

# SEEDS OF HOPE IN A WORLD OF INSECURITY



by  
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## FOREWORD

Read this paper on the plight of 'heritage seeds' and take note, consider action. This paper is not merely of scientific concern, it is the exposé of a reality of great importance for us all. It outlines the dangers to our human rights and to our expectations to have access to seed diversity and choice – as has been the case for thousands of years – without undue interference from government or the private sector. The activities of Transnational Corporations have to be curbed before farmers and consumers alike are denied their basic rights. Wars of aggression can no longer be used as cover for the rape and pillage of food sovereignty. Food security and health-giving production from seeds long tested and proven under diverse environmental conditions must be protected.

The Iraq experience of an occupying military power illegally imposing new legislation in violation of international law demands our especially urgent attention. Ten thousand years of seed heritage and critical diversity – reaching back to the days of Mesopotamia – is currently endangered. The danger comes from the present Iraqi Government's collaboration with the invaders, enabling Transnational Corporations to move in – enjoying the legal rights of citizens but without the responsibility. Order 81, imposed by US pro-consul Bremer prior to his retreat in 2004, amends Iraq's patent law – thereby exposing farmers to the theft of seed varieties bred and used for generations. This would enable the multinationals to employ "biopiracy", patenting both genetically modified and ancient seed stock, leading to the end of food sovereignty and security. This dangerous situation is also unfolding elsewhere around the world.

The tragic Irish experience in the mid 19th century of limited seed diversity is well known. Because of the use of only a few varieties of potato on which the vast bulk of people depended, disease led to widespread crop failure while cereals harvested by those facing famine were exported overseas to profit the landlords. Since then, some 90% of Irish vegetable varieties have become extinct. Around the globe, some 75% of agricultural biodiversity has been lost. And today we face a new threat to food security worldwide by the planting of millions of acres of genetically modified crops. Here at home, the Irish Seed Savers Association (ISSA) since 1991 has worked to protect heritage seeds. Extraordinary work has been accomplished already: two hundred varieties of apple, over forty varieties of potato and over forty-eight varieties of grain have been saved and planted.

Understanding the danger in Ireland and overseas to food sovereignty and security – and the potential loss of human rights and of life itself – places upon us all the responsibility to act.

*Denis Halliday*

## PREAMBLE

This paper was inspired by a small article by a now deceased member of Irish Seed Savers in one of their newsletters. In it Michael Droney brought news that a patent law which could affect Iraq's agriculture and food security had been passed in Iraq during the US occupation in 2005. I followed his lead and have tried to pull together some of the issues which this story uncovers. It's a broad brushstroke across a canvas of conflict and resistance, covering the enormous power that agribusiness is wielding on our planet and the implications of that for agriculture everywhere. It puts the banking crisis in the halfpenny place in terms of the implications of allowing such aggressive undermining of local knowledge systems for short term gain in such a vital area of human existence and survival - food.

The Iraqis' loss is all our loss in this case and that's why I wanted to bring the issues back to Ireland at the end of this paper. Because enshrined in the DNA of every Irish person on the planet is the memory of famine and the devastation it brings. But this is also a story of hope because so much is being done, can be done and must be done worldwide.

This paper represents just the tip of the iceberg. It is my hope that this paper will stimulate debate, encourage further multi-disciplinary research, and lead to some comprehensive investigative reporting on the issues raised.

I am truly grateful to Dervla Murphy, Anita Hayes, Denis Halliday and Joe Murray for their support in this piece of work, and for the inspiration they have been to me and many others.

*Clare O' Grady Walshe*

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## There are three aspects to this research paper

1. The threat to food security and biodiversity from legal instruments passed by Iraq's Coalition Provisional Authority in 2005, which are now enshrined in its domestic law.
2. The essential work being done globally, particularly in areas of conflict, to save traditional seed varieties and promote food sovereignty.
3. What is being done in Ireland.

Food Security, a primary human right, is increasingly under threat, especially in war zones. The vested interests of parties in conflict can confuse the priorities of their own short-term gain (a common practise of any colonisation) with the long-term interests of ordinary people. Even when local populations can see what is happening, their ability to resist is greatly reduced. Detrimental consequences follow, both for a population's own survival and for the survival of their food systems. In many cases a region's food sovereignty may never recover because of the toxic materials so often used in modern weaponry.

Food, agriculture and culture have been intertwined since the beginning of human history, as is proved by the diverse crops, culinary traditions and spiritual practises from the remotest parts of the world. Civilisation as we know it began in Mesopotamia (modern Iraq) with the cultivation of crops and the domestication of animals, so agriculture is enshrined in the foundation of culture everywhere. Today, after decades of military conflict, a new war is being waged in this 'cradle of civilisation'. During a war which saw the death of hundreds of thousands of people since 2003, an occupying power imposed laws which must inevitably undermine food sovereignty in and beyond Iraq.

This paper attempts to unravel the implications of these laws not only for Iraq but globally. In their struggle to have them rescinded the Iraqis urgently need our support. If they are retained, a new form of dictatorship will emerge with far reaching consequences: the undemocratic determination of the most basic of human rights – the right of a people to food sovereignty. President Obama's administration must be made to recognise its responsibility for the dire effects these laws are having on Iraq's agriculture. The various agribusiness programmes supported by USAID should not be allowed to collaborate with the transnational food industry to test trial GM crops or in other ways disrupt the local/indigenous food security for their own gain.

At present 1 billion people are starving on our planet, and 1 billion people are categorised as overweight. As Raj Patel outlines in *Stuffed and Starved*, these facts are linked through the power and influence of the globalised food chain. Perversely, this chain ensures that nowadays poor people are more likely to be obese. Patel gives a graphic example: the closer a Mexican family lives to the US the more readily available are sugary and fat-sodden processed foods and the more likely are those families to be overweight, with serious health problems. The same phenomenon now afflicts Ireland, with fast food chains like MacDonaldis and BugerKing enjoying soaring profits despite the recession; here also cheap 'meals' mainly affect the less well off (24% of Irish 7 year olds are estimated to be obese according to an August 2010 study). But of course such meals come at a very high price for others. Intensive cattle production diminishes biodiversity and in many countries corporate cultivation causes desertification, soil erosion, massive deforestation – all to cater for the growing addiction in 'developed countries' to health threatening foods.

## THE AGRICULTURAL SYSTEM AND CORPORATE CONTROL: FROM THE GREEN REVOLUTION TO IRAQ

Changes in agricultural practice, beginning some 10,000 years ago, have shaped and continue to shape much of human history. Slash and burn cultivation, intricate mountain terracing, and the development of irrigation and hydraulic agriculture all contributed to the evolution of society as we know it. But the destruction of our environment has escalated greatly since the industrial revolution, the subsequent very rapid population growth and the menacing chemicalisation of the whole planet, from pole to pole. Meanwhile the culture of industry has also been changing with the emergence of monopolies of power – Transnational Corporations (TNCs). During the so-called 'Green Revolution' (1960-1990) we witnessed the biggest shift in the relationship between human beings and the natural world on which we depend. The agricultural sector is now facing a call for 80% cuts in greenhouse gas emissions by 2050, as we face into a perilous situation with climate change and peak oil with the agricultural sector being the largest single source of a greenhouse gas – nitrous oxide – that is over 310 times more damaging than carbon dioxide (CO<sub>2</sub>).

This campaign to modernise farming in the developing world, which seemed like a good idea to many people at the start, was driven by the TNC-sponsored international agricultural research centres and subsequently enabled the monopolisation of seed markets by Northern corporations, whose primary objective was to make profit. The prevailing belief in an unfettered free market served those narrow interests well during that period. One of the worst casualties however has been the erosion of support for local agriculture. This corporate triumph has been cataclysmic. Everything has suffered, from the soil and groundwater to the food on our tables.

In 1988 the top ten seed companies controlled 30% of the global market. In 2008 the top three controlled 30%, with the world's top three agricultural exporters – Cargill, Bunge and ADM – now controlling 90% of the world's grain supply, with Cargill's net earnings at \$1.03 billion for 2008 and Bunge and ADM enjoying gross profits of \$867 million and \$1.15 billion respectively (FoodFirst.org)

How this monopolisation and exploitation happened, in some cases disguised as helping/aid, is peculiarly chilling. Genetically modified food aid, delivered by the likes of USAID, caused a grain surplus, crippling the food systems of the global south, opening up entire continents to the expansion of Northern agri-food industries, devastating local agro-biodiversity and emptying the countryside of valuable human and natural resources. Various financial and trade agreements, and bodies such as the International Monetary Fund (IMF) and World Trade Organisation (WTO), gave this pillage a veneer of legitimacy. Repeatedly they facilitated the expansionist cartels and the ever-growing TNCs who by now rule over all – from seeds to grains, from chemicals to energy.

As Raj Patel points out, we've ended up with a world dominated by a few corporate buyers and sellers: "The small fish have been devoured by the Leviathans of distribution and supply." This gives the Leviathans colossal market power over those who grow food and those who eat it. Moreover, not only the poorer countries are hurt. In the USA today 28 million people must rely on a national food stamp programme, the largest in their history. In the 1930s 25% of the US population lived on six million farms. Today two million farms are home to just 2% of Americans, with 8% of farms accounting for 72% of sales.

There are now more prisoners than farmers in the US, where agriculture suffered most job losses between 1998 and 2008. In India, the world's largest democracy and third-largest food producer, two million farmers are being displaced annually, with heart-breaking consequences including hundreds of thousands of suicides. Of the 800 million people facing starvation on our planet, 300 million live in this 'democracy' which has tragically embraced the military/industrial corporate model of 'development'. So 48% of children there are malnourished, while India exported US\$1.5 billion worth of milled rice and \$322million worth of wheat in 2004. The most recent reports coming from the United Nations on the progress of the Millennium Development Goals are sobering to say the least: the UN Food and Agricultural Organisation (UNFAO) estimates that the figure for undernourished people could rise as high as 1 billion due to the financial crisis. This is not because of a lack of food availability but because of a decrease in employment and income and increasing food prices.

This current financial crisis (perhaps the worst ever) has forced ordinary people everywhere to consider the depredations of rampant capitalism. Many realise that its effects are not merely economic. Noam Chomsky observed in a recent opinion piece that "Financial liberalisation has long been understood as a powerful weapon against democracy. Free capital movement creates what some have called a virtual parliament of investors and lenders, who closely monitor government programmes and 'vote' against them if they are considered irrational: for the benefit of people, rather than concentrated private power". Professor Chomsky traces democracy's demise from the collapse of the Bretton Woods system in the 1970s when capital's right to free mobility became more fundamental than those other rights (to health, education, housing, security) enshrined in the UN's Universal Declaration of Human Rights. During the past thirty-odd years of crass individualism and deregulation, the opposition to fascist tendencies, the strength of working class organisations and the significant social democratic advances made after the Great Depression and World War II have been halted or reversed. This shift away from democratic participation has hugely benefitted the TNCs. According to the cultural historian, Thomas Berry, these have become the "organising centres directing the discovery and use of modern science and technology in the quest for human benefit and financial gain by exploiting the living and non-living resources of the planet"

Berry notes that "none of the political empires of past ages had anything like the control over land and peoples now held by the more powerful corporations .... nor has any economic system had such effective technologies..." Also, TNCs have obtained the natural rights of citizens without assuming responsibility in proportion to their influence on public welfare. This Berry describes as a 'cultural pathology', now deeply embedded in our political, economic, intellectual and religious establishments, through the manipulation of decision makers. Thus most aspects of our lives have been shaped by the commercial-industrial complex. In a prescient chapter of *The Great Work*, Berry explained that this pathological disregard for the planet's biosystems began in the colonial period. Then the first corporations emerged in North America following its 17th-century exploration by London backed adventurer-merchants. Berry predicted we would soon experience a profound recession, not a temporary condition but an irreversible recession of the planet itself when it could no longer tolerate the burdens we put on it.

The Brundtland Commission in the 1980s, and UN landmark conferences of the 1990s, suggested certain institutional changes in favour of sustainability. The UN Agenda 21 clearly stated that "Our planet's essential goods and services depend on the variety and variability of genes, species, populations and ecosystems. The current decline in biodiversity is largely the result of human activity and represents a serious threat to human development." And yet the TNCs retain their colonial mindset. Sometimes

conflict precedes their expansion into new areas, elsewhere corporate ambitions may be the *raison d'être* for war. As Ghali Hassan, from the Centre for Research on Globalisation, has pointed out, "A closer examination of US policy in Iraq shows that the war on Iraq had nothing to do with Weapons of Mass Destruction, terrorism, 'democracy' and 'liberation', but was to colonise Iraq and enrich US corporations at the expense of the Iraqi people." Iraq's case is particularly shocking: various TNC activities, presented as 'aid and assistance', continue to involve major food and construction corporations as well as the armaments and oil industries. Tragically, Iraq's government has agreed to collaborate by implementing laws passed by an interim American administration under the guise of Operation Iraqi Liberation (OIL).

In June 2004 the US-led Coalition Provisional Authority (CPA) ceded power to the Iraqis and left Baghdad. During the CPA's final days the American Administrator, Proconsul L. Paul Bremer III, passed '100 Orders'. These embody the central legal and institutional reforms deemed necessary (by the US) to ensure Iraq's "transition from a non-transparent centrally planned economy to a free market economy characterised by economic growth through the establishment of a dynamic private sector". (Linked to this, the Bush administration quickly issued an 'executive order' not only to indemnify all corporations from prosecution but to provide protection to soldiers and private security guards. On 22 September 2007 the Irish Times reported that "Alongside the 137,000 United States troops serving in Iraq there are tens of thousands of private security personnel performing ancillary military, escort and quasi-policing tasks for the US army and other agencies." Despite the change of Presidency in January 2009, these 'mercenary hybrids' (an Irish Times phrase) remain in situ at the time of writing and provoke endless controversy. They are outside of legal control on Iraqi territory, thanks to Paul Bremer's orders. Also, "they are not amenable to the US Military's Extraterritorial Judicial Act, nor to the US Uniform Code of Military Justice". Naomi Klein, in the *The Shock Doctrine*, identifies torture as the equivalent of the ecologists' "indicator species", a sign that a regime is engaged in a profoundly anti-democratic project). However Order 81 is of most concern to us, with its implications for Iraq's future agricultural prosperity.

## WHAT IS ORDER 81?

Order 81 is entitled 'Patent, Industrial Design, Undisclosed Information, Integrated Circuits and Plant Variety'. It amends Iraq's original patent law of 1970, which made it illegal to patent seeds. Unless repealed or revised by an Iraqi government, it has the status of a binding law. Order 81 deals specifically with Plant Variety Protection (PVP). It is designed to protect the commercial interest of corporate seed companies and make it "illegal for Iraqi farmers to reuse seeds harvested from new varieties registered under the law, as well as paving the way for genetically modified crops or organisms into Iraqi agriculture". All that is necessary to be able to claim patent protection is to be the first to 'describe' or 'characterise' new plants.

The Iraqi farmer is not yet forbidden to save and share seed from traditional crops. Nevertheless there is now nothing stopping Monsanto, Bayer, Cargill, Dow, Syngenta and other multinationals from 'describing' or 'characterising' traditional seeds, and leaving them vulnerable to legal wrangling over their ownership – thereafter any minor modification to that seed will make them the private property of the corporation or entity that patented them. This leaves the Iraqi farmer at risk of becoming permanently trapped in a high-cost cash crop economy, forced to buy from the 'company store'. To quote Ghali Hassan: "If anybody owns those varieties and their unique virtues it is the families who bred them over generations, even though nobody has characterised them in terms of their genetic makeup. The new law – in allowing old varieties to be genetically manipulated or otherwise modified and then 'registered' –

involves the theft of inherited intellectual property, the loss of farmers' freedoms, and the destruction of the food sovereignty of Iraq". It truly is an act of 'biopiracy'.

*According to international NGOs GRAIN and Focus on the Global South:*

"The new US-imposed patent law introduces a system of monopoly rights over seeds. Inserted into Iraq's previous patent law is a whole new chapter on Plant Variety Protection (PVP) that provides for the 'protection of new plant [and] varieties of plants'. PVP is an intellectual property right (IPR) or a kind of patent for plant varieties which gives an exclusive monopoly right of planting material to a plant breeder who claims to have discovered a new variety. So the 'protection' in PVP has nothing to do with conservation, but refers to safeguarding the commercial interest of private breeders (usually large corporations) claiming to have created the new plants. To qualify for PVP, plant varieties must comply with the standards of the UPOV (international standards) Convention which requires them to be Distinct, Uniform and Stable (DUS)."

Similar to the European Register, this DUS test renders many heritage varieties, grown and selected over generations, unusable and unsellable. Even in Europe large quantities of seed can only be traded if they are registered and registration is an expensive process. So you are getting something chosen for the ease of its commercial success, rather than something grown and cultivated for its taste, beauty, resilience and nutritional value.

Anita Hayes, an experienced seed producer and founder of Irish Seed Savers, provides just such an example in relation to Brassicas, such as broccoli, cabbage, kale and cauliflower to name a few. The Brassicas are the cornerstone of phyto-nutrients, but because the open-pollinating varieties take two years to seed and are the most challenging to crop seed from, take longer to produce, have a shorter shelf life, and take up more space as well as not making royalties for anyone, an overreliance on F1 Hybrids has emerged amongst commercial growers of this vital plant group. Hence the importance of independent seedsaving bodies, which try to conserve and reintroduce heritage varieties and encourage informal seed exchange. And not just for the seed varieties themselves, but because, as Anita Hayes puts it, "When you lose a crop or a seed variety, you lose a worldview of the people who grew it also. This is also a spiritual loss and is immeasurable".

Order 81 will reduce biodiversity and lead to monoculture, increased chemical use and genetic pollution. The Irish Famine of the 1840s was caused by a new potato pest that spread rapidly in the uniform potato fields; only about 3 varieties were then being grown and the 'lumper' potato was the worst hit. Andean farmers, living where the potato originated, would have been growing out of community resources at least 200 different varieties to secure their food supply. It is well accepted now that a broad genetic base is essential to maintain plant/food security. It is also becoming more clear that diverse ecological farming and modern conventional plant-breeding are the best methods to respond to climate change in agriculture. Genetic engineering does not provide the complex traits and sophisticated control over them that is needed to create crop varieties primed to withstand climate change, nor does it reduce agriculture's unsustainable dependence on fossil fuels. And this is what is so tragic about aspects of order 81.

Order 81 opens the way for genetically modified crops to be introduced into Iraq. Alarmingly, there are no special provisions for GM crops – they aren't even considered unusual or any more controversial than

new varieties developed through conventional breeding programmes. Where ownership of a crop is claimed, seed saving will be banned, and royalties will have to be paid to the registered seed 'owner'. "Farmers will be required to sign technology User Agreements relating to seed supply and – probably – to the marketing of the harvest. Where GM crops are involved (and possibly in other cases as well) they will also be required to sign contracts for the purchase of herbicides, insecticides and fertilisers."

Vandana Shiva knows this story well from her native India. She is one of the Global South's leading voices in opposition to the patenting of lifeforms. "What we are seeing is a blatant effort by a few corporations to establish monopoly control over the common biological heritage of the planet. In India similar systems of control and takeover of rural autonomy in farming has been catastrophic for rural farmers. Suicide from Andhra Pradesh, to Mumbai and even into the heartland of India's breadbasket, in Punjab the epicentre of the "green Revolution", has rocketed in recent years. Even the UN are calling this a 'crisis of existence' for rural dwellers".

## **HISTORICAL AND MODERN IRAQ**

Ghali Hassan reminds us that "Historical, genetic and archaeological evidence, including radiocarbon dating....show that the Fertile Crescent, stretching from Southern Israel to Iraq, was the centre of the domestication of a vast quantity of agricultural crops and livestock". The crops included wheat, barley, rye, lentils; the livestock included sheep, goats and pigs. Wild wheat was first found hereabouts. c.8000 B.C., and many of its varieties have been exported and adapted worldwide. For at least 10,000 years Iraqi farmers have been saving and sharing seeds, as farmers everywhere do, replanting and cross-pollinating varieties to increase yields, or achieve better pest resistance and other beneficial traits. This system of natural genetic modification has served mankind well. Many believe the Garden of Eden actually existed at the confluence of four rivers, two being the Tigris and Euphrates. It has been suggested that in the ancient Sumerian language 'Eden' meant fertile plain, 'Adam' meant settler on the plain and those celebrated tensions in the Garden of Eden were between early cultivators and nomadic hunter-gatherers.

In 2002 the Food and Agricultural Organisation (FAO) reported that 97% of Iraqi farmers were still using seeds saved from their own stocks or bought from local markets. For generations Iraq had maintained a flourishing agricultural sector despite extreme aridity, soil salinity and the bloody chaos of the Iran-Iraq war, two Gulf Wars and the brutal UN sanctions. Those last cruelly damaged both industry and agriculture and inspired the resignation of two heads of the UN Oil for Food Programme in Iraq in the mid 90s, Denis Halliday and Hans Van Sponeck. In the mid-90s the former made clear his reasons for resigning – "the UN is being undermined by the sanctions" and he didn't wish to be complicit in what he felt was a "criminal violation of human rights". To him the sanctions seemed genocidal because of the number of child victims – a monthly average of 5,000, according to UNICEF. Commenting on Paul Bremer's 100 Orders, and order 81 in particular, Denis Halliday stated that this attack on the Iraqis' sovereignty and ability to feed themselves "should constitute a war crime".

Agriculture is/was Iraq's second biggest industry, employing one quarter of the workforce, with wheat the most important crop. Iraq used to be a leading exporter of dates, not surprisingly as 27% of the land is cultivable and the rest irrigable. Pre-invasion, average annual harvests were 1.4 million tonnes for cereals, 400,000 tonnes for roots and tubers and 38,000 tonnes for pulses. Now, with 600,000 farmers unable to farm, over half the essential foods must be imported and millions are dependent on

government-financed food rations. It is poignant that a country once self-sufficient in food can no longer grow enough grain to feed its people. In 2007 only 700,000 tonnes of wheat went to silos, where 4 million tonnes were needed. The UN World Food Programme (WFP) monitors the distribution of rations and found most Iraqis lacking the daily calories required to maintain health. In 2007 the WFP provided food assistance to more than 3.7 million malnourished children and their families. Tragic also is the fact that this once self-sufficient country has now got 10.7 million (53%) people characterised as slum dwellers, an increase from 2.9 million (17%) on 2000 figures according to the UN Millennium Development Goals (MDG) update report released in New York in September 2010.

Before the US withdrew, Jean Ziegler, a Swiss Professor of Sociology, and a UN Human Rights rapporteur, accused their soldiers of using food and water as weapons of war in besieged cities. He revealed that acute malnutrition among Iraqi children (aged six months to five years) had increased from 4% before the invasion to 7.7% up to 2007. And even now more than a quarter of Iraqi children do not get enough to eat. The US Agriculture Department aided Bremer in devising Order 81. This department is usually run by ex-managers of various agribusiness companies – people like Monsanto's Ann Veneman. She then appointed Daniel Amstutz, a former Cargill executive, to organise Iraq's 'agricultural reconstruction'. Already Cargill was notorious, worldwide, for violating the rights and independence of family farmers.

## **PREDATORY CAPITALISM AND 'AID' IN IRAQ – THE LOSS OF INDIGENOUS KNOWLEDGE**

By 2005 observers were worrying about Bremer's legacy, all those US-initiated legal instruments now becoming enforced through the new quasi-colonial administration in Baghdad. A few of the entities looming behind the legacy were the US Department of Agriculture, the US Department of Defence, the US Agency for International Development (USAID), and ARDI (Agricultural Reconstruction and Development in Iraq).

In 2006 Iraq's Council of Representatives passed the Foreign Investment Law and the Fuel Liberalisation law to speed up private sector activity. "To reduce its reliance on oil (which generates 67% of Iraq's GDP and 95% of Government's internal revenues), the US is supporting Iraq's economic diversification through increasing agricultural exports and Private Sector development". Moreover the Department of Defence (DoD) Task Force to improve Business Stability Operations in Iraq was "aiming to re-energise existing State-owned enterprises, with the ultimate intent of privatisation to promote economic diversity".

Here as elsewhere throughout the developing world, USAID's role was frequently criticised. Its shameless manoeuvrings confirmed that nowadays 'foreign aid' programmes aren't even a fig leaf but are openly designed to create commercial opportunities for US companies. To 'help' Iraq, USAID has been running Agricultural Development Projects whose purposes are made plain in US official documents. These include increased agricultural exports, and the encouragement of high value crops such as olives. Simultaneously we hear of plans to enhance agricultural training at Iraqi universities. Consultants have identified "lack of modern seed and fertiliser, under-developed irrigation systems and lack of pesticides" as largely responsible for "the underachievement of Iraq's potential".

One USAID agribusiness project (INMA, Arabic for growth) reports providing 900 Iraqi vegetable farmers with "identical baskets of incentives" – modern hybrid onion, tomato, cucumber, pepper, eggplant and

squash seeds. (Hybrid seed is not sterile, but it loses its specific vigour in the next generation, making it an economic necessity for the commercial farmers to buy new seeds every year). Proudly INMA proclaims that the impetus for this project came from Baghdad's embedded Provincial Reconstruction Team and the 'Ironhorse' Combat Team, 1st Cavalry Division. So now we have a military-enforced change in the agricultural practice of the world's 'first farmers', just what commentators feared following the implementation of Order 81.

US 'capacity building' in Iraq is an easily detected fake. Having first heavily armed a vicious dictator, the US twice bombed this country to rubble. Between those wars were the sanctions, excluding fertilisers and pesticides as well as medicines – and pencils, lest their lead might be used to make bullets. And now the illegal invaders want to 'modernise' a country which despite so much turmoil and Hussein's sadism, remained rich and fertile for countless generations. But of course the past thirty years have taken their toll and now rural Iraq is desolate, only half its irrigable area in use.

## **IN BREACH OF INTERNATIONAL LAW AND THE MILLENNIUM DEVELOPMENT GOALS**

The Global Policy Forum paper on *The Economic Colonisation of Iraq: Illegal and Immoral*, by Antonia Juhasz, emphasises the legal aspects of what is now happening. It states that "Transformation of an occupied country's fundamental laws is illegal under international law".

US action in Iraq is in breach of the Hague Regulations of 1907 and the 1949 Geneva Conventions (both ratified by the US) – as well as the US army's own Law of Land Warfare. Article 43 of the Hague Regulations requires an occupying power to "re-establish and insure, as far as possible, public order and safety, while respecting, unless absolutely prevented, the laws in force in the country". Resolution 1483 of the UN Security Council, issued in May 2003, specifically instructs Iraq's occupying powers to respect the Hague Regulations and the Geneva Conventions. A leaked memo from The British Attorney General, Lord Goldsmith, was very clear about the illegality of Iraq's invasion and warned Tony Blair that "the imposition of major structural economic reforms would not be authorised by international law". Others point out that these reforms are also in contravention of the Convention on Biological Diversity (CBD), the Biosafety (Cartagena) Protocol, the Food Aid Conventions (cf Articles iii,viii and xiii) and the Rio Declaration of 1992.

Everything being done in Iraq also flouts the spirit and the letter of the Millennium Development Goals and the Millennium Forum Declaration, so solemnly endorsed by all world leaders in New York in the year 2000. These aspirations particularly concern NGOs and others working for poverty eradication within the UN guidelines. In the case of Iraq, it is important to focus on certain key issues. In March 2005, 1300 leading scientists from 95 countries published the Millennium Ecosystem Assessment Synthesis (MA) Report. This was compiled to measure progress towards the Development Goals. Its finding that 60% of the earth's ecosystems are close to collapse cast much doubt on the possibility of achieving the desired Goals. In 1984 the FAO had estimated that the 20th century had already destroyed 75% of the world's cultivated plant genetic resources and in the West this figure rose to 90%. Such a reduction in the diversity of crops, and the narrowing of their genetic base, makes the survivors very vulnerable to disease and pests. Diversity is a vital component of the ecosystems which sustain human activities and enable us to cope with changing environmental conditions – thereby ensuring future food security.

The 2005 MA Report stresses the most crucial point in all of this debate – and is uncharacteristically radical for a group of eminent scientists from so many countries: "Privatisation makes the poor suffer

through loss of access to ecosystems that were formerly common pool resources". These scientists took aquaculture as an example and noted the 'Income and Protein decline' caused by TNC shrimp farming in Thailand, Honduras, Vietnam, Indonesia, the Philippines and many other coastal communities. This expansion of commercial interests has become a major obstacle on the road to the above-mentioned Goals. Some people regard the 2000 gathering in New York as the most laudable and far reaching attempt by all world leaders to agree on ending world hunger and reversing environmental degradation. Strict timelines were given for the 50% reduction, by 2015, of the number of people who starve to death. But the MA report warns: "Failure to tackle the current decline of ecosystem health will seriously erode those efforts to reduce rural poverty"

Of importance here is the UN Millennium Forum Declaration 9 which aspires to " move towards economic reforms aimed at equity, in particular to construct macroeconomic policies that combine growth with the goal of human development and social justice; to prevent the impoverishment of groups that have emerged from poverty but are still vulnerable to social risks and exclusion; to improve legislation on labour standards, including the provision of a minimum legal wage and an effective social system; and to restore people's control over primary productive resources as a key strategy for poverty eradication".

The signatories also seek "to promote the use of indigenous crops and traditional production skills to produce goods and services; to exempt developing countries from implementing the World Trade Organisation(WTO) Trade-Related Intellectual Property Rights Agreement and to take these rights out of any new rounds of negotiations, ensuring that no such new issues are introduced; and to examine and regulate transnational corporations and the increasingly negative influence of their trade on the environment. The attempt by companies to patent life itself is ethically unacceptable". This Ecosystem Assessment report is a powerful acknowledgement of the importance of maintaining the lineage of ecological stewardship which local people everywhere hold together. It is all the more important coming from a team of eminent international scientists at such a critical juncture for our planet, and cannot be ignored.

Arising not from scientists but out of grassroots movements, La Via Campesina (Peasant Way) has arrived at similar conclusions. In the past fifteen years it has grown considerably, with members across 56 countries on 5 continents, representing millions of small farmers, giving them a platform to challenge the corporate model of agricultural development. They define the 6 pillars of food sovereignty as follows:

1. Focuses on Food for People
2. Values Food Providers
3. Localises Food Systems
4. Makes Decisions Locally
5. Builds Knowledge and Skills
6. Works with Nature

Their definition of food sovereignty specifically recognises the rights of women, who play a major role in agricultural production and, especially, food.

In this way La Via Campesina chose to redefine the issue of food politics around food sovereignty as opposed to just food security, and thus their main demand is that food should be treated primarily as a source of nutrition for the communities and countries where it is grown. They specifically oppose free trade agro-export policies and promote food self-sufficiency in domestic markets. This, they argue, is not

isolationism but a powerful agrarian programme for the 21st century, that is for the defence and extension of human rights, for land reform, and for the protection of the earth against ecocide. Their vision cannot be easily dismissed, coming as it does from those most hurt by the way contemporary corporate agriculture is stacked against them. Raj Patel outlines how this movement offers an avenue for profound social change, particularly in its recognition of women's rights in its vision. He states that while women in the Global South grow 60-80 per cent of the food, they own less than 2 per cent of the land: "The commitment to women's rights, and the acknowledgement that the food system depends on women's work, from seed development to harvest to cooking to serving, is one of the clearest signals that some farmers' movements aren't pining for some rustic past, but want to shape a radically different future."

## **RESISTANCE AND THE OTHER ABU GHRAIB – HOME TO IRAQ'S SEED BANK AND PLANT BREEDING PROGRAMME**

Blatant abuses of natural rights always stimulate resistance. This can take many forms. For instance, in December 2008 the Iraqi journalist, Muntadhar-al-Zeid, raised cheers on every continent by throwing his shoes at George Bush Jnr. Other cheer-raisers, if the world knew about them, would be those plant specialists and seed curators who have devised new and potent ways of resisting agribusiness.

The Baghdad suburb of Abu Ghraib (globally notorious for its prison) is also home to Iraq's seed bank and plant breeding programme. This research station was set up in the 1930s when a young Dr. Muhammad al-Radi returned from his UCLA studies (irrigation and cultivation) with a box of Californian dates picked off trees that had been grown from Iraqi dates. From the contents of that box there eventually emerged a whole grove of palms. Thereafter Dr al-Radi became an eminent agronomist who relished the opportunities offered by his birthplace as a centre of diversity.

As Greenpeace explains in its educational literature, "A centre of diversity refers to a region in which a crop originated – and where we find the widest range of related species – and to the region of early breeding and improvement of a crop into specific varieties. It is a generic term, encompassing the diversity both of specific crop varieties and of wild relatives and related species". This proves Iraq's importance to food security activists: the world's greatest diversity of wild and cultivated wheat was found in the Fertile Crescent and for centuries exported from there to be used in many plant breeding experiments. (A crop's region of origin and the site of its own greatest diversity are not always the same; farmers elsewhere may develop crops much further. Rice is native to the south-eastern Himalayas but was bred into more than 100,000 different varieties all over India, Vietnam, Thailand, China, and Malaysia – places now considered centres of rice diversity).

In 1996 a group of Iraqi scientists shrewdly foresaw more violence ahead and feared for the safety of their precious collection of more than 1000 rare seed varieties – from ancient wheats to chickpeas and lentils, from pulses to dates. Soon this treasure trove had been moved to Aleppo in Syria where it remains. According to William Erskine, of the International Centre for Agricultural Research in Dry Areas (ICARDA), "the black box of Iraqi seeds is a genetic time capsule containing Iraq's agricultural heritage". Among the seeds are varieties of crops with inbuilt resistance to extreme heat, drought and salinity. During this century, in the view of ICARDA's Director, Adel el-Beltagy, these could be vital to plant-breeding programmes everywhere as we face climate change head on.

Thus from tortured Iraq there comes, literally, a seed of hope with global implications.

In the *New Scientist* (January 2005), Fred Pearce writes about Iraq's "genetic holy grail" the "ark of the lost seeds". He points out that some of our most devastating recent conflicts have been fought in areas where important crops originated and most of the diversity essential for future food security may still be found but is increasingly at risk. Conflicts inevitably bring about the exile of scientists, the displacement of skilled farmers and the pollution of their land. Some seed experts have recently adopted an idea called 'smart aid'. This strives to reinstate the traditional varieties of seeds, instead of sending insufficiently tested and inappropriate varieties as 'emergency aid'. These pioneers are co-operating with the Iraqi seed bank and searching out ancient varieties particularly suited to conflict zones. From Afghanistan to the Congo, from Palestine to Rwanda, similar stories are emerging.

## **GLOBAL RESISTANCE**

### ***Palestine***

Paradoxically, conflict has had a few beneficial effects in Palestine where the hills of the West Bank support 2,500 plant species, many related to some of the world's key food crops. Here are found several wild grasses of the genus *Triticum* bred into wheat by not-so-primitive farmers more than 10,000 years ago. After forty years of Israeli occupation, and a consequent slowing of modernisation and commercial seed production, these grasses, for so long unseen anywhere, have reappeared. In Palestine, too, plant scientists talk of 'a genetic time capsule'. ICARDA's Jan Valkoun says: "Collectors are right now combing the hills looking for grasses with unique attributes, such as genes for drought tolerance. The hills are a treasure trove, but we have to find the grasses before everything is lost. In Iraq, too, we must explore. Nobody has been to Northern Iraq for about twenty five years – it's a real priority for ICARDA. Our researchers plan to go soon looking for unfamiliar varieties of wild wheat. It's rumoured to survive in remote valleys'. Fred Pearce believes ICARDA could be lucky; oat farmers around the world are still reaping the benefits of genes found in a disease-resistant wild oat spotted on the West Bank in the 1960s. And Denis Halliday confirms similar stories from Northern Iraq and elsewhere. (He adds that people tend to survive better when using informal systems of seed distribution).

### ***Afghanistan***

A similar story emerges in Afghanistan. Fred Pearce identifies it as "the genetic heartland for a number of globally important crops, including vegetables, such as carrots and radishes, nuts such as almonds and walnuts, and numerous fruits, including grapes, melons, figs, cherries, plums, apricots, peaches and pears." Afghanistan at one time was the planet's most important area for almonds with more than 60 native varieties. It has lost much knowledge about seeds from decades of rule by warlords, the Russian military, the Taliban and American bombing, and the ensuing social disruption. Their biggest hope apparently is almonds, where seeds for all varieties were held abroad. Just as well, as all 22 agricultural research stations that existed there in the 1970s have been destroyed, looted, confiscated or bombed. The big push will now be to revive the almond trade and, alongside saffron and cumin, attempt to oust the lucrative poppy trade. A hectare of poppies would earn a farmer eight times as much as a hectare of wheat, which demonstrates the pathos of their particular situation. With the huge military surge ordered

under President Obama, there are now 100,000 US troops stationed in Afghanistan, double the number expected to be in Iraq by the end of Summer 2010.

Similar agricultural programmes have been initiated in Afghanistan under the USAID banner as for Iraq. New seed legislation in Afghanistan needs to be examined to ascertain what interests are truly being protected – large agribusiness which stands to gain enormously from access to the Afghan national seed varieties or protection of open access to food sources commonly owned by the people there since farming began. Experience elsewhere suggests the former rather than the latter will apply.

### **Rwanda**

During the three-month genocide one man, Alexis Rumaziminsi (known as the 'bean boffin' of Rwanda) bravely defended his research post at Butare's Institute of Agronomic Science and continued his bean breeding programme in the Rwerere hills. By all accounts his actions averted critical food shortages. The common bean (*Phaseolus Vulgaris*) is the Rwandans' staple food and there are known to be at least 1300 local varieties, each suited to widely varying local conditions. In 1994, the potato crop failed, being reliant on commercial production and seed distribution, but the informal market in bean seeds was hardly upset.

### **Cuba**

One country, Cuba, is rediscovering rather than losing its cornucopia of traditional varieties. The withdrawal of Soviet Aid at the end of the 1980s reduced the food supply by 57%. No longer could 1,300,000 tons of chemical fertilisers, 17,000 tons of herbicides and 10,000 tonnes of pesticides be imported annually. The national calorific intake dropped by one-third and soon the average Cuban shed twenty pounds. In response, Cuba wrote the 1992 Rio Earth Summit resolutions into its Constitution. By the mid-90s, a three-pronged strategy for food production (organic methods only) was in place. 28,000 huertos in Havana city and province are run by 50-100,000 people. Organoponicos – 451 – sell to local communities and farmers markets. 376 autoconsumos – horticultural units attached to colleges, hospitals and factories – produce food for workers' lunches, students and school children.

By 2000 90% of the cities' fresh produce was coming from urban farms and gardens, and everyone's daily intake of calories and proteins was considered sufficient by the FAO – a triumph for the 'three prongs'. As Jason Mark pointed out in 2007, "the Cubans did not come to their exalted status as organic pioneers through some benevolent ecological epiphany. Their conversion to organic agriculture was quite simply the result of scarcity. They ran out of money and oil and then started to run out of food". And now they find themselves much praised in green circles as the forerunners of Power Down, Slow Food, farmers' markets and Transition Towns initiatives. (There is growing concern about urban air pollution, especially in Havana – but that's another story.)

### **Venezuela**

President Hugo Chavez would like to follow the Cuban road to food security. He favours what he calls the 'endogenous' and has banned GM seeds and created a seed bank for indigenous plants to be gathered from all countries and safely stored for future reference. As 2% of the population own 60% of

Venezuela's land, Chavez has seized idle land for presentation to the poor – ignoring accusations of totalitarianism. He is also taking on locally operating TNCs. Regularly he chants “What was once privatised, let it be nationalised!” – not music to the ears of TNCs anywhere, but particularly not in the Global South, where they have been dominating national economies for generations. Article 305 of the 1999 Venezuelan Constitution guarantees food security and Chavez has boldly nationalised Cargill and cancelled a contract with Monsanto. He argues that food sovereignty is vital, hence the need to encourage local production rather than relying on TNCs. In some communities the elders have reverted to traditional methods of corn cultivation, using machetes, wooden boles and four kernels per hole – one for food, one for seed, one for birds and one for thieves. It works!

## **IRELAND**

And so to Ireland, a youngish republic, our history forged by conquest. For centuries most of our land was divided amongst the invaders (Old English – aka Normans – and New English). Many of the latter were absentee landlords. With the loss of our language and loss of land rights went a dwindling of local knowledge on every level. In the 1840s came a ferocious Famine in a fertile land; it halved the population and destabilised the whole island. Its main cause was our dependence on a monoculture crop – potatoes, the only staple food the poor were able to grow at that time. Moreover, most people relied on one variety, ‘the lumper’. Therefore the majority's entire food supply vanished when the blight struck.

Policies and politics play the largest part in stories of famine. In 1990 Cary Fowler and Pat Mooney, in their book *Shattering- Food Politics and the loss of Genetic Diversity*, noted that “Three-quarters of the land of Ireland was planted with cereal crops, but nearly all of this was exported to England, so despite producing enough agricultural produce to feed ourselves twice over in 1847, the people starved because they couldn't afford to buy the grain they raised”.

Our status abroad even today, particularly in the US, is conditioned by our history of dispossession, hardship, famine, emigration and eventually freedom and 'success'. Yet no one speaks about the need to ensure that never again do we relinquish our stewardship of the rich diversity of our native place. That diversity is of course much less rich than it was. In the last 100 years, 90% of our vegetable varieties have become extinct. Hence the importance of the meticulous work of the Irish Seed Savers Association (ISSA), amongst others, who have been quietly beavering away since 1991 in Scarriff in Co. Clare.

When Anita Hayes, a graduate of organic agriculture from Washington State, first began her work here, the Irish state had no seed bank, no germplasm, no living library to hold a memory of the cornucopia of fruit and vegetables native to our soils. The first work entailed retracing the steps of a PhD which had been written in the 1940s by a Dr Keith Lamb on the Irish apple. Anita, alongside Dr Lamb, set about recovering as many as possible of the varieties he had observed and recorded decades earlier. Some were already lost, orchards uprooted for development, but many more were found and have been preserved for the nation now: 140 distinct varieties, with wonderful names (Irish Molly, Kerry Pippin, Cavan Rose, Ballyvaughan Seedling), exquisite tastes and, of course most importantly, unique adaptability to the soil and climate they thrive in. ISSA now has the most complete living vegetable, grain and fruit collection in Ireland. They describe themselves as an Irish organisation “engaged in the urgent work of locating endangered fruit, grains and vegetables, taking samples, nurturing them in their gardens and orchards, propagating them and distributing them to gardeners and farmers around Ireland to ensure that they are available to be enjoyed by future generations for their taste, beauty and resilience”.



*Seed Bank Manager, Jo Newton from the Irish Seed Savers Association planting lumper potatoes at the Famine Memorial close to Doolough, Co. Mayo, during the Afri Famine Walk 2010. (Photo: Derek Speirs)*

ISSA's Native Irish Apple Collection contains over 140 distinct varieties, and they have been responsible since for the planting of more than 45,000 apple trees. The Native Irish Grain Collection holds over 48 varieties and their seed bank protects more than 600 non-commercially available vegetable varieties. They have also assembled a native Brassica Collection, and planted a native broadleaf woodland and wildlife sanctuary. Because of this work Ireland has been able to fulfill its obligations under the Convention on Biodiversity. They also continue ongoing research on seed, grain, vegetable and fruit varieties that are suited to Ireland's temperate maritime climate – vital work for generations to come.

From its inception ISSA trawled the worlds' seed banks for Irish seed varieties to repatriate. One of the most popular ones, the Irish Green Pea, was repatriated from the Nikolai Vavilov Seedbank in St Petersburg in Russia, which thrives in our climate as it loves rain! Vavilov was a famous Russian botanist, geneticist and agricultural scientist and arguably the world's greatest plant explorer. He travelled to 64 countries to document and gather seeds and built up one of the largest seedbanks in the world in the 1920s. He was the first to identify centres of origins of plants, places where whole complexes

of crop ancestors were domesticated. Tragically, Nikolai Vavilov, the man who taught us most about where our food comes from, died of starvation in a Soviet Gulag in 1943.

ISSA have also worked very hard with specialists, globally, to maintain a distribution system for potato seed for Ireland. It contains over 40 varieties – the old 'lumper', plus the Land Leaguer, Arran Banner, Black Bog and many more. These are the names that we need to remember, this is the knowledge we need to recover; the knowledge of food varieties, landscapes, flood plains, place names, crop resilience and adaptability – what grows well and where.

### **Globally Important Field Seed Bank Under threat during UN International Year of Biodiversity 2010**

As this paper goes to press a Russian court has ruled that the globally important seed bank near St Petersburg may be destroyed to make way for a housing development. If this goes through it would be catastrophic for global plant diversity. Called a 'living library', the Pavlovsk Experimental Station is widely considered the crown jewel of agricultural biodiversity, as 90% of the collection's varieties are not found anywhere else on the planet. Unlike the Svalbard Global Seed Vault in Norway, which maintains an immense dormant seed collection, Pavlovsk Experimental Station is a field seed bank, meaning that all of the seeds must be planted and saved regularly. Currently tens of thousands of plants are in the ground, and scientists argue that it would take years to move without the risk of losing varieties. It would be an absolute tragedy to allow this to occur, not least because of the enormous sacrifices made to ensure it survived for posterity. In a most incredible example of service to humanity, 12 Russian scientists, colleagues of Nikolai Vavilov, chose to starve during the 900 day Siege of Leningrad in 1941/42 rather than eat the precious seeds at that seed bank. We are hugely indebted to them. All pressure must be brought to bear on the Russian President Dmitry Medvedev and Prime Minister Putin to ensure that the stay of execution which has been granted until the end of October 2010 becomes a fully fledged commitment to safeguard this vital seed bank forever.

Sign the petition: <http://bit.ly/Pavlovskpetition>

Write a letter to the President and Prime Minister with a copy to the Russian Ambassador in our country :<http://eng.letters.kremlin.ru/>

Tweet President Dmitry Medvedev: <http://bit.ly/Pavlovsk>

## CONCLUSION

In this the UN International Year of Biodiversity the UN should encourage the Iraqi government to rescind Order 81. It was not an agreement between sovereign nations, but a sly manoeuvre by an occupying power while the Iraqis were on their knees. Now every effort must be made to help them take control of their own destiny again. Vigorous assistance must be given to farming organisations to enable them to stay with their own varieties of seed for sowing, growing, reaping and eating. Specifically, the Iraqi seeds which were rescued from the country, which have unique properties of heat and drought resistance, must be protected. They will play a crucial role as we face the need to adapt to increases in temperature and population, to weather fluctuations, less water and increased desertification in the decades ahead.

Genetic engineering is being promoted aggressively in the world by a small group of very powerful corporations, who stand to make vast amounts of money for themselves in the short term. Many policy makers, decision makers and even some NGOs are in danger of believing them, some because of a well meaning intent to feed the poor and to cope with climate change. The Review of scientific literature, including the recent International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), argues differently and most importantly states that: "the most effective strategy to adapt agriculture to climate change is by growing a greater diversity of crops and increasing genetic diversity of the crop varieties we grow". A quiet revolution is happening in gene mapping, according to Professor John Snape, head of the department of crop genetics at John Innes Centre in the UK. This is increasing understanding of crops and could have a far greater impact on agriculture than GM, according to Professor Snape. And leading environmental organisations and scientists seem to agree that gene mapping through Marker Assisted Selection (MAS) is a technique worth rigorously pursuing now. MAS breeding can take advantage of genetic markers but does not result in a transgenic plant.

Maintaining and enhancing agricultural biodiversity is the foundation for all the improvements in productivity, resilience and stability that we seek in order to feed all the world's people into the future. Diverse ecological farming and modern conventional plant-breeding are the best methods to respond to climate change and to ensure food security. Keeping seeds on ice or in gene banks is of little use unless they are being grown out, kept alive, invigorated and adapting in diverse conditions. To this end every effort must be made to ensure that one of the world's most important field seed banks, the Pavlovsk Experimental Station, not be destroyed in St. Petersburg Russia (see panel above).

From the 'cradle of civilisation' (modern day Iraq) and the planet's first farmers comes a salutary warning – that saving simple seeds, with all their history and potential, is a powerful symbol of resistance and hope for the future. There has never been a more appropriate time to unleash what Brazilian educator Paulo Freire called an 'education of hope', as we labour to protect our precious ecosystems – recovering diversity, cooperation and resilience, in the food and in the people. That's a recipe for change, a way out of economic recession – and a solemn deal between the human species and the living earth beneath our feet.

## **Useful Addresses and Resources:**

Seeds / vegetables / herbs / flowers

Irish Seed Savers Association Ltd, Capparoe, Scariff, Co. Clare, Ireland

Email: [info@irishseedsaver.ie](mailto:info@irishseedsaver.ie)

Tel: 061-921866/856

[www.irishseedsavers.ie](http://www.irishseedsavers.ie)

[www.brownenvelopeseeds.com](http://www.brownenvelopeseeds.com)

[www.theorganiccentre.ie](http://www.theorganiccentre.ie)

[www.wildaboutveg.com](http://www.wildaboutveg.com)

[www.lissadellhouse.com](http://www.lissadellhouse.com)

### **Heritage Apple and Fruit Bushes**

[www.irishseedsavers.ie](http://www.irishseedsavers.ie)

### **Rhubarb and other Fruit**

English's Fruit Nursery, Coonogue, Adamstown, Enniscorthy, Co. Wexford

### **Grains and Green Manures:**

Fruit Hill Farm, [www.fruithillfarm.com](http://www.fruithillfarm.com)

Heritage Grain, Michael Miklis, [miggo@iol.ie](mailto:miggo@iol.ie)

or [bdaai@indigo.ie](mailto:bdaai@indigo.ie) 065-7754214

## Other useful websites

[www.gmfreeireland.org](http://www.gmfreeireland.org)

[www.sustainable.ie](http://www.sustainable.ie)

[www.irishorganic.ie](http://www.irishorganic.ie)

[www.iofga.org](http://www.iofga.org)

[www.theorganiccentre.ie](http://www.theorganiccentre.ie)

[www.getgrowing.ie](http://www.getgrowing.ie)

[www.giyireland.ie](http://www.giyireland.ie) A new initiative 'Grow it Yourself' (GIY Ireland) sprouting up everywhere. Just click on the map on their excellent website and find the one nearest to you, and if it's not there yet, start one!

[www.soilassociation.org](http://www.soilassociation.org)

[www.futureforests.net](http://www.futureforests.net)

[www.celtnet.org](http://www.celtnet.org)

[www.afri.ie](http://www.afri.ie)

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## BIOGRAPHIES

**Clare O'Grady Walshe** was born in Enniscorthy County Wexford. She works as a freelance researcher, advisor and educator in the area of environmental justice and human rights. She is a director of the Irish Seed Savers Association and the NGO Children in Crossfire, and has worked with Afri on its cross border, cross community development education programme in secondary schools for over a decade. A graduate of University College Cork, she received a Masters Degree in Sociology, specialising in Cultural Perspectives on Development in the Latin American context. She is a former CEO of Greenpeace and has served on the Irish Aid Advisory Committee and the Heritage Council. More recently she was appointed to the Irish Government High Level Task Force on Green Enterprise and will be a visiting lecturer this year on the New Masters in Development Practise at Trinity College Dublin. She is a mother of two young children and lives in Dublin.

**Denis Halliday**, United Nations Assistant Secretary-General (1994-98). In mid-1994, Secretary-General Boutros-Boutros Ghali appointed Denis Head of Human Resources Management for the global United Nations. In mid-1997, he was appointed by Kofi Annan as Head of the UN Humanitarian/Oil-for-Food Programme in Baghdad when Iraq was subject to sanctions imposed by the Security Council. Since resigning at the end of 1998 in protest at the genocidal nature of these sanctions, he has served as a visiting Professor at Swarthmore College, Pennsylvania, a lecturer at Trinity College Dublin and as an international speaker and activist. In 2003, he received the Gandhi International Peace award in London. In mid-2010, Denis was imprisoned by Israel after Israeli soldiers hijacked the MV Rachel Corrie en route to Gaza with humanitarian supplies.

**Dervla Murphy** was born in 1931 in County Waterford, Ireland. Since 1964 she has been regularly publishing descriptions of her journeys - by bicycle and on foot - in the remoter areas of four continents. Since her first book 'Full Tilt - Ireland to India with a bicycle', she has written over twenty books, including an award winning book about the problems of Northern Ireland, a highly acclaimed autobiography Wheels within Wheels, and more recently The Island that Dared about Cuba to name a few. Dervla has won worldwide praise for her writing and has been described as a 'travel legend' and 'the first lady of Irish cycling'. Now in her late 70s, she continues to travel around the world and remains passionate about politics, conservation and the joy and freedom of cycling.



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