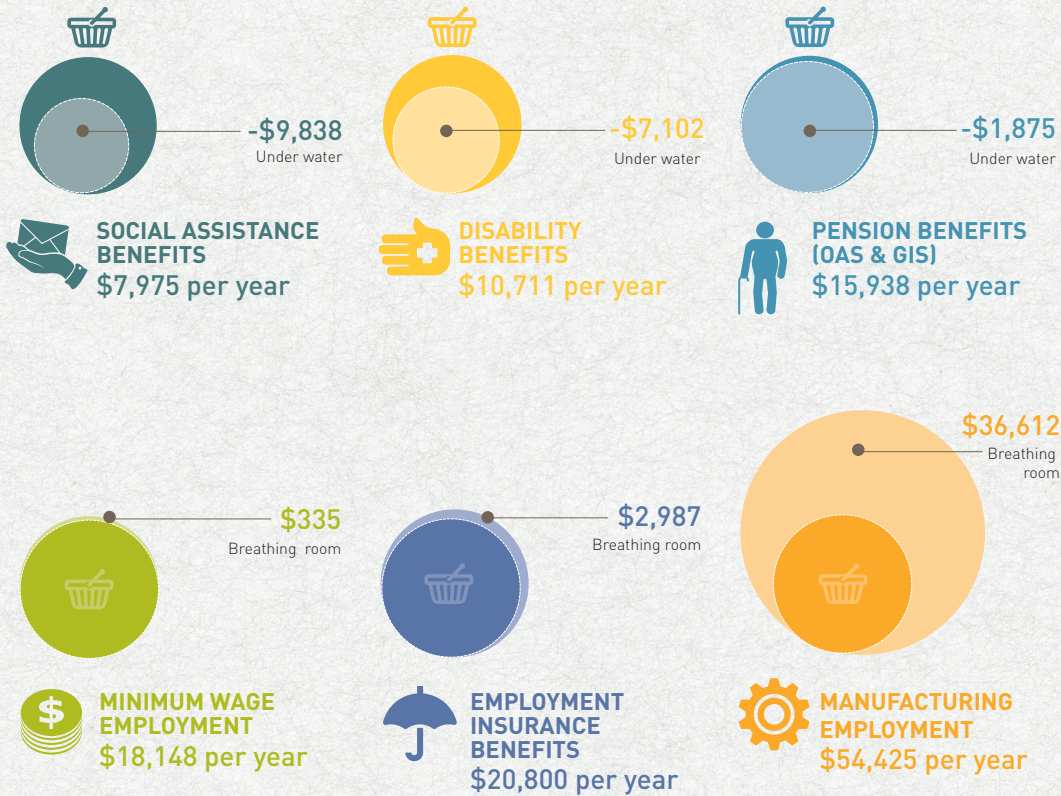
48% of households that visit food banks are on social assistance. This graphic compares the gap between the social assistance benefit provided in each province to a couple with two children and what it costs to achieve a modest, basic standard of living. Far from having *breathing room*, these families are *under water*.





\$17,813 per year
MARKET BASKET MEASURE
(COST OF A BASIC STANDARD OF LIVING FOR A SINGLE ADULT)

How do incomes measure up?⁶³





RECOMMENDATIONS

- 1 More affordable housing
- 2 Help for the North
- 3 Revolutionize welfare
- 4 Investment in child well-being
- 5 Better training

1
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Highest standard 121 cm 50 near



community choices unit three

U3L5A3 | 5 Ws and How | Article 2

RECOMMENDATIONS

1 MAINTAIN FEDERAL SUPPORT FOR AFFORDABLE HOUSING

Food banks across the country report year after year that the high cost of housing is one of the key factors that drive the need for their services.

More than four million Canadian households live in rental housing; almost half of them pay more than 30% of their income on rent (a widely-accepted benchmark of unaffordability).⁴⁴

- Only 10% of new housing developed over the past 15 years has been purpose-built to rent, despite the fact that nearly one-third of households are renters.⁴⁵
- The demand for rental housing is far outpacing supply, with vacancy levels below 3% in major centres such as Quebec City, Montreal, Toronto, Winnipeg, Regina, Calgary, Edmonton, Vancouver, and Victoria.⁴⁶

To add to this growing crisis, the federal social housing operating agreements that have been in place since the 1960s and 1970s are beginning to expire, and there is nothing planned to replace them.

- Federal funding for housing through these agreements is scheduled to decrease, from \$1.6 billion a year in 2014, to \$1.2 billion in 2020, to \$604 million in 2025, and so on until 2040, at which point the annual federal investment will decline to zero.
- The agreements provide support for 544,000 households, a significant number of which are forecast to lose their homes if nothing is found to replace federal support.⁴⁷

While provincial-territorial and municipal governments are increasing their investments in affordable housing, they do not have the fiscal capacity to maintain current social housing levels, much less increase the number of available units.⁴⁸



OUR RECOMMENDATIONS

- ▶ Create a federal Social Housing Operating Fund, in agreement with the provinces and territories, that would be made available to social housing providers to cover costs related to capital repairs, maintenance, and retrofits.
- ▶ Implement targeted federal tax reforms to support the development of rental housing to increase the number of units and make housing more affordable. Options include allowing the rollover of capital gains that are re-invested in new, purpose-built rental housing, or a social housing tax credit for the creation of subsidized rental units.
- ▶ Undertake an assessment of the forward-thinking, government-led “Housing First” approach to determine the consequences this federal policy change may have on affordable housing. We recommend that the federal government convene key stakeholders between all levels of government, as well as local charities, social workers, and civil society groups to identify, discuss, and remedy any unintended negative consequences of the Housing First approach introduced by the federal government in 2013.



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2 TAKE STRONG ACTION TO REDUCE FOOD INSECURITY IN THE NORTH

Households in Yukon, the Northwest Territories, and Nunavut experience extremely high levels of food insecurity, ranging from 17% of households in Yukon, to 45% of households in Nunavut. The territories also experience the highest rates of severe food insecurity, where adults and/or children go completely without food for a meal, or for a day.⁴⁹

The three territorial governments have each introduced poverty reduction and/or food security strategies. These plans are open and honest about the challenges facing the territories:

“Seven in ten Inuit preschoolers in Nunavut live in food insecure households. Access to healthy and affordable food has been a challenge for Nunavummiut for many years, and this issue has emerged as a major political and public concern.”⁵⁰

“Across the [Northwest Territories], there is a widening gap between those who are prospering and those who are struggling. Poverty disproportionately affects vulnerable members of society, including single-parent families, people with low education levels, elders, people with disabilities, and those with addictions or mental health issues. Children in poverty are especially vulnerable when their basic needs are not met.”⁵¹

“Food insecurity and material deprivation indicators... [show] large disparities among Yukon populations. Low income households and people who receive social assistance are most likely to experience difficulties buying the things they need.”⁵²

Each territorial strategy sets out areas for action that are specific and relevant to these unique and different jurisdictions. There are, however, several additional practical actions that can be taken at the territorial and federal levels to decrease poverty and household food insecurity in the territories.

OUR RECOMMENDATIONS

- ▶ Create a federal Northern Food Security Fund, which would provide resources to jumpstart and support community-developed, community-led food initiatives across the North.
- ▶ Enshrine poverty reduction and food security strategies within territorial legislation, to help ensure that these remain priorities for future administrations.
- ▶ Allow parents in receipt of social assistance to keep the National Child Benefit Supplement, rather than having it clawed back from their welfare benefits. This simple action would add up to \$2,241 per child each year for some of the most vulnerable families in the territories.⁵³
- ▶ Replace the current territorial welfare bureaucracy with a basic income administered through the tax system (see recommendation 3 for more detail).



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RECOMMENDATIONS

3 REVOLUTIONIZE PROVINCIAL-TERRITORIAL WELFARE SYSTEMS TO SUPPORT INDEPENDENCE

It has been clear for many years that welfare is a broken system. Individuals and families must be at the brink of destitution to qualify for the program, and it can be very difficult to climb out of poverty once you are in the system. Benefit levels are unreasonably low, the administrative bureaucracy is nearly impossible to navigate, and stigmatization of those in need is widespread. The system seems nearly beyond repair.

The time has come for the provinces and territories to seriously consider dismantling what has become an understaffed and stressed bureaucratic system that assesses the needs of applicants on a case-by-case, month-by-month basis. There exist several viable models for a *basic income*, administered through the tax system, that would eliminate the bureaucracy, the intrusiveness, and the stigma associated with welfare. Our recommendations include this significant, forward-thinking plan, as well as several other common-sense actions.



OUR RECOMMENDATIONS

- ▶ Dismantle existing welfare bureaucracies and create a basic income system, administered through the tax system. Ensure that the basic income has a logical relationship to the level of earnings offered through work, and that it is indexed to inflation.
- ▶ Remove non-cash benefits from welfare, and make these benefits available to all low income households, regardless of their eligibility or participation in other government programs. Such benefits include, but are not limited to, child care subsidies, affordable housing supplements, and drug and dental insurance.
- ▶ Release clear and detailed information on the number of people receiving social assistance, entry and exit from the program, length of time in receipt of benefits, household characteristics of program participants, and program expenditures.



4 REDUCE THE INCIDENCE OF CHILD POVERTY AND ADDRESS POVERTY'S HARMFUL EFFECTS ON CHILDREN

Nearly one million Canadian children live in families with below poverty-level incomes.⁵⁴ Several decades of research has shown that childhood poverty, particularly in the early years (i.e. prenatal to age 5), has a profound effect on the physical, mental, and economic outcomes of those who experience it once they reach adulthood. Further, the lower the family income, and the longer poverty persists, the more severe is the effect on adult outcomes.⁵⁵

For the most part, low income in Canada is transitory, with hundreds of thousands of people moving above and below the poverty line each year. However, low income is long-lasting for a significant minority of Canadians, including children. Between 2002 and 2007, more than 20% of Canadian children experienced at least one year of low income; nearly 6% lived in families with incomes below the poverty line for four or more years in this period.⁵⁶

While low income is not the only factor that shapes child health and achievement,⁵⁷ it can have a profound influence on a child's environment.⁵⁸ In this sense, every recommendation in this report has a bearing on child health and well-being – children do better when their families do better. Appropriate housing, improved benefits for parents on welfare, and more effective adult education programs will all contribute to a better environment in which to raise a child. There are also several child-specific policy changes governments can make that will improve child outcomes, each of which have the added benefit of supporting parents of young children to enter and remain in the labour force.

OUR RECOMMENDATIONS

- ▶ Support the most vulnerable families with young children by rationalizing the current alphabet soup of federal child benefits – including the Canada Child Tax Benefit (CCTB), the Universal Child Care Benefit (UCCB) and the Children's Fitness Tax Credit – into a new Child Well-Being Benefit.
- ▶ Invest in predictable, stable funding at the federal and provincial levels for professional, affordable, flexible, regulated child care, to contribute to child development and enable parents to enter and remain in the labour force.
- ▶ Help vulnerable parents with young children as soon as they need it, at the federal and provincial levels. This has implications for prenatal and postnatal care, early childhood development, child welfare agencies, and child care programs. The current systems that work to support families with young children are underfunded and disjointed, with quality and access varying widely between regions.

RECOMMENDATIONS

5 ENSURE CANADIANS HAVE THE SKILLS TO ATTAIN WELL-PAYING JOBS

There has been a lot of talk about the “skills mismatch” in Canada, a “misalignment between the skills of the unemployed and those required by employers.”⁵⁹ The idea of “misalignment” suggests that Canadians have skills, just not the ones needed to fill the jobs that are available – the “too many English majors, not enough welders” problem.

This important discussion needs to be broadened to include the fact that 49% of Canadians between the ages of 16 and 65 do not have the literacy capacity necessary to effectively learn new job skills.⁶⁰ Nearly half of Canadians operate at Level 1 or Level 2 literacy:

- At **Level 1**, an individual has very poor literacy skills; they may be unable to read instructions well enough to be able to give the correct amount of medicine to a child (17% of Canadian adults are at Level 1 or lower).
- At **Level 2**, people are able to develop everyday coping skills, however it will be difficult to understand and master the complex tasks and concepts required in the modern workforce (32% of Canadian adults are at Level 2).⁶¹

There is a need for immediate action on adult basic education, which is something of a threatened species in Canada. Recent evaluations of training programs supported through federal–provincial funding agreements have offered lukewarm findings;⁶² these findings may have contributed to a range of related federal government actions, including the reallocation of \$300 million from training for people ineligible for Employment Insurance to the new Canada Job Grant.

The federal government has vowed to “transform skills training in Canada through the introduction of the Canada Job Grant,” in consultation with employers and employer groups.⁶³ While this may help employers fill the need for particular skills, it is unlikely to address very low basic skill levels among the unemployed and underemployed – employers are unlikely to take the risk of investing in very low-skilled individuals.⁶⁴

People with low literacy levels are more likely to be out of work and have low incomes;⁶⁵ this means that they are less able to pay for educational upgrading. If this sizable group is to play a larger role in the modern economy, there is no choice but for governments to invest. The literature around adult basic education makes clear the need for specialized interventions, intensive program evaluation and a willingness to experiment and change.



OUR RECOMMENDATIONS

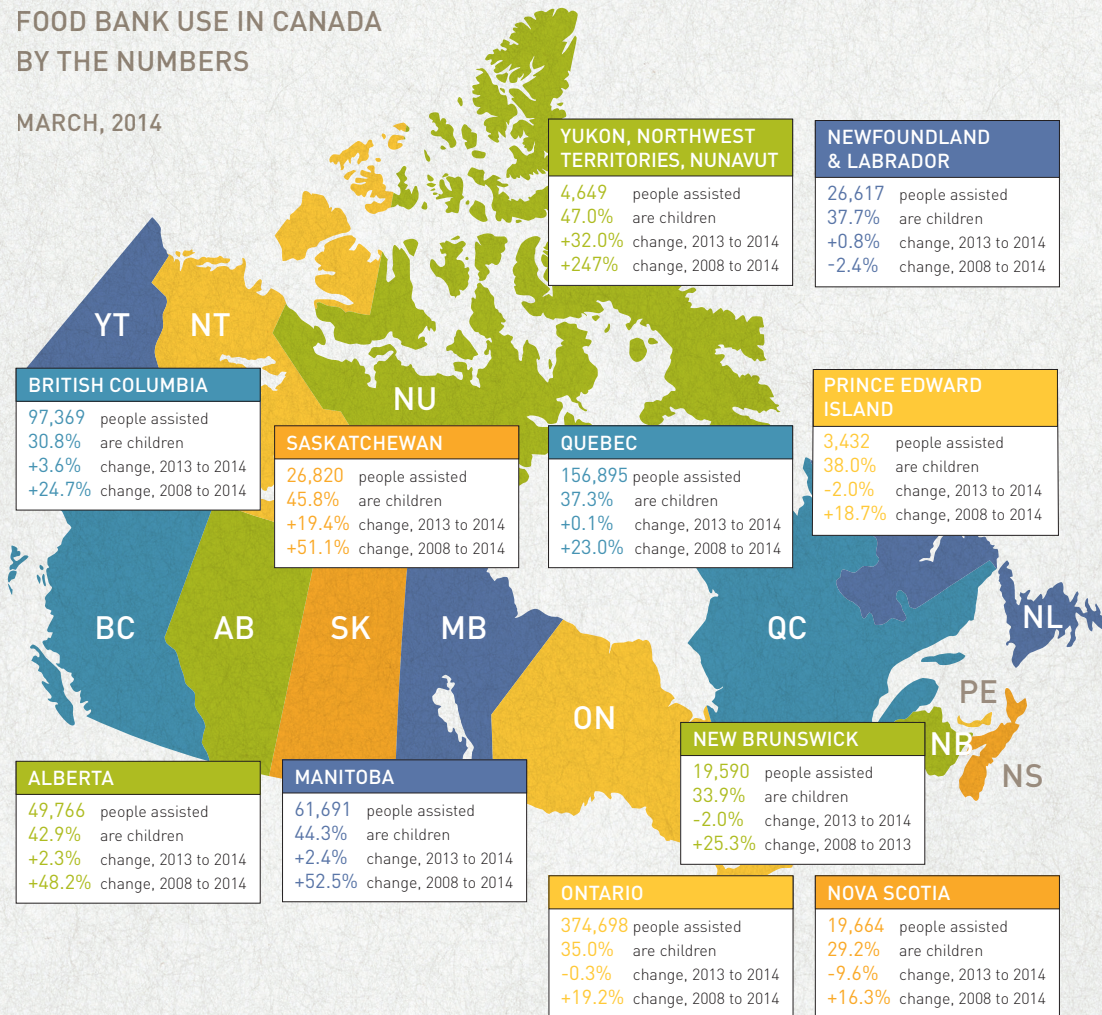
- ▶ Expand eligibility for education and training programs offered through Employment Insurance Part II benefits to include all unemployed Canadians, rather than only those eligible for EI.
- ▶ Create a federal framework for adult basic education that emphasizes the need for individualized training programs that prepare Canadians for the specific labour needs of regional labour markets.
- ▶ Eliminate barriers at the provincial level that prevent social assistance recipients from accessing education and training.⁶⁶ Increase connections between provincial welfare bureaucracies and adult education and training providers.



DETAILED NATIONAL & PROVINCIAL FINDINGS

FOOD BANK USE IN CANADA BY THE NUMBERS

MARCH, 2014





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unit three

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841,191
people helped by
food banks
in March

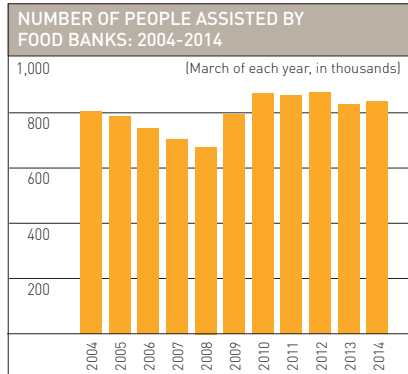
+24.5%
change
since 2008

36.9%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	841,191	833,098	872,379	861,775	867,948	794,738	675,735
% Change, 2008-2014	24.5%						
% Change, 2013-2014	1.0%						
% Food banks reporting an increase	53.5%	49.3%	47.9%	48.8%	70.7%	78.4%	-
% Assisted who are under 18 years of age	36.9%	36.4%	38.4%	37.9%	37.8%	37.2%	37.1%
Households assisted by food banks	363,728	346,626	368,619	354,265	369,818	347,043	304,394
% Households assisted for the first time	10.4%	9.4%	10.5%	10.9%	9.2%	-	-
% National population assisted	2.38%	2.38%	2.54%	2.48%	2.56%	2.37%	2.04%

DEMOGRAPHICS	All	Rural
% Women	48.1	48.5
% Post-secondary students	3.2	1.7
% Age 65+	4.3	5.4
% Aboriginal persons	13.6	25.9
% Immigrants or refugees	12.3	2.3

HOUSEHOLD TYPE	All	Rural
% Single-parent families	23.4	21.2
% Two-parent families	21.6	21.9
% Couples with no children	11.7	13.8
% Single people	43.3	43.1
Number of food banks reporting	1,374	469



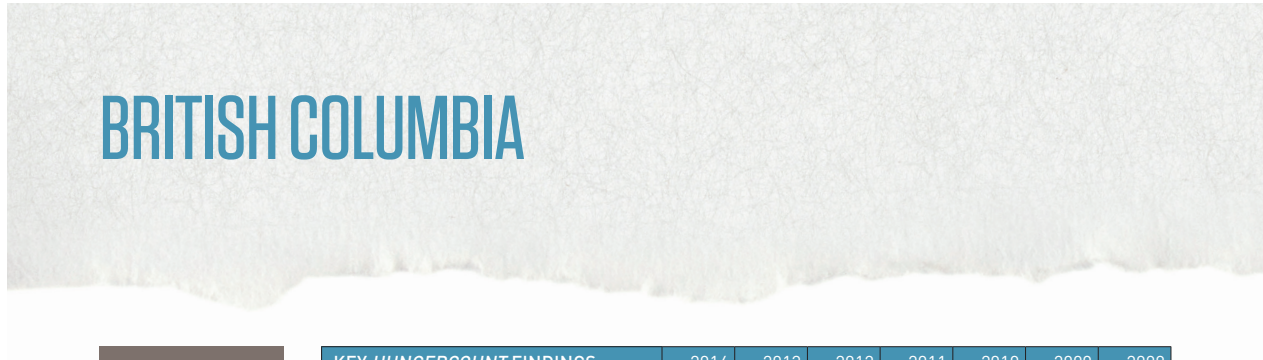
PRIMARY SOURCE OF INCOME	All	Rural
% Job income	11.7	11.3
% Employment Insurance	4.4	6.2
% Social assistance	47.8	49.1
% Disability-related income support	17.5	15.1
% Pension	7.0	9.2
% Student loans/scholarships	1.8	1.1
% No income	5.4	3.7
% Other	4.5	4.2
Number of food banks reporting	1,217	404

HOUSING TYPE	All	Rural
% Homeowners	7.3	16.5
% Rental market tenants	64.1	56.3
% Social housing tenants	20.3	12.1
% Band-owned housing	2.0	8.5
% Shelter or group home	1.2	0.7
% Living on the street	0.9	0.6
% Living with family or friends	4.2	5.3
Number of food banks reporting	1,207	416



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BRITISH COLUMBIA

97,369
people helped by
food banks
in March

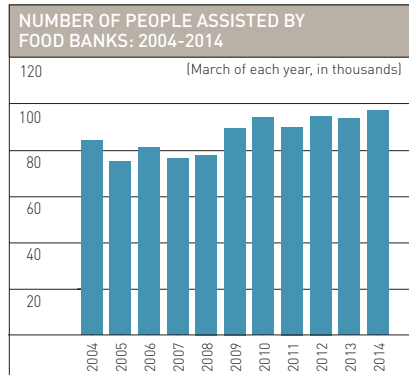
+24.7%
change
since 2008

30.8%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	97,369	94,002	94,966	90,193	94,359	89,866	78,101
% Change, 2008-2014	24.7%						
% Change, 2013-2014	3.6%						
% Food banks reporting an increase	51.6%	45.8%	44.4%	52.9%	60.2%	80.8%	-
% Assisted who are under 18 years of age	30.8%	29.5%	29.5%	31.9%	29.7%	31.4%	31.2%
Households assisted by food banks	45,440	44,750	43,282	42,465	45,196	44,206	35,005
% Households assisted for the first time	7.1%	6.6%	6.9%	6.9%	6.5%	-	-
% Provincial population assisted	2.11%	2.03%	2.07%	1.98%	2.10%	2.03%	1.77%

DEMOGRAPHICS	All	Rural
% Women	47.2	48.0
% Post-secondary students	1.8	2.3
% Age 65+	5.1	6.6
% Aboriginal persons	26.9	36.6
% Immigrants or refugees	n/a	0.4

HOUSEHOLD TYPE	All	Rural
% Single-parent families	20.1	19.0
% Two-parent families	16.0	17.6
% Couples with no children	11.9	13.9
% Single people	52.0	49.5
Number of food banks reporting	79	49



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	11.5	9.8
% Employment Insurance	3.8	5.1
% Social assistance	35.4	42.7
% Disability-related income support	30.3	23.2
% Pension	7.6	9.3
% Student loans/scholarships	0.5	0.4
% No income	7.2	5.3
% Other	3.7	4.1
Number of food banks reporting	71	42

HOUSING TYPE	All	Rural
% Homeowners	6.4	11.7
% Rental market tenants	76.4	63.3
% Social housing tenants	7.7	6.2
% Band-owned housing	4.5	11.2
% Shelter or group home	0.9	0.7
% Living on the street	1.1	1.0
% Living with family or friends	3.1	5.9
Number of food banks reporting	63	43



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DETAILED NATIONAL & PROVINCIAL FINDINGS

ALBERTA

49,766
people helped by
food banks
in March

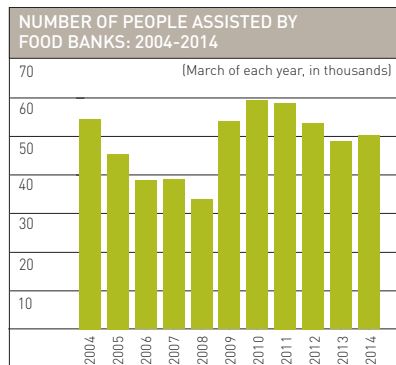
+48.2%
change
since 2008

42.9%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	49,766	48,653	53,512	58,735	59,311	53,976	33,580
% Change, 2008-2014	48.2%						
% Change, 2013-2014	2.3%						
% Food banks reporting an increase	48.7%	38.9%	40.8%	35.6%	72.5%	78.4%	-
% Assisted who are under 18 years of age	42.9%	44.1%	44.1%	43.7%	43.1%	43.1%	42.0%
Households assisted by food banks	19,441	19,374	21,309	21,556	20,078	20,815	12,031
% Households assisted for the first time	9.7%	11.6%	11.0%	17.7%	10.0%	-	-
% Provincial population assisted	1.22%	1.24%	1.40%	1.57%	1.60%	1.40%	0.96%

DEMOGRAPHICS	All	Rural
% Women	56.2	53.9
% Post-secondary students	3.1	1.9
% Age 65+	4.3	5.2
% Aboriginal persons	42.2	59.2
% Immigrants or refugees	6.6	2.0

HOUSEHOLD TYPE	All	Rural
% Single-parent families	36.5	29.7
% Two-parent families	25.1	26.3
% Couples with no children	8.6	9.8
% Single people	29.8	34.2
Number of food banks reporting	60	40



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	21.9	19.7
% Employment Insurance	6.5	7.9
% Social assistance	32.2	28.2
% Disability-related income support	15.5	16.9
% Pension	6.6	13.1
% Student loans/scholarships	2.1	1.2
% No income	9.1	7.2
% Other	6.6	5.8
Number of food banks reporting	55	41

HOUSING TYPE	All	Rural
% Homeowners	7.8	12.8
% Rental market tenants	69.9	38.9
% Social housing tenants	9.4	4.1
% Band-owned housing	5.9	22.7
% Shelter or group home	1.2	1.4
% Living on the street	0.5	1.5
% Living with family or friends	5.3	18.5
Number of food banks reporting	51	34



SASKATCHEWAN

26,820
people helped by
food banks
in March

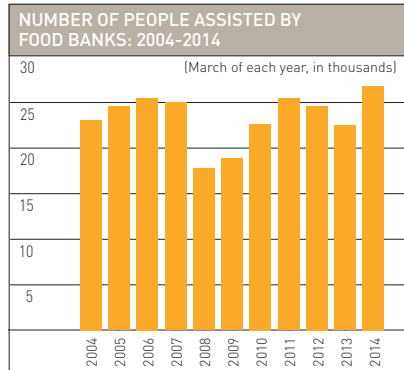
+51.1%
change
since 2008

45.8%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	26,820	22,465	24,621	25,432	22,662	18,875	17,751
% Change, 2008-2014	51.1%						
% Change, 2013-2014	19.4%						
% Food banks reporting an increase	63.6%	48.1%	17.6%	52.0%	52.0%	78.0%	-
% Assisted who are under 18 years of age	45.8%	43.8%	47.5%	46.3%	44.1%	44.4%	45.6%
Households assisted by food banks	10,701	9,043	10,180	7,734	8,355	7,063	5,819
% Households assisted for the first time	3.9%	4.7%	5.8%	8.6%	7.8%	-	-
% Provincial population assisted	2.40%	2.06%	2.30%	2.42%	2.18%	1.80%	1.73%

DEMOGRAPHICS	All	Rural
% Women	54.1	50.2
% Post-secondary students	2.7	1.2
% Age 65+	2.7	4.9
% Aboriginal persons	64.1	67.2
% Immigrants or refugees	3.0	0.6

HOUSEHOLD TYPE	All	Rural
% Single-parent families	27.5	29.5
% Two-parent families	21.9	30.9
% Couples with no children	10.3	7.1
% Single people	40.4	32.6
Number of food banks reporting	32	22



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	14.8	9.4
% Employment Insurance	2.9	3.6
% Social assistance	52.7	59.8
% Disability-related income support	5.7	5.2
% Pension	6.2	11.6
% Student loans/scholarships	3.2	0.5
% No income	7.8	6.3
% Other	6.7	3.6
Number of food banks reporting	30	21

HOUSING TYPE	All	Rural
% Homeowners	6.8	12.1
% Rental market tenants	61.0	31.0
% Social housing tenants	19.3	17.5
% Band-owned housing	6.6	33.8
% Shelter or group home	0.7	0.0
% Living on the street	0.3	0.7
% Living with family or friends	5.2	4.8
Number of food banks reporting	31	23



DETAILED NATIONAL & PROVINCIAL FINDINGS

MANITOBA

61,691
people helped by
food banks
in March

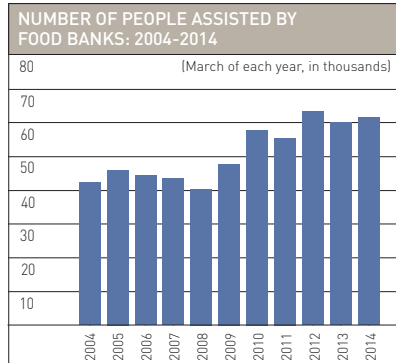
+52.5%
change
since 2008

44.3%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	61,691	60,229	63,482	55,575	57,966	47,925	40,464
% Change, 2008-2014	52.5%						
% Change, 2013-2014	2.4%						
% Food banks reporting an increase	51.1%	60.0%	59.1%	42.4%	73.0%	66.0%	-
% Assisted who are under 18 years of age	44.3%	44.7%	47.6%	50.4%	50.5%	48.7%	45.7%
Households assisted by food banks	23,790	23,074	21,261	18,620	-	-	-
% Households assisted for the first time	10.1%	17.8%	13.3%	12.4%	12.5%	-	-
% Provincial population assisted	4.85%	4.72%	5.05%	4.47%	4.72%	3.89%	3.30%

DEMOGRAPHICS	All	Rural
% Women	50.5	50.9
% Post-secondary students	1.4	2.0
% Age 65+	3.6	6.1
% Aboriginal persons	n/a	56.5
% Immigrants or refugees	n/a	4.0

HOUSEHOLD TYPE	All	Rural
% Single-parent families	21.1	23.9
% Two-parent families	27.1	28.6
% Couples with no children	14.6	12.7
% Single people	37.2	34.9
Number of food banks reporting	41	31



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	16.4	15.9
% Employment Insurance	4.0	4.4
% Social assistance	51.5	55.1
% Disability-related income support	11.3	6.6
% Pension	10.6	12.5
% Student loans/scholarships	0.4	0.2
% No income	3.0	2.2
% Other	2.9	3.0
Number of food banks reporting	30	23

HOUSING TYPE	All	Rural
% Homeowners	12.9	14.6
% Rental market tenants	32.1	21.2
% Social housing tenants	18.4	12.3
% Band-owned housing	31.4	46.8
% Shelter or group home	0.4	0.2
% Living on the street	0.6	0.7
% Living with family or friends	4.1	4.3
Number of food banks reporting	29	22



ONTARIO

374,698

people helped by
food banks
in March

+19.2%

change
since 2008

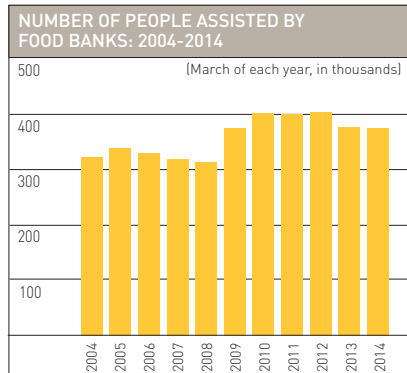
35.0%

are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	374,698	375,814	404,373	400,360	402,056	374,230	314,258
% Change, 2008-2014	19.2%						
% Change, 2013-2014	-0.3%						
% Food banks reporting an increase	54.2%	47.2%	48.1%	46.4%	73.6%	76.2%	-
% Assisted who are under 18 years of age	35.0%	35.0%	38.7%	37.0%	37.1%	37.6%	37.6%
Households assisted by food banks	175,954	162,568	174,618	160,275	160,402	148,660	137,491
% Households assisted for the first time	9.8%	8.7%	9.8%	10.0%	6.9%	-	-
% Provincial population assisted	2.76%	2.77%	3.01%	2.97%	3.06%	2.90%	2.40%

DEMOGRAPHICS	All	Rural
% Women	45.3	44.9
% Post-secondary students	3.4	1.4
% Age 65+	4.0	5.2
% Aboriginal persons	6.3	15.6
% Immigrants or refugees	9.6	5.8

HOUSEHOLD TYPE	All	Rural
% Single-parent families	23.8	20.4
% Two-parent families	18.9	22.4
% Couples with no children	11.2	15.1
% Single people	46.1	42.1
Number of food banks reporting	377	78



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	9.3	9.4
% Employment Insurance	2.6	3.4
% Social assistance	40.3	32.0
% Disability-related income support	29.4	38.4
% Pension	6.8	8.6
% Student loans/scholarships	1.0	0.5
% No income	5.4	3.3
% Other	5.1	4.5
Number of food banks reporting	324	69

HOUSING TYPE	All	Rural
% Homeowners	5.7	15.9
% Rental market tenants	64.0	63.4
% Social housing tenants	22.3	14.3
% Band-owned housing	0.4	1.9
% Shelter or group home	1.0	0.6
% Living on the street	0.8	0.3
% Living with family or friends	5.7	3.7
Number of food banks reporting	350	79



DETAILED NATIONAL & PROVINCIAL FINDINGS

QUEBEC

156,895

people helped by food banks in March

+23.0%

change since 2008

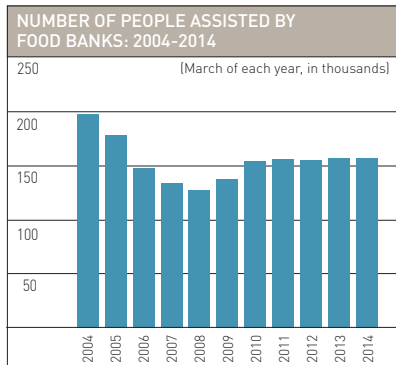
37.3%

are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	156,895	156,750	155,574	156,279	154,364	137,464	127,536
% Change, 2008-2014	23.0%						
% Change, 2013-2014	0.1%						
% Food banks reporting an increase	56.0%	50.0%	47.1%	51.9%	-	-	-
% Assisted who are under 18 years of age	37.3%	37.1%	37.2%	36.0%	37.9%	33.9%	37.1%
Households assisted by food banks	68,138	67,544	70,510	69,385	-	-	-
% Households assisted for the first time	15.5%	12.6%	14.6%	15.6%	-	-	-
% Provincial population assisted	1.92%	1.95%	1.94%	1.97%	1.96%	1.77%	1.97%

DEMOGRAPHICS	All	Rural
% Women	47.4	48.3
% Post-secondary students	4.6	2.1
% Age 65+	5.1	5.9
% Aboriginal persons	1.2	2.5
% Immigrants or refugees	23.0	3.2

HOUSEHOLD TYPE	All	Rural
% Single-parent families	21.6	20.1
% Two-parent families	24.9	21.3
% Couples with no children	11.4	13.3
% Single people	42.1	45.3
Number of food banks reporting	633	151



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	10.8	11.7
% Employment Insurance	5.6	8.3
% Social assistance	61.5	57.8
% Disability-related income support	3.4	4.4
% Pension	7.0	9.1
% Student loans/scholarships	3.3	2.5
% No income	4.7	2.9
% Other	3.6	3.2
Number of food banks reporting	615	148

HOUSING TYPE	All	Rural
% Homeowners	7.0	17.9
% Rental market tenants	68.4	62.7
% Social housing tenants	17.8	11.9
% Band-owned housing	0.5	2.4
% Shelter or group home	2.0	1.0
% Living on the street	1.4	0.2
% Living with family or friends	2.8	4.0
Number of food banks reporting	589	145



community choices
unit three

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NEW BRUNSWICK

19,590
people helped by
food banks
in March

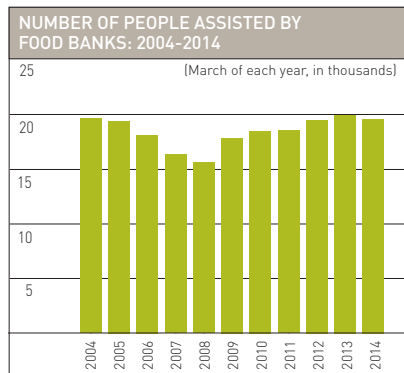
+25.3%
change
since 2008

33.9%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	19,590	19,989	19,524	18,539	18,517	17,889	15,638
% Change, 2008-2014	25.3%						
% Change, 2013-2014	-2.0%						
% Food banks reporting an increase	54.0%	59.6%	51.9%	54.2%	66.0%	70.6%	-
% Assisted who are under 18 years of age	33.9%	33.2%	32.0%	34.4%	34.3%	33.8%	33.2%
Households assisted by food banks	9,076	9,376	8,975	8,160	8,440	7,710	7,060
% Households assisted for the first time	5.8%	7.4%	9.0%	7.7%	9.4%	-	-
% Provincial population assisted	2.59%	2.64%	2.58%	2.46%	2.46%	2.39%	2.09%

DEMOGRAPHICS	All	Rural
% Women	49.1	48.4
% Post-secondary students	1.0	1.2
% Age 65+	3.5	3.6
% Aboriginal persons	3.4	3.2
% Immigrants or refugees	2.8	0.9

HOUSEHOLD TYPE	All	Rural
% Single-parent families	23.0	21.8
% Two-parent families	19.0	21.2
% Couples with no children	12.4	13.9
% Single people	45.6	43.1
Number of food banks reporting	39	26



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	9.6	9.0
% Employment Insurance	5.5	6.9
% Social assistance	63.2	62.8
% Disability-related income support	5.9	5.3
% Pension	6.0	6.2
% Student loans/scholarships	0.7	0.4
% No income	3.7	2.3
% Other	5.5	6.9
Number of food banks reporting	35	25

HOUSING TYPE	All	Rural
% Homeowners	20.4	24.7
% Rental market tenants	57.2	53.0
% Social housing tenants	14.4	12.5
% Band-owned housing	3.0	3.0
% Shelter or group home	0.1	0.0
% Living on the street	1.1	1.5
% Living with family or friends	3.8	5.2
Number of food banks reporting	32	27



DETAILED NATIONAL & PROVINCIAL FINDINGS

NOVA SCOTIA

19,664
people helped by
food banks
in March

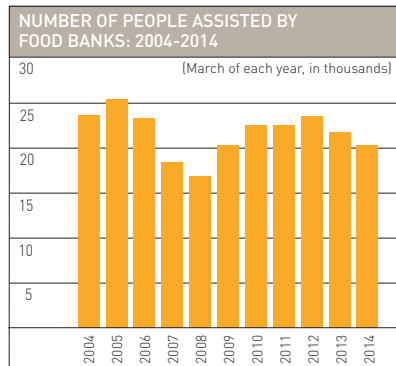
+16.3%
change
since 2008

29.2%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	19,664	21,760	23,561	22,505	22,573	20,344	16,915
% Change, 2008-2014	16.3%						
% Change, 2013-2014	-9.6%						
% Food banks reporting an increase	32.5%	37.0%	55.6%	41.5%	68.1%	57.4%	-
% Assisted who are under 18 years of age	29.2%	32.0%	32.6%	31.5%	33.0%	34.1%	35.0%
Households assisted by food banks	9,405	9,789	10,626	10,814	10,840	9,605	7,926
% Households assisted for the first time	9.6%	5.6%	5.1%	6.9%	7.3%	-	-
% Provincial population assisted	2.09%	2.30%	2.49%	2.39%	2.40%	2.17%	1.81%

DEMOGRAPHICS	All	Rural
% Women	45.6	44.7
% Post-secondary students	0.8	0.8
% Age 65+	4.8	5.1
% Aboriginal persons	2.7	2.7
% Immigrants or refugees	0.7	0.0

HOUSEHOLD TYPE	All	Rural
% Single-parent families	16.6	17.1
% Two-parent families	18.2	19.5
% Couples with no children	18.5	19.9
% Single people	46.7	43.6
Number of food banks reporting	72	42



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	13.5	7.8
% Employment Insurance	5.1	3.8
% Social assistance	44.2	59.2
% Disability-related income support	17.9	10.7
% Pension	11.0	10.3
% Student loans/scholarships	0.7	0.3
% No income	4.1	3.2
% Other	3.4	4.9
Number of food banks reporting	22	14

HOUSING TYPE	All	Rural
% Homeowners	18.3	19.9
% Rental market tenants	67.8	61.5
% Social housing tenants	9.6	13.8
% Band-owned housing	2.5	1.5
% Shelter or group home	0.5	1.3
% Living on the street	0.0	0.0
% Living with family or friends	1.2	2.1
Number of food banks reporting	26	16



PRINCE EDWARD ISLAND

3,432
people helped by
food banks
in March

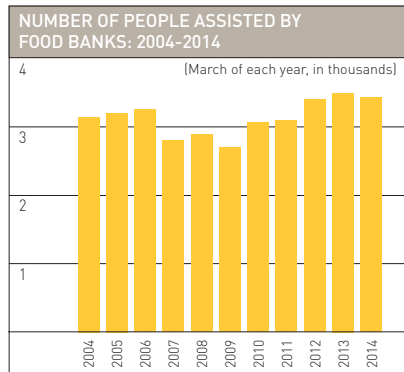
+18.7%
change
since 2008

38.0%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	3,432	3,502	3,406	3,095	3,068	2,706	2,892
% Change, 2008-2014	18.7%						
% Change, 2013-2014	-2.0%						
% Food banks reporting an increase	40.0%	66.7%	66.7%	66.7%	100.0%	50.0%	-
% Assisted who are under 18 years of age	38.0%	35.8%	34.1%	35.3%	35.5%	35.8%	35.4%
Households assisted by food banks	1,249	1,278	1,413	1,231	1,198	1,083	1,155
% Households assisted for the first time	3.3%	3.4%	4.9%	7.0%	6.9%	-	-
% Provincial population assisted	2.36%	2.40%	2.33%	2.16%	2.17%	1.93%	1.95%

DEMOGRAPHICS	All	Rural
% Women	51.0	46.0
% Post-secondary students	0.4	0.2
% Age 65+	4.5	4.3
% Aboriginal persons	2.8	0.3
% Immigrants or refugees	3.0	0.0

HOUSEHOLD TYPE	All	Rural
% Single-parent families	22.4	21.4
% Two-parent families	25.8	31.3
% Couples with no children	12.7	8.5
% Single people	39.1	38.8
Number of food banks reporting	5	2



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	19.9	21.3
% Employment Insurance	17.3	24.8
% Social assistance	36.4	24.8
% Disability-related income support	8.9	13.4
% Pension	10.8	9.9
% Student loans/scholarships	0.4	0.0
% No income	2.3	2.5
% Other	3.9	3.5
Number of food banks reporting	5	2

HOUSING TYPE	All	Rural
% Homeowners	13.5	31.2
% Rental market tenants	69.7	44.6
% Social housing tenants	11.3	22.3
% Band-owned housing	2.3	0.0
% Shelter or group home	0.4	0.0
% Living on the street	0.0	0.0
% Living with family or friends	2.8	2.0
Number of food banks reporting	5	2



DETAILED NATIONAL & PROVINCIAL FINDINGS

NEWFOUNDLAND & LABRADOR

26,617
people helped by
food banks
in March

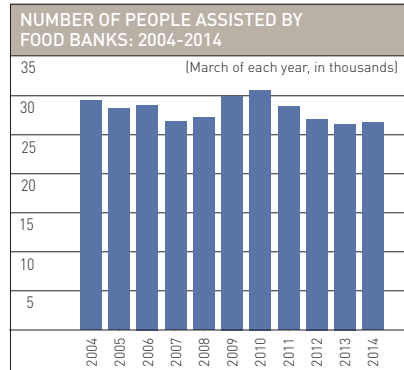
-2.4%
change
since 2008

37.7%
are children

KEY HUNGERCOUNT FINDINGS	2014	2013	2012	2011	2010	2009	2008
Individuals assisted by food banks	26,617	26,412	27,044	28,642	30,800	30,014	27,260
% Change, 2008-2014	-2.4%						
% Change, 2013-2014	0.8%						
% Food banks reporting an increase	60.6%	37.9%	51.9%	40.7%	67.9%	70.4%	-
% Assisted who are under 18 years of age	37.7%	37.9%	38.8%	37.3%	37.3%	37.4%	38.4%
Households assisted by food banks	8,977	8,923	8,950	9,090	9,003	9,235	8,037
% Households assisted for the first time	4.5%	4.4%	4.7%	4.8%	5.4%	-	-
% Provincial population assisted	5.05%	5.14%	5.29%	5.63%	6.03%	5.90%	5.36%

DEMOGRAPHICS	All	Rural
% Women	57.8	48.8
% Post-secondary students	1.6	1.2
% Age 65+	3.9	5.8
% Aboriginal persons	9.7	16.7
% Immigrants or refugees	0.0	0.0

HOUSEHOLD TYPE	All	Rural
% Single-parent families	35.5	26.0
% Two-parent families	24.8	18.5
% Couples with no children	10.7	13.2
% Single people	29.0	42.3
Number of food banks reporting	25	18



PRIMARY SOURCE OF INCOME	All	Rural
% Job income	9.2	5.0
% Employment Insurance	12.5	5.5
% Social assistance	71.4	77.4
% Disability-related income support	0.5	2.6
% Pension	5.8	5.2
% Student loans/scholarships	0.1	1.1
% No income	0.2	2.0
% Other	0.3	1.0
Number of food banks reporting	22	17

HOUSING TYPE	All	Rural
% Homeowners	12.1	19.2
% Rental market tenants	22.7	60.6
% Social housing tenants	64.5	17.6
% Band-owned housing	0.0	0.1
% Shelter or group home	0.0	0.0
% Living on the street	0.1	0.1
% Living with family or friends	0.6	2.4
Number of food banks reporting	22	16



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- 5 Based on surveys from 1,374 food banks.
- 6 Based on surveys from 1,207 food banks.
- 7 Based on surveys from 1,199 food banks.
- 8 Based on surveys from 1,122 food banks.
- 9 Based on surveys from 466 food banks.
- 10 Based on surveys from 404 food banks.
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- 13 Based on surveys from 416 food banks.
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(Note that in this instance household figures have been applied to individual data to arrive at an estimate of the number of individuals in severely food insecure households).
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(The notable exception is for people with severe, permanent disabilities in Alberta, where the maximum base benefit is over \$19,000.)
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For an in-depth example of this thinking, see B.L. Crowley (2010). *Fearful symmetry: The fall and rise of Canada's founding values*. Key Porter Books. [Specifically, see pages 122, 133.]

For a popular example, see N. Reynolds (2012). The unseemly nature of the welfare state. *Globe and Mail*, June 12, 2012. <http://www.theglobeandmail.com/report-on-business/economy/the-unseemly-nature-of-the-welfare-state/article4253907/>.
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“Basic Standard of Living” refers to the Market Basket Measure of low income for the largest city in each province.
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- Data sources (all figures for single people):
Minimum wage: average of 10 provinces (\$10.37) at 35 hours per week over 50 weeks.
Average weekly earnings, multiplied by 52 weeks, from manufacturing: Statistics Canada, *Table 281-0047*.
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METHODOLOGY

The primary purpose of the annual *HungerCount* survey is to provide a national and provincial snapshot of food bank and meal program use in Canada. This is accomplished by counting the number of individuals who receive groceries from food banks and their affiliated agencies during the month of March, and by counting the number of meals and snacks prepared and served by a variety of organizations. Information is collected on the number of unique individuals that receive food from food banks, the total number of visits to food banks, and the total number of meals and snacks prepared and served by meal programs. March has been chosen as the study period because it is an unexceptional month, without predictable high or low use patterns. Since March is used consistently, we are

able to make relevant comparisons in use patterns over time.

The survey also records information on several characteristics of those assisted by food banks, including age category, gender, Aboriginal identity, immigration/refugee status, and student status at the individual level, and primary source of income, household composition, and housing type at the household level. As well, the survey collects information on various operational aspects relevant to food banks and meal programs.

Surveys were sent to all known Canadian food banks and meal programs in February 2014. When necessary, *HungerCount* Provincial Coordinators contacted organizations prior to the submission deadline to ensure a high response rate and to clarify survey

questions. Completed surveys were returned to Provincial Coordinators, who checked responses for accuracy and completeness before forwarding paper or electronic copies to Food Banks Canada.

Throughout the summer, Food Banks Canada staff and volunteers worked with *HungerCount* Provincial Coordinators to collect outstanding surveys and resolve any inconsistencies in responses. Survey data were entered into a database, checked for accuracy, and analyzed by Food Banks Canada staff. In cases where surveys were not completed by operating food banks, conservative estimates were produced in consultation with Provincial Coordinators, using 2013 figures as a guide.

TABLE 2: HUNGERCOUNT SURVEY PARTICIPATION, 2014

Province/Territory	Number of Known Food Programs	Number of Participating Food Programs	% of Food Programs Participating	Number of Food Programs with Estimated Information	Number of Agencies Included	Total Organizations Included
British Columbia	93	93	100%	0	328	421
Alberta	113	79	70%	30	413	526
Saskatchewan	36	36	100%	0	63	99
Manitoba	54	54	100%	0	320	374
Ontario	503	426	85%	51	1,270	1,773
Quebec	994	946	95%	0	0	994
New Brunswick	61	59	97%	0	25	86
Nova Scotia	169	149	88%	20	25	194
Prince Edward Island	6	5	83%	1	7	13
Newfoundland & Labrador	37	35	95%	0	64	101
Territories	12	11	92%	1	0	12
Canada	2,078	1,893	91%	103	2,515	4,593

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Low-Cost Subsidized Venezuela State Food Markets Under Spotlight over Price Rises



By Jeremy Morgan
Latin American Herald Tribune staff

CARACAS – Critics of the government – and there appears to be no shortage of them when it comes to the relentless rise in Venezuela's cost of living – claim that inflationary pressures are building up just where they're not supposed to be doing so.

The latest bad news from the inflation front is that prices are said to be shooting through the roof at Mercal – President Hugo Chávez's network of low-cost subsidized government outlets of household and food essentials, above all food, a system intended to leaven the load on the poorer sectors of the population.

In theory at least, food and other goods are sold through Mercal on the basis of state subsidies and the lower costs that are supposed to come with the economies of bulk purchasing.

Chávez devised Mercal so that ordinary people didn't have to depend for basic necessities on private sector suppliers and vendors, which he accused of exploiting the people in a classic case of the "neoliberal" and "savage" free market capitalism he frequently rails against in public speeches.

William Ojeda, a senior figure in Un Nuevo Tiempo (UNT), an Opposition party, suggested that the president might look to the mote in his own eye – that is, Mercal. There, he claimed, "savage capitalism" had arrived with a vengeance.

UNT, he said, had carried out a survey of prices at Mercal, and these had given the lie to presidential assertions to the effect that it was the private sector that was chiefly to blame for inflation.

Not so, said, Ojeda. The annualized rate of inflation at Mercal was running at an average 67%, he claimed. This was hitting hardest at the poorest people in the country, many of whom had to survive on the minimum basic wage of a little under BsF1,000 a month, he pointed out.

Ojeda went on to say that 14 subsidized products were sold through Mercal – and he claimed that prices there for no less than 11 of these had been rising "in a silent way" this year. Then he produced a string of examples to back up his point, which was that the rate of price rises was even higher at Mercal than in the private sector.



At Mercal, he claimed, the price of chicken had leapt by 174.7% since the turn of the



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year, pasta 78.1%, lentils 68.3%, powdered milk 67.8%, peas 63.4%, beef 61.7%, sugar 57.6%, prepared flour 39.3%, rice 32.3%, and margarine 27.66%.

Only the last -- margarine -- is just about in the middle of

Finance Minister Alí Rodríguez Araque's forecast for overall inflation for the whole of this year, which he has most recently pitched at between 26 and 28%.

At best, the minister's prognosis, if it pans out, would represent scant improvement on last year's officially estimated increase in consumer prices of 30.9%, which sceptics say seriously under-estimated the real trend after (equally official) increases of 27.1% in 2007 and 17.5% in 2006.

Ojeda was out to show that the government was practicing precisely the sort of cruel and crude exploitative capitalism for which it lambasts others. "We're in the presence of the application of neoliberal policies of the most savage kind, and which affect the neediest families in our country," he said.

Several reports have spoken of a suspicion that supplies provided by the government at low cost to Mercal distributors and retailers are finding their way to other vendors -- at, of course, a suitably sharp mark-up.

The government's response to this, at least in the public domain, has been to stage a series of high-profile raids on supermarkets and large food producers, not least of them some of the biggest such companies in the country, including internationally-known foreign names.

At the same time, there's been a flurry of official claims of widespread smuggling of low-priced Venezuelan food across the border to Colombia, where presumably it fetches higher prices.

Chávez has used this at least partly to justify his outright blockade on cross-border trade with the neighboring country. While the government points the finger at Colombia, elsewhere it's suggested that at quite a lot of food is trickling out of Mercal, some of which might be finding its way across the border.

However, it would appear that Mercal food is not only being sneaked over the frontier but also moved around inside the country in search of greater profits. On Monday, the scientific and investigative police, CICPC, announced that two large refrigerated container trucks had been caught loaded with 250 cases of beef the day before.

A statement released by CICPC said six individuals had been arrested in connection with this. It then emerged that four of the detainees were allegedly employees of Corporación de Abastacimeinto y Servicios Agrícolas, more commonly known as CASA. This is the company which supplies produce to Mercal.



The two truckloads of beef had apparently been travelling under false transit permits issued by somebody at CASA. The beef had arrived at La Guaira port north of Caracas, supposedly destined for the capital.

Instead, the police say, the beef went on its way to Barquisimeto in Lara state. There, it was expected to fetch at least BsF300 a kilo

under the counter. That made for a 600% profit margin for those behind the scam, the cops said, adding that more arrests were on the way.



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Whether Ojeda knew about this particular case when he spoke out about his suspicions of what was going on at Mercal wasn't clear. Be that as it may, he was out to hoist the government on its own petard, and take a swipe at Chávez's penchant for multi-billion dollar arms purchases on the way.

"We're in the presence of the application of neoliberal policies of the most savage kind, which affect the neediest families in the country," he declared. It is precisely among the poor that the president has the basis of his populist political power base.

Noting that the government was supposedly poised to unveil a batch of economic measures (which had yet to see the light of day as he spoke), Ojeda said it also had to "resolve the situation of the Venezuelans who only possess the minimum wage to survive, instead of spending \$5 billion on buying arms, it should resolve the food problems of our people."



**NORWEGIAN MINISTRY
OF FOREIGN AFFAIRS**

Food Security in a Climate Perspective

A strategy
developed in cooperation with
Ministry of Agriculture and Food,
Ministry of Fisheries and Coastal Affairs,
Ministry of the Environment

ENGLISH SUMMARY
January 2013





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Preamble

In 2010 almost one billion people did not have enough food to meet their basic nutritional needs. This is a serious human rights violation, because the right to food is a universal human right that is embodied in the International Covenant on Economic, Social and Cultural Rights.

In its policy platform for the period 2009–13, the Government therefore emphasised the need to intensify Norway's efforts to promote global food security by focusing on climate-resilient agriculture, fisheries and aquaculture in development cooperation. This was followed up in the white paper Towards Greener Development (Meld. St. 14 (2010–2011)), which describes the tools Norway will use to promote green development strategies. Norway's International Climate and Forest Initiative, promotion of renewable energy and support for climate change adaptation, with an emphasis on agriculture, are the main pillars of our efforts to promote green development.

We will give priority to increasing food production, especially by strengthening small-scale climate-resilient agriculture, and to the development of competence about the importance of ecosystems for climate resilience and access to water. We intend to promote research and private-sector engagement in African countries and to support measures to reduce wastage in food production. We also intend to promote the rights of smallholders, particularly women, and to strengthen the fisheries and aquaculture sector and the efforts of regional organisations in the agricultural sector. This will require close cooperation with national authorities and support for their plans for boosting production and food security. It will also mean intensifying international cooperation on improving the global framework conditions for achieving food security.

The present strategy, developed jointly by the Ministry of Foreign Affairs, the Ministry of Agriculture and Food, the Ministry of Fisheries and Coastal Affairs, and the Ministry of the Environment, is intended to promote increased food production in a changing climate. It covers the period 2013 – 2015. The Strategy is the Norwegian government's most important answer to the developing countries' demands for greater support for climate change adaptation.

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An integrated approach

The productivity of African agriculture is significantly lower than that on other continents. This contributes to maintaining poverty and increasing vulnerability to climate change. In some countries, especially in the Sahel region, food production could be halved by 2020 as a result of climate change. The need for food also leads to clearing of new land for agricultural production. This is a significant cause of deforestation, which in turn increases net emissions by reducing greenhouse gas sequestration and causing loss of biodiversity and changes in global and local rainfall patterns, and diminishes forest food resources.

In the future, agriculture, fisheries and aquaculture will have to satisfy the growing demand for food caused by the growing world population combined with a growing scarcity of resources for food production. Overuse of water, impoverishment and pollution of soil, overfishing and loss of biodiversity resulting from unsustainable production methods threaten global food security and in many areas also livelihoods, especially those of the poor. Better methods and integrated land use management are needed in order to increase food production and make it more climate resilient, and to reduce the pressure on natural resources.

Countries that recognise the links between climate change, energy and agriculture will be able to take a more comprehensive approach to green growth and to provide more favourable conditions for sustainable development that will ensure safe, sufficient food for everyone. Norway will therefore contribute to improved coordination between these three pillars of food security in countries that have the capacity to adopt a comprehensive approach of this kind.

Food loss

Food loss is a serious problem. About one-third of all produced food is never consumed, for a number of reasons. Reducing food loss will yield considerable benefits – economic, environmental and in terms of equitable distribution – throughout the value chain. In developing countries, food loss is primarily due to inefficient harvesting methods, lack of competence, and post-harvest losses. Wastage also occurs as a result of lack of infrastructure, poor transport conditions, poorly developed local markets, and an imbalance between supply and demand.

Equitable distribution and gender equality

Today enough food is produced in the world as a whole. The fact that so many people suffer from hunger and malnutrition is therefore not only a question of production, but of social, political and economic factors that prevent food from being equitably distributed. Food insecurity is thus a political and technical problem that requires a major investment in the agricultural sector. In order for growth in productivity to improve food security and reduce poverty, investments must be made along the whole value chain. They must cover access to water, fertiliser, agricultural tools, improved seed, better agricultural methods, and improved post-harvest storage conditions. Agricultural development is also dependent on sound infrastructure, price information, and access to credit and to local, national and if possible international markets.

Norwegian support for development should be used for the benefit of small-scale African food producers. Many of these are women. According to the Food and Agriculture Organization of the United Nations (FAO), equal access to productive resources and equal opportunities for women and men could increase local crop yields by up to 30 %. If climate-resilient agriculture is to be successful in boosting productivity and reducing poverty, women must be given real rights and opportunities. Strengthening the position of women in



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agriculture is an essential condition for greater food security and a more equitable distribution of resources. Women's right to own and inherit land, and their access to factor inputs, education and markets, are vital factors in this context. A sound agricultural policy therefore needs a mainstreamed gender dimension.

Marine resources

Fish is a valuable, sustainable and nutritious resource that contributes to food security. Much of the fishing in developing countries is done by artisanal fishers using simple technology, and their catches are mainly processed and sold locally. Women are often in a majority in this part of the value chain. Small-scale fisheries play an important role in local food security and local employment. Sustainable management and utilisation of marine resources helps to secure these jobs and increases access to food.

Illegal, unreported and unregulated fishing (IUU fishing) reduces the resource base and poor people's incomes, and limits their access to food. IUU fishing is estimated to result in annual losses of around USD 1 billion in sub-Saharan Africa. It is also an unsustainable exploitation of natural resources and has serious long-term negative impacts on local businesses and development in the coastal communities concerned. Measures should be targeted at both commercial vessels that take advantage of inadequate monitoring capacity and local fishers using illegal fishing gear and operating in large enough numbers to deplete the resource base.

Investment

There is a considerable need for investment in African agriculture, both in small-scale farming and in large-scale operations. Measures to promote large-scale commercial agriculture are included in the national plans for growth and development of most African countries. However, if agriculture on this scale is not to result in unsustainable development, private investment must be regulated by strict requirements regarding environmental and social sustainability.

Large-scale commercial farming is dependent on access to capital from public and private investment, and a country wishing to attract investment in agriculture must provide good framework conditions. These must include predictable conditions, rules that permit return on invested capital, a taxation system that provides incentives to boost productivity, and clearly defined land tenure rights.

Large-scale projects can attract investment in infrastructure, introduce new, improved technology and create jobs in the formal and informal sectors. In addition, they can increase access to regional and international markets that also benefits smallholders.

Local ownership

Strong, free and locally organised civil society is a precondition for improving food security. Like the media, it serves as advocate and watchdog vis-à-vis the authorities and private actors. It also supplies services that complement public services and fill the gap before they are in place. In addition to local NGOs, Norwegian NGOs possess knowledge, experience and networks that will be needed in the years to come. Cooperation with these latter organisations, and to an increasing extent with their partner organisations in the South, is essential to the Government's efforts to promote food security.

Farmers' organisations play an important role in food security, not only as a local voice to authorities and donors, but also in spreading knowledge about locally adapted cultivation



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methods and other agricultural concerns. Supporting the efforts of farmers' organisations to obtain better framework conditions is therefore essential to the development and facilitation of climate-smart agriculture.

Norwegian focus and efforts – financial framework and time horizon

Implementation of the strategy will be included in the work plans of the Ministry of Foreign Affairs and in the allocation letters to Norad and the embassies. The Government will consider priorities and shifts in the aid budget in connection with the annual budget proposals. Annual status reports will be submitted on the implementation of the strategy, based on reports from embassies drawn up in cooperation with the national authorities and partner organisations involved.

A two-track implementation

1) Norway will promote food security in a climate change perspective at the international level and will through these efforts seek to strengthen the global institutional architecture for food security.

Food security, including the improvement of productivity in agriculture, fisheries and aquaculture, together with ecosystem conservation, is among the main priorities of Norwegian development cooperation. Norway intends to take a more active part in the discussion on food security in the UN system, in international financial institutions, and with both new and existing partners, in order to ensure that global priorities, guidelines and framework conditions strengthen the efforts to promote food security and the right to food at the national and local levels. Securing long-term access to food requires a broad approach that covers climate change and environmental considerations, integrated natural resources management, production conditions and a rights-based perspective.

Norway will act as a voice for the demand for formal and informal rights of small-scale food producers, especially women. Measures enabling smallholders and artisanal fishers to adapt to climate change and practise sustainable management will receive particular attention. The whole value chain must be taken into account. Smallholders also need access to improved seed, factor inputs, credit, education and well-functioning markets. Wastage and food losses along the value chain need to be reduced. Access to food depends not only on an adequate food supply to the market but also on people's ability to pay for it.

Norway will also advocate more sustainable national and local management of marine and terrestrial natural resources.

2) Norwegian aid to agriculture, fisheries and aquaculture will be increased.

Norwegian support for food security will be increased by NOK 500 million over the next three years (2013–15). Supported measures must meet the quality requirements for performance and good management that apply to all Norwegian development aid. The increase for 2013 will amount to up to NOK 200 million, which will be allocated under different budget chapters. In 2013, around 50 % of the allocation will go to bilateral cooperation and the remainder to multilateral organisations. The increases for 2014–15 shall be allocated from within existing budgetary frameworks.



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Aid to individual countries

a) Synergy between the Climate and Forest Initiative, efforts to promote renewable energy, and support for agriculture

In **Ethiopia, Mozambique** and **Tanzania** agricultural support should be viewed in the context of the Climate and Forest Initiative and the promotion of renewable energy. This will strengthen the country's capacity for integrated land use management. The intention is to enable the country concerned to increase food production without increasing deforestation. Better cultivation methods and good market access will encourage this trend. In Tanzania support for the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) will be given priority. In Mozambique support for the Beira Agricultural Growth Corridor (BAGC) will be considered. In connection with these corridors, efforts will be made to facilitate the expansion of public-private partnerships, for example with the Norwegian company Yara. In Ethiopia most of the support will be used to strengthen the authorities' own strategy for green development. Cooperation with a number of different actors, such as NGOs, academic institutions and bilateral and multilateral partners, will be sought.

b) A stronger focus on climate-resilient agriculture

Support for climate-resilient agriculture in **Zambia** and **Malawi** will be increased. There are already programmes for improving production methods that reduce the impacts of climate variations and erosion, and increase crop yields. The programmes consist of proven measures targeted at smallholders, especially women, and include training, access to factor inputs, product processing and improving market access.

c) Preventing famine in drought areas

The famine in the Sahel belt is being aggravated by violent conflicts and the resulting refugee flows. This reduces access to food and to land areas that can be used for food production. In 2013, Norway will primarily provide NOK 30 million in support for the Nigerians Nourish Nigerians (3N) initiative in **Niger**, and the money is being channelled through the World Food Programme (WFP) in the form of earmarked funds. In autumn 2012, Norway entered into a four-year agreement with WFP that ensures predictable funding and enables it to follow the organisation's activities through annual bilateral meetings. Norway will also consider reviving its cooperation with Mali as soon as the political situation allows. Efforts to prevent a food crisis in the Horn of Africa will be continued through humanitarian channels.

d) Fisheries and aquaculture

Norway is intensifying its efforts to promote sustainable fisheries and aquaculture management. Norway has expertise on every stage of the value chain and can provide advice and cooperation on efforts to ensure that fish becomes an even more important source of food. Aid for fisheries management and monitoring will make it possible to exploit this resource more fully, create a basis for commercial activity and increase access to food.

Norway will consider continuing the cooperation with Namibia on support for a revision of the country's fisheries legislation, and also whether to initiate projects under the bilateral agreement with Angola. The long-term cooperation with Mozambique, including on development of the aquaculture industry, will be strengthened and given a more commercial turn when the institutional framework is in place.

Norway will, in cooperation with international organisations, intensify its efforts to prevent IUU fishing in Africa and on promoting more sustainable fisheries management with a view to increasing food security. Cooperation with countries in West Africa that have signed the



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agreement on the Continental Shelf Initiative is a possibility. Norway will, in cooperation with FAO on completion and implementation of the Guidelines for Sustainable Small Scale Fisheries Development.

Cooperation with FAO on a programme to support the establishment of aquaculture in sub-Saharan Africa will be considered. The aim of the programme will be to facilitate financially and environmentally sustainable aquaculture based on an ecosystem approach.

Norway will intensify its work in the fisheries and aquaculture sector, primarily the work of assessment and monitoring of marine resources under the EAF-Nansen Project. Norway will also contribute to the practice of ecosystem-based fisheries management in developing countries, with a stronger focus on climate change and its impacts on marine resources.

Norway will consider supporting a programme for monitoring the presence of pollutants in fish from West African fisheries. A project for sampling and analysis could be conducted in cooperation with the EAF-Nansen Project.

e) Private sector development

Norwegian support for individual countries will be primarily directed at promoting public-private partnerships and providing incentives for private investment, for example by supporting value chain programmes. This will involve continuing the strategic cooperation with Norwegian and African private sectors, which is partly based on Norwegian business schemes in selected African countries.

Norway will intensify its efforts to ensure that developing countries produce food that is safe and can be sold in national and world markets. This means for example supporting efforts to ensure that food products meet the requirements set out in the World Trade Organization (WTO) Agreement on Sanitary and Phytosanitary Measures, including the international standards developed by the Codex Alimentarius, the World Organisation for Animal Health (OIE) and the International Plant Protection Convention (IPPC) and, to a growing extent, the private standards set by major international trade operators. These standards and requirements also apply to animal health in general and to plant health.

Regional cooperation

Norway will strengthen its cooperation with African countries by increasing its support for regional organisations and initiatives. This will mean stepping up the support to the African Union/New Partnership for Africa's Development (NEPAD) and regional African organisations. It is particularly important to support the emphasis on climate change and women in the Comprehensive Africa Agriculture Development Programme (CAADP), and the development and implementation of national plans in line with this emphasis. Norway will also consider stimulating cooperation between coastal states with adjacent exclusive economic zones on combating IUU fishing more effectively.

The cooperation with TerrAfrica (coordinated by NEPAD) on sustainable land management will be deepened. Cooperation with the Alliance for Green Revolution in Africa (AGRA) will be continued, with the aim of supporting climate-smart agricultural programmes in selected countries. In the research sector, support for the Consultative Group on International Agricultural Research (CGIAR) will be continued. The possibility of strengthening South-South cooperation between Embrapa and CAADP, particularly in Portuguese-speaking African countries, will be considered. Norway will examine the question of funding similar



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South–South research cooperation between a number of Asian and African countries on Sustainable Rice Intensification (SRI), in which Bioforsk plays a central role.

Multilateral cooperation

Norway will contribute financially to the work for global food security, primarily through the UN organisations WFP, FAO and the International Fund for Agricultural Development (IFAD), but also through closer cooperation with other multilateral organisations such as the World Bank, the International Finance Corporation and the African Development Bank. Priority will be given to strengthening the work on climate change adaptation and increasing women’s influence and participation in primary industries, including their access to means of production. Norway will also consider supporting the cooperation between UN Women, FAO, WFP and IFAD. The present cooperation with FAO will be continued and strengthened. Norway is thereby contributing to the long-term efforts of FAO in the fields of capacity-building and development of norms and standards. This includes reducing food loss along the whole value chain, preventing plant and animal diseases, and intensifying the work for conservation and sustainable use of genetic resources. In this connection Norway will consider supporting the efforts of small-scale food producers in developing countries on conservation and sustainable use of plant genetic resources for food and agriculture, partly through contributions to the International Treaty on Plant Genetic Resources for Food and Agriculture.

Norway will strengthen the efforts to improve conditions for artisanal fishers in its cooperation with FAO and in accordance with the Guidelines for Sustainable Small Scale Fisheries Development. The efforts to improve women’s position in the value chain will also be strengthened. The broad-based efforts to comply with the Aichi Targets under the Strategic Plan for Biodiversity 2011–2020 will be continued.

Civil society

The present strategy is intended to encourage African farmers’ organisations to become involved in climate-resilient agriculture. Civil society organisations will also be valuable partners in the efforts to strengthen the position of small-scale food producers and women’s formal and informal property rights in particular. Norway will continue and consider increasing its support for the establishment of farming cooperatives. An increase in support to farmers’ organisations and fisheries and aquaculture organisations will also be considered.

The Venezuelan Food Sovereignty Experiment

 www.resilience.org/stories/2015-03-10/the-venezuelan-food-sovereignty-experiment

Christina Schiavoni. Practicing traditional agriculture in Comuna María Teresa Angulo, Sanare, Lara state.

In Brief

In 1999, at the start of its process of social transformation known as the Bolivarian Revolution, Venezuela became among the world's first countries to adopt a national policy of *food sovereignty*. Its newly reformed constitution guaranteed its citizens the right to food through a secure national food supply based on sustainable agriculture as a strategic framework for rural development, to be carried out through a series of laws, institutes, and programs. This move could be seen as a leap of faith for a highly urbanized country that had largely abandoned agriculture as it built its economy around its petroleum industry over the last century. And yet, against these odds, Venezuela has moved forward in its efforts to build food sovereignty, drastically cutting hunger while bolstering domestic food production. This has been carried out through a host of government programs, in partnership with communities, ranging from land reform to feeding programs to urban agriculture. Today, some of the most promising efforts toward food sovereignty in Venezuela are coming from citizen-run social institutions known as *comunas*, which are forging relationships and carrying out innovative projects across the urban–rural divide.



Key Concepts

- Food sovereignty—defined as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods and their right to define their own food and agriculture systems"—is a concept coming from social movements in response to the injustices of the global food system.
- Thus far, a handful of countries have adopted food sovereignty into state policy. Among the first to do so was Venezuela in 1999. This was a bold move for a highly urbanized country that had abandoned its agriculture sector as it focused instead on oil production over the last century.
- Today, there is a wide range of support for food production and distribution in both rural and urban areas coming from the Venezuelan government, working in conjunction with citizen-led efforts. These initiatives have dramatically reduced hunger while bolstering domestic food production.
- Some of the most promising efforts toward food sovereignty in Venezuela today are coming from citizen-run social institutions known as *comunas*, which are forging relationships and carrying out innovative projects across the urban-rural divide.

As I wandered through the streets of Caracas on my first trip to Venezuela nine years ago, a huge urban farm in the midst of concrete high-rises caught my attention. It wasn't tucked away on a side street or in a residential area, but

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was right out in the middle of the bustling downtown. I asked a local walking by if he could tell me anything about the farm—whose initiative was it, how long had it been there, who farms the land? With a matter-of-fact shrug he said, "*Es parte del proceso.*" It's part of the process. Part of what process, I wondered. Did he mean Venezuela's broader process of political and social transformation, the Bolivarian Revolution? Or did he mean the efforts to transform Venezuela's food system? Later, I would learn that the two concepts were inseparable.

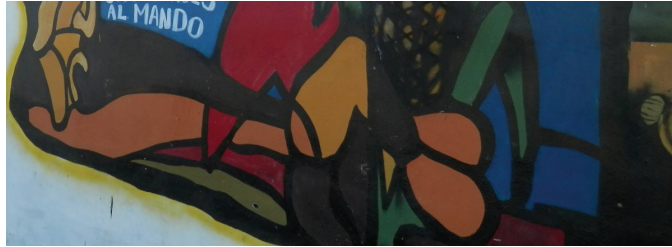
Now having followed the processes unfolding in Venezuela for nearly a decade, I often reflect back on this early moment for the meaning behind that simple exchange. In the US, where I'm from, there are also inspiring community food projects, which are local manifestations of the alternative food system that many hope for, dream about, and painstakingly work toward. Yet these still remain pockets of change in an otherwise broken system—in the US and globally—where profits come before people, good food is a privilege for those who can afford it rather than a right for all, and food production comes at the expense of farmers, workers, the environment, and human health. There is often talk of 'scaling up' positive models of food system change as a way forward, but there are few blueprints or examples as to how this might be done.

In a handful of countries, however, such as in Latin America, Africa, and Asia, there are national efforts to create systemic change in food and agriculture—and their advances and setbacks hold valuable lessons. Among these is Venezuela, which is home to one of the most fascinating experiments in food and agriculture today. The crux of Venezuela's experiment is an attempted 180° shift from a situation of *food dependency*, with high rates of imports controlled by a few powerful companies, to one of *food sovereignty*, in which the country is able to feed itself from its own food supply and people have greater control over the food they eat and produce.

Food is Political

It is an understatement to say that Venezuela's late president, Hugo Chavez, and his predecessor, Nicolas Maduro, have been magnets for negative attention by the mainstream media. A rare accuracy in current media reports on Venezuela, however, is that food is a highly politicized issue there. What the reports fail to mention, though, is that this is nothing new. In fact, issues directly connected to food were among the sparks that ignited the Bolivarian Revolution in Venezuela. On February 27, 1989, hundreds of thousands of people poured into the capital from the impoverished hillside communities on the periphery of Caracas, protesting in the streets as they looted shops first for food, then for other basic goods, and finally for anything in sight.¹ The protest was precipitated by then Venezuelan president Carlos Andrés/ Pérez signing a deal with the IMF to enter Venezuela into a structural adjustment program. This led to an abrupt surge in food and fuel prices in which the cost of bread rose by over 600 percent.¹ President Pérez's response to the massive mobilization, known as the Caracazo, was to order the military to open fire. The official death toll was 276 civilians, with actual deaths estimated in the thousands. Corresponding events transpired in cities across Venezuela that same day. The Caracazo is credited not only with being one of the earliest public protests against neoliberalism but also a defining moment of popular power. It ushered in a politically heated decade and paved the way for the rise of the Bolivarian Revolution following the election of Hugo Chávez Frías in 1998.²





Christina Schiavoni. A mural supporting “the process” at La Comuna Ataroa, Lara State.

For insights into why an oil-rich country like Venezuela would embark on an ambitious food sovereignty experiment, it is important to understand the basic context that gave rise to the Caracazo. The hillside shantytowns of Caracas are a visual representation of Venezuela’s withdrawal from agriculture as the country developed its petroleum industry beginning in the early 1900s. As attention turned to oil, both the land-owning elites and the government lost interest in agriculture and stopped investing in land.³ The flight of capital from the countryside was accompanied by a mass exodus of *campesinos* (peasant farmers and rural workers) into the cities, particularly Caracas.³ Finding little work, many *campesinos* were pushed to the edge of existence, living in extreme poverty. For those remaining in the countryside—just over 10 percent of the population by 1999—the situation was equally tenuous.⁴ Seventy-five percent of the land was concentrated among five percent of the largest land owners while 75 percent of the smallest land owners shared only six percent of the land.⁵ These small land owners also faced a lack of basic public services and received little or no technical or material support to engage in agricultural production. The abandonment of its agriculture sector led Venezuela to become among the most urbanized countries in Latin America and the first country in the region to be a net importer of food.⁵ At the beginning of the Bolivarian Revolution in 1999, the country was importing an estimated 70 to 80 percent of its food supply—at prices largely out of reach by the poor—and the Caracazo was still fresh in the public consciousness.

It was against this backdrop that renewed attention to food and agriculture became a strategic priority of the Bolivarian Revolution.

Sowing the Seeds of Food Sovereignty

The foundation for Venezuela’s current food sovereignty efforts was laid in a series of articles in its newly reformed constitution, passed by popular referendum in 1999. Article 305 states:

*The State shall promote sustainable agriculture as the strategic basis for overall rural development, and consequently shall guarantee the population a secure food supply, defined as the sufficient and stable availability of food within the national sphere and timely and uninterrupted access to the same for consumers....Food production is in the national interest and is fundamental to the economic and social development of the Nation.*⁶

Today, a broad range of both government and citizen-led institutions and initiatives are aimed at carrying out the provisions of Article 305. On the production end, there are numerous programs to bolster domestic agriculture and provide support to small and midscale farmers. Such measures include a land reform process that has redistributed large landholdings to over 200,000 farming families,⁷ totaling more than a million people—roughly half of the rural population.⁸ Once land is secured, farmers then have government assistance to access tools, inputs, credit, training and technical assistance, and support in receiving fair prices for their products.⁹ Similar support structures exist for fisherfolk, who have also benefited from a ban on environmentally destructive, large-scale bottom trawling boats off



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the coast. Other advances for Venezuela's long-marginalized food providers include a debt eradication program and the unprecedented granting of pensions to farmers and fisherfolk.^{10,11} Through this reinvestment in domestic food production, Venezuela has reached self-sufficiency in several foods of strategic importance, such as corn and pork.¹² Furthermore, the country has taken some important steps toward sustainable agriculture, including the availability of credit earmarked specifically toward agroecological purposes, such as seed saving and exchange and the use of biological pest control in place of pesticides. Agroecology advocates point out, however, that state support remains skewed toward industrial agriculture and are pushing for a more wholesale paradigm shift.



Christina Schiavoni. Youth involved in an intergenerational urban farming project in Caracas.

On the distribution end, perhaps the most far-reaching initiative is Mercal, a national network of government-run supermarkets selling foods at affordable, subsidized prices. With an emphasis on reaching the most underserved areas, Mercal outlets range from large supermarkets to small mobile markets and have distributed 12 million tons of food in the decade since their inception.¹³ A variety of other initiatives complementing Mercal bring the total number of government-run food retail outlets in Venezuela to 22,000.¹⁴ A recent addition is the piloting of mobile fish markets in collaboration with local fisherfolk.¹⁵

Yet another critical program is *casas de alimentación*, or 'feeding houses,' run through community-government partnerships in which community members lend their homes and labor and the government provides food and supplies. Through the *casas*, people provide those most vulnerable in their communities—pregnant/nursing mothers, children, elderly, and the sick—with nutritious meals free of charge. To date, 6,000 *casas* across the country are serving 900,000 people.¹⁶ Free nutritious meals are also spooned out to 4.3 million public school children through the School Feeding Program.¹⁷ Many workplaces additionally arrange free meals for their workers through the Worker Nutrition Law.¹⁸ Along with free meals for those who need them, there is an effort to make affordable meals more universally available. A growing chain of over 250 worker-run, government-supported *Arepera Venezuela* restaurants serves Venezuela's most popular traditional cuisine, the corn flour-based *arepa* with a variety of fillings, as an affordable and healthier alternative to corporate fast food.¹³ These restaurants pride themselves in supporting food sovereignty through using predominantly Venezuelan-grown ingredients produced through socialist production chains.¹⁹

Together, these programs and others have dramatically reduced hunger and food insecurity. Venezuela was recently

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recognized by the UN Food and Agriculture Organization (FAO) for surpassing the first Millennium Development Goal of halving hunger in advance of 2015.²⁰ According to a national census, 96.2 percent Venezuelans now eat 3 to 4 meals per day, and the government has pledged to reach the remaining 3.8 percent who do not, with the goal of achieving 'Zero Hunger' for Venezuela by 2019.²¹

Challenging Times

Ironically, these developments came at the same time that international media outlets were widely reporting food shortages in Venezuela—presenting quite a different scenario from that recognized by the FAO. The fact is, given the continued power of private companies in the supply chain, connecting the many dots between the production and distribution remains a major challenge for the Venezuelan government, and shortages of particular food (and some nonfood) items in retail outlets are still a regular occurrence.²² While some attribute this to government-set price regulations creating disincentives for companies to sell food products in the country, others point to politically motivated hoarding and withholding of products as a way to destabilize the government. Many see it as no coincidence that two items considered indispensable by Venezuelan households, that is, corn flour and toilet paper, were the two items most frequently missing from supermarket shelves in 2013. They see this as part of an 'economic war' by the members of the political opposition who own the country's largest private food companies.²³

The government has taken a series of measures to combat these shortages, including dialogue with the private sector, cracking down on illegal practices, and increasing imports of certain goods from neighboring countries. Venezuelan food activists say that the government's ability to ensure that the population's nutritional needs are not impeded by the periodic shortages demonstrates that Venezuela has reached food security but is still far from food *sovereignty*. "We know that food security is achieved through resources," said Laura Lorenzo, a representative of the Jirajara Peasant Movement. "But food sovereignty has to be a process coming from the bottom up—from the peasant, from the communities," she added.²⁴

Transformations on the Ground



Christina Schiavoni. An integrated urban farming project in Caracas.

Lorenzo's sentiments get to the heart of the matter. Systematic change is necessary to achieve food sovereignty, but the advancements made at the national level in Venezuela, while substantial, are not enough. Change must also



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happen at the community level. Indeed, this is what I find to be most encouraging in Venezuela—reaffirmed by my most recent visit in the summer of 2013.²⁵ A fundamental component of the Bolivarian Revolution has been a shift from *representative to participatory democracy*, in which ordinary citizens take on a more active role in politics and governance. One of the main vehicles for this has been communal councils: local, self-organized governing bodies through which communities determine their own priorities, manage their own budgets, and interface with the government. Supported by the Communal Council Law of 2006, there are upwards of 43,000 communal councils in Venezuela today.²⁶ Most recently, coming from both above and below is a major push toward the construction of new social institutions called *comunas* through the joining of multiple communal councils across a shared territory. The stated goal is for power to gradually be transferred from the state to the *comunas* as they become increasingly organized, with an ultimate goal of a transition from state power to popular power. As of October 2013, there were 220 *comunas* officially registered with the government and, according to a recent national census, over 1,000 more under construction throughout the country.^{27,28} By September 2014, the number of registered *comunas* had reached 803.²⁹ The construction of the *comunas* is seen as the cornerstone of the latest stage of the Bolivarian Revolution and has vast implications for food sovereignty.^{30,31}

One of the ways in which *comunas* and other citizen-led efforts in Venezuela are working toward food sovereignty is through attempts to bridge the urban–rural divide. In a country as highly urbanized as Venezuela, where upwards of 90 percent of the population lives in cities, food sovereignty will not be possible without the active participation of urban inhabitants. This is being addressed, not only through the creation of direct marketing channels such as farmers markets, but also through the co-construction of food sovereignty as a common political project shared by rural and urban Venezuelans. That is, people are increasingly seeing themselves as connected via the *process* of constructing food sovereignty. In this process, they are not only changing their relationships to one another, but also their *relationship to food* and to the processes of food and how it is produced, distributed, and consumed. Relatedly, a term gaining in popularity among rural and urban movements alike is *prosumidor(a)*, a combination of the words for producer (*productor(a)*) and consumer (*consumidor(a)*), in an attempt to blur the lines between the two.

One such *prosumidor*, Virgilio Durán of the Comuna Ataroa in the city of Barquisimeto, is encouraging the members of his urban comuna to grow food on rooftops, in patios, and in community gardens (practices for which communities can receive free technical assistance and supplies via state-supported programs). His vision is the creation of 'productive corridors' of traditional *conuco*-style agriculture that extend from the cities to the countryside (the *conuco* is a traditional form of small-scale agriculture with indigenous origins). Comuna Ataroa has also been able to acquire land on the outskirts of the city that is designated for agricultural production and has been partnering with rural producers on a large weekly farmers market, to complement distribution of staple goods coming from state channels.





Christina Schiavoni. An example of urban agriculture in Caracas.

Another example is the urban *comuna*, El Panal 2021 of Caracas, and a rural social movement, the Jirajara Peasant Movement, which are working together on multiple fronts. For instance, El Panal has an established sugar-packing local enterprise that the Jirajara movement will begin to supply with sugar. This demonstrates a point raised by a number of food sovereignty activists in Venezuela: that the people power and food processing infrastructure in cities such as Caracas provides ample possibility for partnership with rural producers in this area. El Panal and the Jirajara movement are also working on joint farmers markets and other distribution projects. Perhaps most interestingly, the Jirajara movement has helped El Panal to acquire land in the countryside, which they will work on in partnership. Robert Lanza of El Panal explains that the *comuna* has several other projects underway in the countryside, including training and educational components that enable *comuna* members to connect (or reconnect) to agricultural production. These efforts are complemented by a fairly extensive urban agriculture initiative within El Panal supported by state programs. This is part of a broader push for urban agriculture that has resulted in over 24,000 urban agriculture units throughout the country as of 2013, which the government has pledged to help triple.³² Lanza explains that it is a process of ongoing learning that combines life in the city with life in the countryside.

Lessons to be Learned

Unfortunately, the great strides being made towards food security and food sovereignty have gotten lost in the mix of news coverage on Venezuela. But I think it's important to share this story, not just for what it means for Venezuela and the surrounding region, but for those of us striving to change the food system in our own respective locations. Among the many lessons to be learned from the Venezuelan Food Sovereignty Experiment is that change is needed from above, below, and (as with the horizontal network of *comunas*) sideways. Similarly, food sovereignty is neither the task of the state nor of citizens alone, but rather it is the task of both, and how the two engage with each other is something that must constantly be renegotiated. Therefore, mechanisms that allow for ongoing debate and dialogue and for fluid interaction between citizens and their government are critical. And finally, food sovereignty is not something that just happens, nor is it a state to be attained. It's a process (*el proceso*, remember?)—and it's a process that we too can put into motion wherever we may be.

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Whether they are used in traditional farming systems, conventional or modern breeding or genetic engineering, the genetic resources of plants and animals are a global asset of inestimable value to humankind. As genetic diversity erodes, our capacity to maintain and enhance crop forest and livestock productivity decreases along with the ability to respond to changing conditions. Genetic resources hold the key to increasing food security and improving the human condition.

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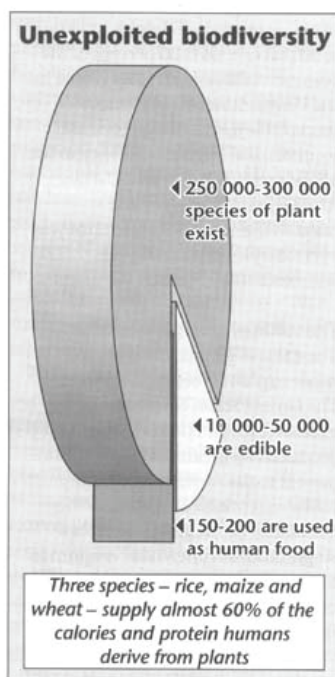
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Source: CGIAR.

Crop plants and their relatives

THE PLANT GENETIC DIVERSITY used in agriculture—the crops that feed us and their wild relatives—is being lost at an alarming rate. Just nine crops (wheat, rice, maize, barley, sorghum/millet, potato, sweet potato/yam, sugar cane and soybean) account for over 75 percent of the plant kingdom's contribution to human dietary energy.

None of the world's staple crops is likely to disappear. Yet they, too, are threatened—not by the loss of a single crop species such as wheat or rice, but by the loss of diversity within species.

Seeds of survival

All major food crops, the staple crops grown and consumed by the vast majority of the world's population, have their origins in the tropics and subtropics of Asia, Africa and Latin America. Over the years, farmers selected and domesticated all major food crops on which humankind depends today. Wheat and barley originated in the Near East, for example. Soybeans and rice came from China. Sorghum, yams and coffee came from Africa. Potatoes and tomatoes originated in the Andes of South America, and maize in South and Central America.

Crop genetic diversity is still concentrated mainly in regions known as “centres of diversity”, and located in the developing world. Farmers in these areas, who still practice traditional agriculture, cultivate local varieties known as “land races” that have been selected over many generations. Closely related species that survive in the wild are known as “wild relatives” of crops. Together, land races and their wild relatives are the richest repositories of crop genetic diversity.



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HARVESTING NATURE'S DIVERSITY

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Thousands of different and genetically distinct varieties of major food crops owe their existence to millions of years of evolution and to careful selection and nurturing by our farmer ancestors during some 12 000 years of agriculture. This diversity protects the crop and helps it meet the demands of different environments and human needs. Potatoes, for instance, originated in the Andes, but nowadays they can be found growing below sea level behind Dutch dykes or high in the Himalayan mountains.

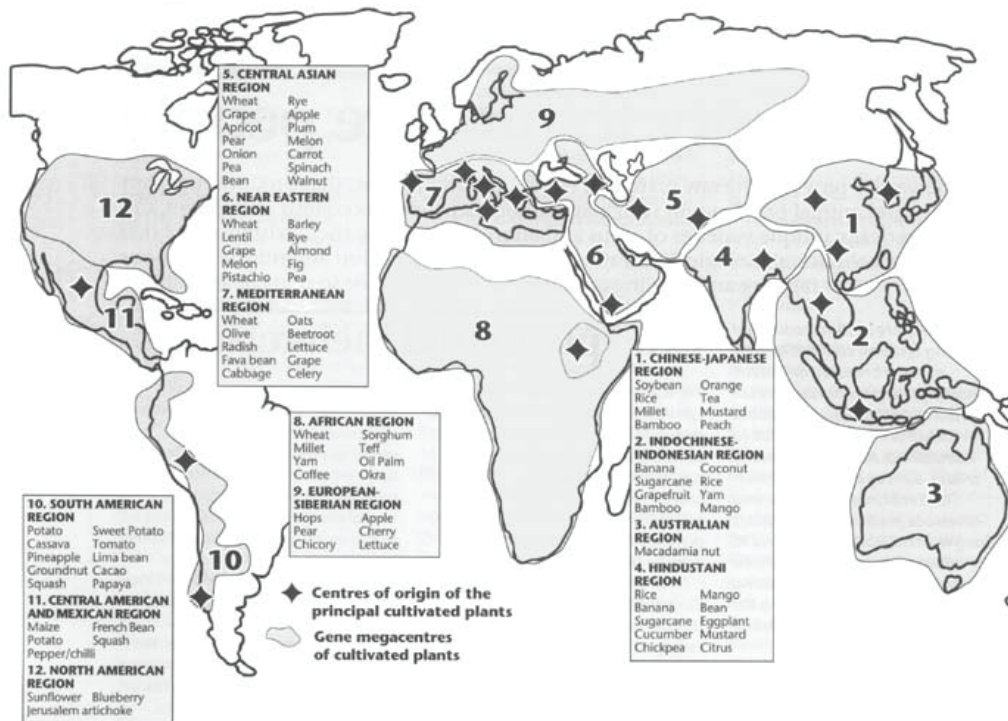
One variety of rice survives on just 60 centimetres of annual rainfall, another floats in 7.5 metres of water.

Agriculture's vanishing heritage

FAO estimates that since the beginning of this century about 75 percent of the genetic diversity of agricultural crops has been lost. We are becoming increasingly dependent on fewer and fewer crop varieties and, as a result, a rapidly diminishing gene pool. The primary reason is that commercial, uniform varieties are replacing traditional ones—even, and most threateningly, in the centres of diversity. When farmers abandon native land races to plant new varieties, the traditional ones die out. The introduction, beginning in the 1950s, of high-yielding grains developed by international crop breeding institutions led to the Green Revolution. The spread of the new varieties in the developing world was dramatic. By 1990 they covered half of all wheat lands, and more than half of all rice lands—a total of some 115 million ha. This resulted in large increases in yields...but large decreases in crop diversity.

The twelve megacentres of cultivated plants

(panels show selected food crops)



The erosion of crop genetic diversity poses a serious threat to food supplies. To maintain pest and disease resistance in major food crops, for instance, or to develop desirable traits such as drought tolerance or improved flavour, plant breeders require fresh infusions of genes from the farms, forests and fields of the developing world. Developing the high-yielding, elite cultivars of modern agriculture depends on a steady stream of new, exotic germplasm. Plant breeders continuously try to develop new varieties to keep one step ahead of thousands of pests and diseases. Without access to traditional land races and their wild relatives, modern agriculture would be seriously endangered.

Dangers of genetic uniformity

Industrialized agriculture favours genetic uniformity. Typically, vast areas are planted to a single, high-yielding variety—a practice known as monoculture—using expensive inputs such as irrigation, fertilizer and pesticides to maximize production. In the process, not only traditional crop varieties, but long-established farming ecosystems are obliterated. Genetic uniformity invites disaster because it makes a crop vulnerable to attack—a pest or disease that strikes one plant quickly spreads throughout the crop.

The Irish Potato Famine of the 1840s is a dramatic example of the dangers of genetic uniformity. None of the few varieties of the New World potato introduced into Europe in the 1500s were resistant to a potato blight that struck Ireland in the 1840s. The potato crop was wiped out. Over a million people died in the famine and a million more emigrated to the New World.

More recently, in 1970, genetic uniformity left the United States maize crop vulnerable to a blight that destroyed almost \$1 000 million worth of maize and reduced yields by as much as 50 percent. Over 80

percent of the commercial maize varieties grown in the United States at that time were susceptible to the virulent disease, southern leaf blight. Resistance to the blight was eventually found in an African maize variety called Mayorbella. A major catastrophe was averted by incorporating this resistance into commercial varieties.

The value of crop genetic diversity

The value of genetic diversity to modern plant breeding is enormous. The United States Government estimates that a 1 percent gain in crop productivity means a \$1 000 million benefit to the American economy. Italian scientists calculate that the benefits of exotic germplasm for a single crop, durum wheat, amount to \$300 million per year. Not only cultivated species but also the genes from wild relatives are enormously valuable. Between 1976 and 1980, wild species contributed an estimated \$340 million per year in yield and disease resistance to the farm economy of the United States.

Stunted rice: a wild plant to the rescue

During the 1970s the grassy-stunt virus devastated rice fields from India to Indonesia, endangering the world's single most important food crop. After a four-year search which screened over 17 000 cultivated and wild rice samples, disease resistance was found. Only one population of the species *Oryza nivara*, growing wild near Gonda in Uttar Pradesh, was found to have a single gene for resistance to grassy-stunt virus strain 1. Today, resistant rice hybrids containing the wild Indian gene are grown across 110 000 km² of Asian rice fields.

In the developing world, crop genetic diversity enables farmers to select crops suited to ecological needs and cultural traditions. Without this diversity, options for long-term sustainability are lost. This is particularly true in marginal areas with highly varied environments. The variety to a large extent determines the need for fertilizers, pesticides and irrigation. Communities that lose traditional varieties, adapted to local needs and conditions over centuries, risk becoming dependent on external sources of seeds and the inputs needed to grow and protect them. Without an agricultural system in harmony with a community and its environment, self-reliance in agriculture is impossible.

To feed an increasing world population, all available genetic resources, including wild relatives, will need to be tapped. Modern plant breeding as well as new biotechnologies offer the potential to exploit little-known plant species as sources of food, and to enhance the qualities of those plants that are underutilized—especially traditional plants of special significance to poor people, such as local grains, legumes, oilseeds, fruits and vegetables.

Traditional food crops, often grown by rural families to see them through the “hungry season” just prior to harvest, offer many advantages. Many of them are drought resistant, can be grown without expensive inputs and have good storage qualities. For many developing nations, self-reliance in food production will depend on low-input agriculture in poor production environments. The capacity to grow varieties, particularly those resistant to pests and diseases and adapted to marginal lands, is vital for sustainable agriculture and food security.

Geopolitics of plant genetic resources

Historically, scientists from the industrialized countries have ventured southwards in search of exotic plants for plant breeding. Seeds found in tropical centres of diversity have been freely collected and later deployed in plant breeding. As a result, much of the collected diversity of Third World origin has come to be stored in the northern hemisphere or in gene banks established by developed countries.

The issue of control, ownership and access to plant genetic diversity has come to the fore over the past two decades. Plant breeding in the industrialized world has become increasingly commercialized and is now dominated by transnational seed and agrochemical corporations. To promote innovation and to enable breeders to recoup their research investment, many governments in the industrialized world



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have adopted a system of “plant breeders' rights”. This gives patent-like protection to breeders with limited monopoly rights over the production, marketing and sale of their varieties for a period of up to 20 years.

The disparity between unrestricted access to genetic resources, including farmers' land races, and the existence of proprietary rights such as “breeders' rights” on improved varieties has fuelled intense debate over the inequity in the flow of germplasm from the developing world to the industrialized world. At the United Nations, representatives from the developing world ask: Why are patented seeds, originally from developing countries, bringing profits to seed companies in the industrialized countries without corresponding compensation for the developing world? What compensation will be made to those who have tended and nurtured the world's crop genetic diversity and continue to conserve and make it available today?

Promoting the use and conservation of plant genetic resources

The farmer uses plant genetic resources as seeds or vegetatively propagated material; they are often the one input that farmers can produce for themselves. FAO assistance includes projects for the production and use of good-quality seed, training and guidance in propagation and multiplication, quality control, and processing, storage and distribution of improved seed. FAO provides samples and information to research centres, scientists and field projects for use in crop introduction, evaluation and breeding.

F A C T S

Several thousand plant species have been used for human food in history, but now only about 150 are cultivated and no more than three supply almost 60 percent of the calories and protein derived from plants.

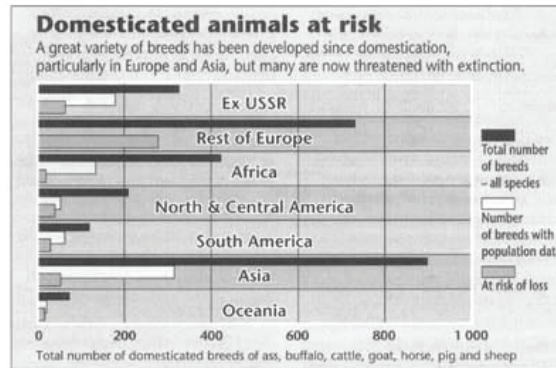
Since the beginning of this century about 75 percent of the genetic diversity of agricultural crops has been lost.

Kenaf (*Hibiscus cannabinus*), an East African plant related to cotton and okra, may provide an alternative source of pulp for making paper; in the southern United States it yields three to five times more pulp than trees do and requires minor chemical treatment to whiten the fibres.

From wild pineapples found in the dry open Chaco of South America, breeders have imparted high-sugar content and a distinctive “wild fruit” flavour to cultivated varieties.

Genes transferred from a wild relative of the tomato found on the shores of the Galapagos Islands has conferred salt tolerance to cultivated varieties so that they can be irrigated by one-third sea water.

FAO, as a sponsor of the Consultative Group on International Agricultural Research (CGIAR), supports plant breeding and other research carried out at international research centres. Many of its projects focus on traditional food crops such as roots and tubers which in some developing regions contribute up to 46 percent of total calories consumed. Roots and tubers can tolerate a wide range of conditions and are well suited to traditional farming systems. They can be intercropped with other plants and most of them can be grown year-round, providing extra calories during the hungry season. Traditional crops have yet to be explored genetically, but their potential for improvement through breeding seems promising.



FAO has pioneered the collection of plant genetic resources. An early activity was to field seed-collecting missions, particularly in centres of diversity, where modern cultivars were already displacing traditional varieties. Recently, these and related activities have been undertaken in cooperation with the International Board for Plant Genetic Resources (IBPGR), a CGIAR centre that was established in 1974.

Since 1983, FAO has developed a global system on plant genetic resources based on the principle that plant genetic diversity is the heritage of humanity. The objective is to ensure safe conservation, sustainable use and unrestricted availability of plant germplasm (see page 23).

Domesticated and related animals

ANIMAL GENETIC RESOURCES include all species, breeds and strains that are of economic, scientific and cultural interest to humankind for agriculture, both now and in the future. Common agricultural species include sheep, goats, cattle, horses, pigs, buffaloes and chickens, but there are many other domesticated animals such as camels, donkeys, elephants, reindeer, rabbits and rodents that are important to different cultures and regions of the world.

Animal domestication began some 10 000 years ago when people began selecting animals for food, fibre, draught and other agricultural uses. Livestock provide valuable products, such as hides, wool and manure, that are important both for subsistence and as sources of income for rural communities. Livestock process forage and crop waste, inedible to humans, into nutritionally important food products.

Approximately 40 percent of the total land available in developing countries can only be used for some form of forage production. An estimated 12 percent of the world's population lives in areas where people depend almost entirely on products obtained from ruminant livestock—cattle, sheep and goats.

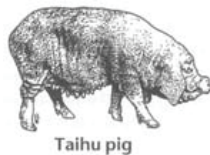
Centuries of human and natural selection have resulted in thousands of genetically diverse breeds of domestic animals adapted to a wide range of environmental conditions and human needs. Some are resistant to parasites or disease, for example, while others are adapted to humidity or drought or extremes of heat and cold. Animal genetic diversity, represented by this wide range of breeds, is essential to sustain the productivity of agriculture.

Animals account for 19 percent of the world's food basket directly, but they also provide draught power and fertilizer for crop production, bringing their overall contribution up to 25 percent. In addition, livestock serve as a very important form of cash reserves in many of the mixed farming systems. Taking this into account, animals contribute an estimated 30 percent of total human requirements for food and agriculture.

A sinking ark

In Europe, half of the breeds that existed at the beginning of the century have become extinct; a third of the remaining 770 breeds are in danger of disappearing over the next 20 years. In Germany, for example, only five out of at least 35 indigenous breeds of cattle remain. In North America, over one-third of all breeds of livestock and poultry are considered rare or in decline.

Much less is known about breeds in the developing world. As with plants, domestic animal diversity is greatest in the developing world. Asia, for instance, is home to more than 140 breeds of pig, while North America can claim only 19. Based on preliminary data, FAO predicts that one in four of all non-European livestock breeds may be at risk of extinction, and more than half of them are likely to be found in developing countries.



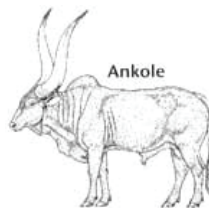
Taihu pig

Worldwide, the greatest threat to domestic animal diversity is the highly specialized nature of modern livestock production. In the developed world, commercial livestock farming is based on very few breeds that have been selected for the intensive production of meat, milk or eggs in highly controlled and regulated conditions. The spread of intensive production systems to the developing world places thousands of native breeds at risk. Commercial breeds imported from North America and northern Europe are usually unable to sustain high production in less hospitable environments. They require intensive management and high levels of inputs such as high-protein feed, medication and protective housing. Introduction of intensive animal production creates dependency on imported technologies: it is neither affordable nor sustainable for most farmers in the developing world.

After thousands of generations of controlled interbreeding, most domesticated animals no longer have wild relatives from whom germplasm can be obtained. When a variety becomes extinct, an already narrow genetic base shrinks irreversibly. Commercial breeds suited to intensive production do not offer an adequate genetic reservoir for the future. Their genetic base reflects the emphasis on maximizing production. The turkey that is mass-produced on factory farms in North America and Europe, for example, has been selected for such a meaty breast that it can no longer breed unassisted. This broad-breasted breed—which accounts for 99 percent of all turkeys in the United States today—would become extinct in one generation without human assistance in the form of artificial insemination.

What value animal genetic diversity?

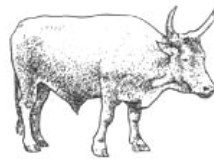
The genetic diversity now found in domestic animal breeds allows farmers to select stocks or develop new breeds in response to changes in the environment, threats of disease, market conditions and societal needs, all of which are largely unpredictable. Indigenous livestock breeds often possess valuable traits such as disease resistance, high fertility, good maternal qualities, longevity and adaptation to harsh conditions and poor-quality feed, all desirable qualities for low-input, sustainable agriculture.



The rare Taihu pigs of China, for instance, offer valuable traits for swine breeders worldwide. This group of pigs has thick, wrinkled skin and long, droopy ears. They can use a high proportion of forage foods in their diet. The adult pig has little lean meat—whence the Chinese passion for sucking pig. But Taihu pigs reach sexual maturity in just 64 days and are extraordinarily fertile, producing an average litter of 16 piglets compared with only ten for western breeds. Researchers in Europe and the United States are exploring ways to incorporate these beneficial qualities into commercial breeds. A company in the United Kingdom, National Pig Development, has already produced a commercial hybrid of the Meishan, one of seven strains of Taihu pig. Announced in 1992, it combines the fecundity of the traditional Chinese breed with a higher lean meat content.

Ancient African cattle breed offers resistance to a devastating livestock disease

THIRTY PERCENT of Africa's cattle population, approximately 160 million cattle, are at risk from trypanosomiasis — a debilitating and frequently fatal disease transmitted by the tsetse fly in 36 African countries covering over 10 million square kilometres. This devastating disease jeopardizes not only African milk and meat supplies, but important by-products and services such as hides, manure, fuel and draught power. Annual losses in meat production alone are estimated at US\$5 000 million.



Several traditional African cattle breeds, among them the small humpless N'Dama, have developed resistance (trypanotolerance) over thousands of years of exposure to the parasite — a trait that relatively modern African breeds do not possess. This genetically based resistance offers hope of reducing or controlling the impact of trypanosomiasis.

Small numbers of trypanotolerant N'Dama cattle have long been maintained by West African farmers in marginal farming areas. They thrive on low-quality forage and, though less productive than modern breeds of cattle, their high survival and reproductive rates and longevity make them extremely valuable in harsh environments.

Using a technique known as “embryo transfer”, the population of trypanotolerant N'Dama cattle has already been increased in order to conserve this rare breed, improve its performance and study its disease resistance. The N'Dama's hardiness, heat tolerance and disease resistance have also been recognized. N'Dama cattle have been crossed with the Red Poll, an endangered British breed, to produce the Senepol breed. The Senepol has been introduced successfully in the Caribbean and the southern United States.

Conserving animal genetic diversity

There is already less genetic diversity in farm animals than in crop plant species and over a third of the remaining animal genetic resources is currently at risk. In 1992, FAO launched a comprehensive

programme for the global conservation of animal genetic resources. It includes:

- A global inventory of animal genetic resources including a database to characterize and enumerate all breeds of livestock used in agriculture.
- Action to identify breeds at risk of extinction as well as ways of protecting them.
- Promotion of programmes in developing countries to conserve endangered breeds in their native habitats. The aim is to enhance the attraction of indigenous breeds at risk of being substituted by imported breeds which are often brought in without considering local conditions or sustainability.
- Improvement of livestock breeding capacities in the developing world. In particular, new technologies will be used to identify livestock diversity and the specific genes responsible for valuable traits.

FAO is exploring the possibility of establishing a global centre for domestic animal genetic diversity to serve as the focus for efforts to overcome the present erosion of these irreplaceable resources and to promote their effective and sustained use. Conservation of animal genetic diversity is essential to global food security and to protect our ability to meet the challenges of the future.

FACTS

In Europe, half of the livestock breeds that existed at the beginning of the century have become extinct and a third of the remaining 770 breeds are in danger. Almost 20 percent of breeds in the developing world are at risk.

The sheep of North Ronaldsay island in Scotland have adapted to feeding on seaweed while Ming pigs have adapted to the cold winters and hot summers of northeastern China.

The cattle of Secotra (an island off Yemen) are among the highest milk-producing cattle per kilogram of body weight in the world.

The broad-breasted turkey—which accounts for 99 percent of all turkeys in the United States today—would become extinct in one generation without the assistance of artificial insemination.

Fish and aquatic life

OCEANS, LAKES AND RIVERS cover four-fifths of the earth's surface, but little is known about their living resources. Fewer aquatic than terrestrial species have been described, but there is no reason why aquatic biodiversity should be less.



Alaska pollack, a demersal fish, accounts for almost 6 percent of the marine fish catch

Tropical waters are the richest in terms of species diversity. The Indo-West Pacific Ocean, for example, contains an estimated 1 500 species of fish and over 6 000 species of mollusc, compared with only 280 fish and 500 mollusc species in the Eastern Atlantic.

Inland waters are also rich in diversity, the greatest concentration once again being in the tropics. Thailand, for example, could have as many as 1 000 species of freshwater fish, but so far only 475 have been documented. Brazil is believed to have more than 3 000 freshwater fish species — three

times more than any other country.



South American pilchard, a small pelagic fish, accounts for about 5 percent of the marine catch

For the most part, the aquatic harvest consists of wild rather than farmed species. World production, 90 percent of it finfish, stands at almost 100 million tonnes a year. Of this, only about 13 million tonnes come from aquaculture. Over 4 million tonnes of algae are also harvested annually.

Importance of fisheries

Fishing, fish processing and fish trading have provided food, employment and income in coastal and inland communities for centuries. Fish contribute substantially to the world supply of animal protein, either directly or through their use as feedstuff for livestock — almost a third of the fish catch is converted into meal and oil.

The developing countries account for more than half the world catch. Their fisheries are dominated by small-scale or artisanal producers. Artisanal fisheries, typically using small boats and canoes, account for more than 25 percent of the world catch. They supply more than 40 percent of the fish used for human consumption. These fisheries are also a significant source of employment — an estimated 100 million people in the developing world depend upon them for all or part of their livelihood.

By the turn of the century, demand for fish is expected to exceed by some 20 million tonnes the productive capacity, estimated at about 100 million tonnes, of stocks now exploited by the capture fisheries. Increased incomes and appreciation of the dietary value of fish are spurring the demand for fish and fish products in the industrialized countries, especially for luxury products such as oysters, shrimp, salmon and tuna. In the developing regions, population increases and the need to tap every potential source of food and foreign exchange provides the main impetus for increased fishing activities.

One response to the growing demand for fish and its falling availability has been the development of aquaculture. This rapidly expanding source of food poses some threats to biodiversity by concentrating on a very small range of species and an equally narrow genetic base in these species. Large-scale escapes of cultured fish, or deliberate releases of stocks for ranching, are thought to influence the genetic composition of the wild resource.



The Peruvian anchoveta, once a source of the world's largest single species fishery, declined because of over-fishing and environmental change

Troubled waters

Aquatic biodiversity is threatened primarily by human abuse and mismanagement of both the living resources and the ecosystems that support them. Loss of habitats, over-exploitation and introduction of exotic species are the prime hazards.

Overexploitation. Fish stocks are a renewable resource, but already many of them are strained to the limit. Over the years, they have suffered from a widespread notion that the seas are inexhaustible,

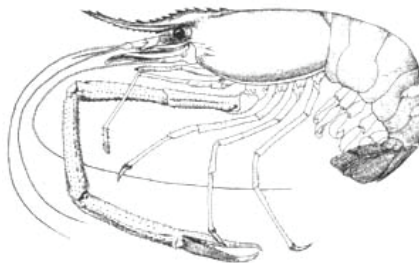
economic pressures that have encouraged overexploitation and, until just over a decade ago, an international regime that gave almost unlimited access to the majority of them. All fishing activities depend on a fragile resource base which, if mismanaged and overexploited, can easily collapse.

Efforts to regulate marine fisheries can be traced back to the late 1800s with the creation in Europe of the Intergovernmental Commission for the Exploration of the Seas (ICES). Many fishery bodies for developing and regulating fisheries, in both marine and inland waters, have been established since — nine of them under the auspices of FAO. Despite this appreciation of the threat posed by overfishing, stocks have continued to be exploited at a non-renewable rate.

All demersal (deep water) species such as cod, haddock and pollack are now either fully exploited, overfished or depleted. Larger pelagic (surface water) species such as herring, sardines and anchovy, stocks of which can fluctuate greatly from year to year, are in serious need of management. Crustacea such as shrimp, lobster and crab are also overexploited. Only the bivalve molluscs, such as mussels and clams, and cephalopods such as squid and octopus, offer much scope for expanded production.

The world fish catch has increased more than fourfold in the past 40 years, but the misuse of modern technology, coupled with government support for otherwise non-economic production, has had a devastating impact on fish stocks. Fleets using sophisticated fish detection, non-selective nets (up to 50 km long) and bottom trawls are driving some species to extinction. FAO estimates that the cost of overexploitation amounts to some US\$30 000 million per year.

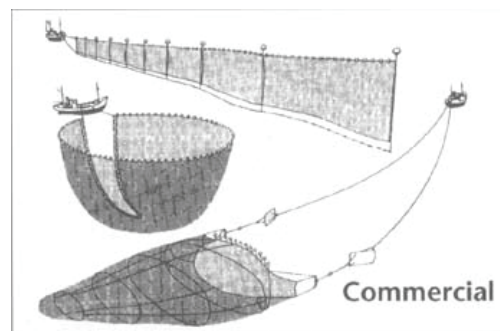
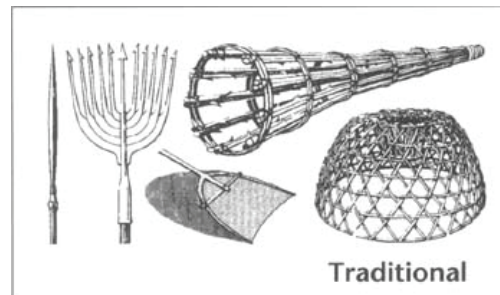
Production of crustaceans, mostly from aquaculture, has increased dramatically over the past ten years, exceeding 4.25 million tonnes in the early 1990s.



The impact of overexploitation of fisheries may be greatest in the developing world. Commercial fishing in tropical waters can often mean valuable foreign exchange for developing nations, but it can also lead to intense competition with declining catch rates for small-scale fisheries, many of which provide fish for local consumers and markets. Higher fish prices, the result of increased demand exacerbated by overfishing, are making fish unaffordable to an increasing number of poor people. Fish is no longer “a cheap meat dish” — a marketing slogan used in the United Kingdom in the 1950s.

Selectivity of fishing methods

Traditional fishing gears, ranging from a simple harpoon to a basket-work fishtrap, are typically selective for both size and species and are adapted to the diversity of fish captured, whereas commercial gears, such as the purse seine, large driftnet and trawl, often have a by-catch of unwanted species. The displacement of traditional fishing methods, combined with the introduction of new materials and highly mechanized fisheries, has contributed to overexploitation of resources in both marine and freshwater environments.

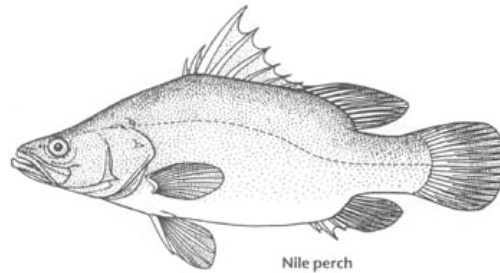


Environmental degradation. To the pressure of exploitation must be added the degradation or destruction of aquatic ecosystems caused by pollution or competing uses. The oceans function as a sink for carbon dioxide, eroded soils, contaminants, fertilizers, human and industrial wastes. Most urban and industrial activities and, indeed, much of human life, are concentrated close to coastal waters, rivers and lakes. Six out of ten people live in coastal areas, and migration towards them is increasing.

The development of intensive aquaculture has, in some cases, damaged coastal ecosystems and water resources, causing conflicts over land use and resources, and even undermining local sources of employment and food. In parts of Asia, thousands of hectares of rice paddy have been replaced by high-value shrimp farming or had their productivity reduced by salinization caused by neighbouring aquaculture enterprises. In the Indo-Pacific, more than one million hectares of mangrove forests have been converted to aquaculture ponds. Mangroves provide spawning and nursery areas for many marine species and are vital to maintaining ecological balance and biodiversity.

Introduction of exotic species.

The introduction of exotic fish species can have many unforeseen consequences. The release of the Nile perch in Africa's Lake Victoria is a classic example. Introduced in the late 1950s as a sports fish, its voracity and large size has driven many of the smaller indigenous species to extinction. Some scientists speculate that 200–300 species of fish may have been lost.



The expanding population of Nile perch is making Lake Victoria one of the most productive lake fisheries in the world, yielding 200 000 to 300 000 tonnes per year. But increased productivity may have been achieved at serious ecological and social cost. The lake is increasingly providing fish for export rather than local consumption. Lakeside fishing communities have lost species that traditionally provided food and supported the local economy. The long-term impacts remain to be seen, but this example provides a valuable lesson for future introductions and transfers of fish species.

Tilapia: an “aquatic chicken”

Tilapias, consisting of species of the genera *Tilapia*, *Oreochromis* and *Sarotherodon*, have been widely distributed around the world from their original African home. They are now the mainstay of small-scale aquaculture for many poor farmers in the developing world, as well as for enterprises in the developed world. They are most widely cultured in Asia, particularly China, the Philippines and Thailand.



Dubbed the “aquatic chicken”, tilapias possess many positive attributes that suit them for a wide range of aquaculture systems: excellent growth rates on a low-protein diet; tolerance of a wide range of environmental conditions; high resistance to diseases and parasitic infections; ready breeding in captivity and ease of handling; and wide acceptance as food fish.

Because tilapias are so widely farmed in the developing world, the Philippines-based ICLARM, the CGIAR centre devoted to fisheries, has established the Genetic Improvement of Farmed Tilapia (GIFT) programme. Its aim is to increase food production and income by and for small-scale producers. The GIFT programme has collected strains of tilapia and evaluated their culture and growth in different environments.

Scientists have discovered, for example, that tilapia breeds in Asia are deteriorating as a result of generations of inbreeding. Future breeding efforts must draw on a wider genetic base, incorporating genetic material from Africa. This underscores the importance of future conservation and utilization of Africa's native tilapia breeds.



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Responsible fishing

In May 1992, the International Conference on Responsible Fishing at Cancún, Mexico, called upon FAO to draft, in consultation with other international organizations, an International Code of Conduct for Responsible Fishing. The concept of “responsible fishing” embraces sustainable utilization of fisheries resources in harmony with the environment, and the use of capture and aquaculture practices that do not harm ecosystems, resources or food quality.

FAO supports comprehensive programmes on fisheries management, focusing on both coastal zones and high seas. It is also committed to international efforts to introduce ecologically safe fishery technologies. FAO provides technical assistance aimed at environmentally sound aquaculture practices, as well as incorporating aquaculture in rural development planning.

To conserve aquatic biodiversity, FAO emphasizes the sustainable use of aquatic resources. Activities include genetic selection programmes in aquaculture; the elaboration of codes of practice for the introduction and transfer of aquatic organisms and on access to genetic resources and biotechnology; and maintenance of a world database on introductions and transfers, as well as a database on species, strain and race identification.

FACTS

Capture fisheries have reached or may even have exceeded their sustainable yield at 100 million tonnes, leaving a gap between supply and demand which will reach an estimated 20 million tonnes by the year 2000.

About 300 kinds of finfish are cultured for food, but 85 percent of production comes from carp while tilapias account for much of the remainder.

In the northwestern United States, 159 genetically distinct populations of ocean-migrating fish species are at high or moderate risk of extinction.

Approximately 7 000 species of marine fish have been described from Indonesia, which has over 13 000 islands and the largest total coastline of any tropical country.

Trees and forests

ABOUT 30 PERCENT of the world's ice-free land surface is forest or woodland. Forested areas of the world today comprise between 3 000 million and 3 500 million ha — an area equal to the size of North and South America. According to recent estimates, temperate forests cover approximately 1 430 million ha in the industrialized countries and another 210 million hectares in non-tropical developing countries. Tropical forests, both moist and dry, cover an estimated 1 760 million ha.

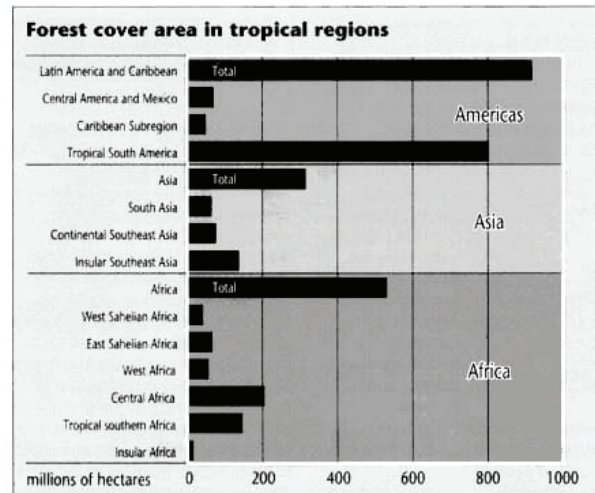


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Source: FRA, 1993, FAO.

Benefits and use of forests

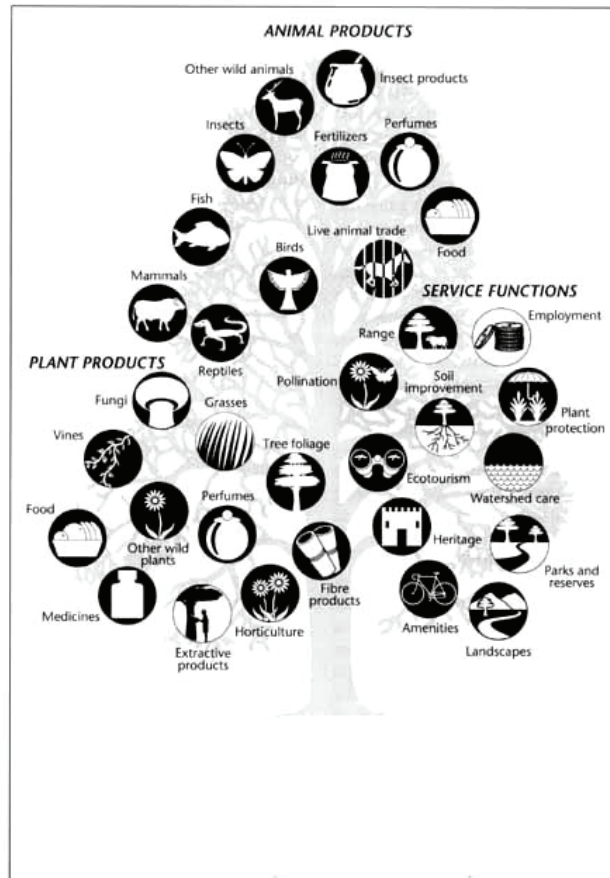
Forests supply food, fodder, medicine and timber, poles and fuelwood as well as raw materials for industry. The income earned from trees and forests is of vital importance to both rural populations and national incomes. Forests are home for an estimated 300 million people — shifting cultivators and hunter-gatherers — around the world. In the past, the slash-and-burn agriculture practised by forest-dwelling people was sustainable, but population pressures are reducing the land available for shifting cultivation; shorter fallow periods and overuse are turning traditionally sustainable methods into destructive ones.

Rural people living in and around forest areas depend on a large variety of forest products for subsistence. Forest foods form a major part of the diet of some population groups in rural areas in developing countries. They include leaves, seeds and nuts, fruit, roots and tubers, sap and gums, fungi and animals. Forest foods often increase in importance during the hungry season, which reaches its peak just before crops are harvested, and when crops fail.

Woody species provide three-quarters or more of the population in developing countries with their primary energy source. In developing countries, eight times more wood is used for fuel than is logged for industrial purposes. In many areas, fuelwood is being harvested faster than it is being replenished. By the year 2000, nearly 3 000 million people could face fuelwood shortages.

Forests provide vital ecological functions. Their absorption of carbon dioxide and release of oxygen through photosynthesis help control the level of greenhouse gases and provide an atmosphere essential to support life. Forest vegetation helps recycle nutrients. Forest cover also reduces soil erosion by slowing the runoff of water, reducing the hazard of floods and the silting of reservoirs and waterways.

Forests, woodlands and other wilderness areas are increasingly valued as sites of natural and cultural heritage, as well as for education and recreation. Ecotourism is the third most important source of income in Rwanda, for instance, largely because it is home to the mountain gorilla.



Non-wood products and services, many of which have long been used by people living in and around forests, are increasingly appreciated as a source of sustainable development. Many food crops and industrial, commercial and pharmaceutical products originated as non-wood forest products. The economic and social incentives provided by non-wood forest products encourage conservation and offer a defence against the loss of biodiversity.

World forest decline

The world's forests are declining at unprecedented rates. Major threats are deforestation and atmospheric pollution. Another threat is the narrowing of the genetic base of tree species as a result of commercial forestry operations.

Whereas reforestation of temperate forest lands now exceeds removal of trees, the loss of tropical forests gives cause for concern. The tropical forests were destroyed at an annual rate of 15.4 million ha between 1980 and 1990 according to a recent FAO survey. In terms of area, the greatest losses were in Latin America and the Caribbean (an average of 7.4 million ha per year) followed by Africa (4.1 million ha per year) and Asia and the Pacific (3.9 ha per year).

The causes of deforestation vary from region to region. The most important include: conversion of forest land to agricultural use; excessive use of fuelwood and charcoal; shifting cultivation where fallow periods are too short; unsustainable logging; expansion of urban and industrial areas; and overgrazing and fodder collection. Poverty is the underlying cause of many of these environmentally degrading activities.



Fungi, commonly valued as meat substitutes, supply large amounts of protein and essential minerals

Despite a net increase in the forested area in Europe, pollution and forest fires have caused a severe decline in biodiversity and forest vigour. Forests in Germany and the former Czechoslovakia have been particularly affected. Less obvious, but equally alarming, is the decline in genetic diversity within forest species in both Europe and North America. This genetic erosion results mainly from deforestation, compounded for a few economically important species by intensive breeding for commercial forestry. FAO estimates that about 400 tree species are endangered in whole or in significant parts of their gene pools.

When forests decline or are removed, much more than trees is lost. Forests harbour many animals and plants that depend on their environment for survival. Many of these species, their potential value to society and their ecological importance have yet to be discovered. Untapped treasures include possible crops, pharmaceuticals, timbers, fibres, pulp, soil-restoring vegetation, petroleum substitutes and countless other products and amenities. The bark of the rare western yew tree *Taxus brevifolia*, which is now found only in the old-growth coniferous forest of the northwestern United States, was recently found to be the source of taxol, one of the most potent anticancer substances ever found. If forest felling continues at the present rates, new sources of scientific information are likely to be lost and inestimable biological wealth destroyed.



The cashew nut, a nutritious forest product that is easy to collect and roast

Even where conservation measures have been taken, they may not halt the decline in biodiversity and therefore the overall genetic resources of the forest ecosystem. At present less than 5 percent of the earth's land surface is allocated for conservation as national parks, scientific stations or other types of legally protected land. Conservation areas have been set aside for many reasons, but rarely with reference to the location of valuable gene pools. Frequently they are too small to maintain viable populations of the threatened species and varieties they do contain. At the same time, experience shows that policies to control and protect such reserves will not succeed without the active support of local people and complementary programmes aimed at meeting their everyday needs.

Sustainable development of forests

Properly managed, forest ecosystems can provide goods and services while, at the same time, perpetuating the genetic resources contained in them. Progress is being made towards new styles of management. The sustainable harvesting of non-wood forest products can improve food security and nutrition, while increasing income and job opportunities. Agroforestry — a farming system that combines trees, crops and livestock — enables farmers, even the poorest, to diversify agricultural production and reclaim degraded land. The degradation of forests can also be reduced by harvesting practices that enable logging to take place while promoting and conserving forest regeneration.

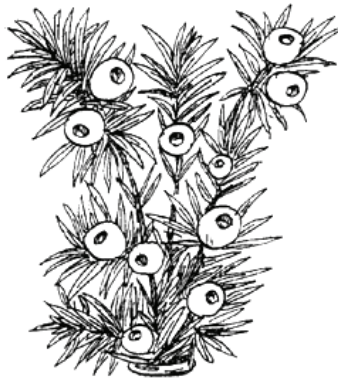
The sustained utilization of forests, coupled with the maintenance of a network of areas dedicated to the protection of ecosystems and their functions, provides the only solution for lasting genetic conservation.

FAO activities to conserve forest genetic resources

The FAO Panel of Experts on Forest Gene Resources, established 25 years ago, guides the Organization's actions to conserve forest genetic resources. FAO's Forestry Department collaborates with national or regional institutes that are or wish to become involved in these activities. Its field projects offer technical advice and assistance to governments in planning and carrying out conservation projects, as well as the integration of genetic resource conservation in land-use and forestry planning.

Specific activities include assistance in the exploration, collection and evaluation of forest genetic resources, planning and developing seed centres, and establishing and managing the conservation,

both *in situ* and *ex situ*, of priority species. The FAO Forestry Department also publishes and disseminates a wide range of educational and training materials on the use and conservation of forest genetic resources.



Western yew tree, the source of taxol, a potent anticancer chemical

FAO's Global System for the Conservation and Utilization of Plant Genetic Resources includes forest tree species. Within the framework of FAO's International Undertaking on Plant Genetic Resources, FAO's Forestry Department is the focal point for activities related to *in situ* conservation of plant genetic resources.

F A C T S

Deforestation of closed tropical rain forests could account for the loss of as many as 100 species every day.

Kalimantan, Indonesia, is an important centre of genetic variation for tropical fruit trees, including mango, breadfruit and durian. Of 16 species of mango in East Kalimantan Province, 13 are edible.

Exports of chicle, allspice and xate (edible palm fronds) earn Guatemala US\$7 million annually and support some 6 000 families in the Petén region of the country.

Collecting, extracting and processing the kernels of the fruit of babassu palm provides an estimated 25 percent of household income for 300 000 families in Brazil's Maranhão State.

In Côte d'Ivoire, harvesting giant snails (*Achatina achatina*) in the buffer zone around Tai National Park provides a source of food and income: each snail provides some 100 to 300 g of meat and the shells provide calcium for animal feed or crop fertilizer.

More than 20 tonnes of mushrooms, mainly chanterelles (*Cantharellus spp.*) are gathered and consumed every year by the 700 000 or so residents of the Upper Shaba area of Zaire.



Toronto Star

Life / Food & Wine

Food waste: An unappetizing, \$27B problem

We throw away 40 per cent of our food every year, worth about \$27 billion. It's a crisis, and green bins alone can't solve it. Nearly half of the food we produce in Canada goes to waste. Why aren't we ashamed at how much food we squander?

Food waste: An unappetizing, \$27B problem
Photo illustration by Keith Beaty / Toronto Star
By: Jennifer Bain Food, Published on Fri Jan 14 2011

Food is so plentiful in Canada that even our garbage cans are full of it.

We throw away 40 per cent of our edibles every year according to most recent estimates.

If wasting food is shameful, then why aren't we ashamed?

Gallery of solutions to our problem with food waste

Many of us blithely toss the food that rots in our fridges, kitchen scraps and unwanted leftovers into the green bin and congratulate ourselves for sending our waste for composting and keeping it out of landfill.

Food waste is an unappetizing problem. It involves the entire food chain, from farmers and manufacturers right down to supermarkets, restaurants and consumers. Though they are linked, one level doesn't care much about the other.

There hasn't been much political or industry will to analyze the problem. That's what the Value Chain Management Centre in Guelph hopes to combat with the release of its November study, Food Waste in Canada.

The unpublished study estimates \$27 billion worth of food finds its way into landfill and composting each year, which it considers a crisis.

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While “food miles (at the distribution level) are often portrayed as the environmental demon and creator of waste,” they cause just 3 per cent of it, the study estimates. Consumers who throw food out at home are to blame for 51 per cent.

“At home we look at the meal — we don’t look at what’s left over from the meal,” says centre director Martin Gooch, a researcher who co-authored the study with Abdel Fefel and Nicole Marenick.

The centre is part of Guelph’s George Morris Centre, a non-profit, agri-food think tank. The study was funded by Agriculture and Agri-Food Canada.

“All of the incremental elements of waste add up,” stresses Gooch. “As a society, we look for simple solutions when we need to redesign the entire system.”

In his 2010 book, *American Wasteland: How America Throws Away Nearly Half of Its Food (and What We Can Do About It)*, U.S. journalist Jonathan Bloom reports that a Rockford, Illinois, elementary school sent kids out to play before they ate lunch instead of after. It discovered students were hungrier and wasted 30 per cent less food.

“I’d call that redesigning the system to get a better outcome,” says Gooch.

He says our food industry is “pretty dysfunctional” because links in the chain do not understand, or want to understand, each other. For example, food producers and processors don’t talk much except about price and volume. Small restaurants may bond with some farmers, but that should be happening on a larger scale.

“At the moment, there’s still too much ‘them and us’ thinking.”

Jo-Anne St. Godard, executive director of the Recycling Council of Ontario, calls food waste “the elephant in the room” and admits it’s difficult to create policies and regulations around it.

“Food is put on to the marketplace to be consumed,” she says. “The steward expects you to eat it. If it goes into the composting stream, who pays the bill?”

In Ontario, there are multiple fees for everyone from manufacturers to consumers to handle the disposal of e-waste (electrical and electronic equipment like televisions and computers). But how do you do that with a head a lettuce?



community choices unit three

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“I think we ignore this more than we should, especially given the environmental and economic impact of food waste,” says Gooch.

Bloom calls the green bin “a guilt eraser,” because it makes us feel noble to keep it out of landfill, even though we’re still wasting it and not thinking about what happens to it once it’s hauled away to be processed into compost.

While large-scale solutions to food waste are discussed, there is much to be done at each level. Farmers can turn over unwanted crops to gleaners who turn over the free harvest to the hungry.

Food manufacturers and restaurants can join food-recovery programs like Second Harvest. Consumers, whether they’re eating at restaurants or at home, can choose not to buy more than they can eat or cook.

“It’s a bizarre sort of culture we’ve cultivated,” says St. Godard.

All-you-can-eat buffets, fast food lunches with options to supersize, weekly supermarket binges, chest freezers and a “buy now and pay for it later” mentality all contribute to the problem.

In England, the government is working hard to combat the culture of overshopping.

A government-funded agency called Waste & Resources Action Programme (WRAP) analyzed the trash of more than 2,000 households a few years ago and discovered that about one-third of food bought in United Kingdom is thrown out every year. Gooch would love funding for a similar study here.

Riffing off the adage “waste not, want not,” WRAP launched its “Love Food Hate Waste” campaign. With the help of chefs and celebrities, it suggests simple things people can do at home to waste less food, save money and help the environment.

Lovefoodhatewaste.com also doles out advice on portion size, meal planning and food storage. A recipe area lets people do a search on “what food needs using up.” There’s even a downloadable 21-page, seven-day diary that you can use to keep track of your food waste.

England’s campaign to reduce food waste really began in 1990 when a new Food Safety Act put pressure on everyone from retailers to the top of the chain to connect, notes Gooch.

“The U.K. is 10 or even 20 years further down the road in hard, objective analysis of ways to reduce waste and in turn increase competitiveness at all levels of the food chain.”



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Like Canada, the United States suffers from a dearth of data. Jonathan Bloom, a Chapel Hill, N.C., journalist, has been investigating the subject for more than five years and blogging about it at Wastedfood.com.

In his book *American Wasteland*, he notes that “depending on who you ask, we squander between a quarter and a half of all the food produced in the United States.”

He outlines the ethical, economic and environmental consequences of wasting food, like the fact it rots in landfills and releases harmful greenhouse gases.

“There’s just something wrong with throwing away food when so many people go without,” Bloom said in a telephone interview. “There are ways to get that food to people before you put it in the garbage.”

Why do supposedly cost-conscious consumers waste so much food?

Blame it on the “all-you-can-eat” culture that Bloom has renamed “all-you-can-waste.” Or the fact that asking a restaurant for a doggie bag is sometimes seen as gauche. Or the sad truth that so many people lack basic cooking skills and are needlessly scared that their cooked or uncooked food might be hazardous.

“If you didn’t grow up with leftovers, you might not know that they can taste as good or better than the original meal.”

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