

Sources:

2011 State of the World
(Worldwatch Institute)

“The Secret Life of Stuff”

(Julie Hill)

CIWEM Business News

www.edje.net

Additional Prayers

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Picture on front cover: Canadian Goose checking her eggs at Kew Gardens by Poppy Pickard

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Prayer guide for the care of creation

July 2011

“The earth is the Lord’s and everything in it.” (Psalm 24.1)

“He showed me a little thing, the size of a hazelnut, in the palm of my hand, and it was as round as a ball. I looked at it with my mind’s eye and I thought, ‘What can this be?’ And answer came, ‘It is all that is made.’ I marvelled that it could last, for I thought it might have crumbled to nothing, it was so small. And the answer came into my mind, ‘It lasts and ever shall because God loves it.’ And all things have their being through the love of God.” (Julian of Norwich)

“To clasp the hands in prayer is the beginning of an uprising against the disorder of the world.” (Karl Barth)



Friday 1st July

“After clearing the (Amazon) forests there is a great deal of profit to be made in beef ranching, selling the meat for export. But the soil is poor and after three years ranchers have to move on . . . and clear more forest. The seeds of despair for generations to come are being sown by the hasty stripping of natural resources for short-term gain. At current logging rates, the jungles of South East Asia, which supply over 75% of the world’s tropical hardwood exports, will disappear within 50 years. An irreplaceable resource which took millions of years to evolve . . . gone in a generation.” (Creation Harvest Liturgy Winchester Cathedral 1987)

Has anything changed?

Saturday 2nd July

“The soil in which the world grows its food is disappearing at an alarming rate. Chemical fertilisers have encouraged western farmers to abandon fallow periods and crop rotation; this contributes to soil erosion and decreases the natural organic fertility of the land. Land-hungry farmers in the third world cultivate ever steeper slopes and have abandoned traditional practices in their efforts to produce sufficient food. Almost 1

billion tonnes of soil flows away from Africa and Asia every year. The Yellow and Ganges rivers carry another 3 billion tonnes of soil away from the hills to the sea.” (Winchester Cathedral 1987)

What has changed?

Sunday 3rd July

Father God, you have appointed us guardians of your creation. Guide us in all our work to restore this earth to the state that was handed down to us. Help us to protect your creation from waste and abuse, so that we may enjoy the fruits of the earth with thankful hearts and share them with those in need.

Monday 4th July

The Kalala district of Benin, home to 100,000 people, receives little rainfall from November to April. People are hungry and malnutrition is widespread. The Solar Electric Light Fund (SELF) in 2007 installed three solar-powered drip-irrigation systems in two villages, combining solar pumping technology with drip-irrigation for water and fertiliser. Now the villagers have year-round access to nutritious fruit and vegetables, of which 80% is sold at markets, earning the women \$7.50 a week to pay for school fees, medical

litres of water to produce every kilo of concrete, 20 litres for a kilo of timber, 40 litres for steel and a massive 185 litres for plastics.

While much money is invested in pumping systems and large dams, there is little investment in conserving rainfall and storing it in the soil. Simple changes to soil management – as managed in West Africa and Israel – could make a big difference to the staggering 100 million litres of water per second used in global agriculture. The collapse of past civilisations has often been blamed on a failure to store water against drought conditions and on allowing supplies to become contaminated.

Saturday 30th July

The Somerset Waste partnership has announced that, at four of its eighteen recycling centres, residents will have to pay a fee of £1.20 or £2 when dropping off waste items (£4.30 for tyres). Other authorities are likely to follow as the landfill tax rises to £64 a tonne by 2014 and councils become increasingly cash-strapped. However, Lifetime Recycling Village is to build a renewable energy and recycling plant in the West of Scotland which will separate recyclables and gasify clean biomass into fuel to generate

electricity. Its director, Neil Gallacher, said: “Our proposed development will recycle waste to produce renewable energy and remanufactured products, at the same time as bringing jobs and investment into the local area. Our site would incorporate a civic amenity free to the community. When councils’ finances are stretched to breaking-point, proposals like ours provide a viable option for the growing problem of public waste, at no cost to the public purse. Councils ignore solutions like these at their peril.”

Sunday 31st July

“This planet came with a set of instructions – important rules like ‘Don’t poison the water, soil or air. Don’t let the earth get overcrowded. Don’t touch the thermostat.’ But somehow we seem to have mislaid them.” (Paul Hawken)

Help us, dear Lord, so to deal with the things we possess that they may never possess us. Teach us how to use your gifts of time, talents and technology to your glory and in the service of your Kingdom. Amen.

off as valueless, but still has to be dealt with as waste, while all the effort and environmental damage that went into acquiring it is also written off. We see little of this ourselves because of the long journeys the stuff makes to get to us, the many hands it passes through and the low prices that fail to reflect the high environmental costs of producing it.

Tuesday 26th July

UK household recycling leapt from 7.5% in 1996/7 to nearly 38% in 2008/9, but markets for recovered paper, glass, plastics and metals have been difficult to find, so much of it has been shipped to China, where the appetite for materials has been so great that it has paid them to take our waste materials in the same boats that brought us their finished products. This era may soon end as China produces more of its own materials. We are then faced with hard decisions – which can only become harder unless we cut down drastically on our consumption of materials.

Wednesday 27th July

Glass should, in theory be recyclable for ever, but in practice contaminants such as plastic, corks and metal lids limit the recycling rate to about half the

amount discarded. The government-backed Waste & Resources Action Programme (WRAP) now ensures that wine arrives in 24,000 litre plastic flexi-tanks and is bottled in the UK in lightweight bottles made of recycled green glass. Every 24,000 litre tank saves shipping 32,000 bottles around the world.

Thursday 28th July

Many of the textiles used in clothing can be recycled, but composite fibres such as carbon fibres used for lightweight aircraft, car bodies and super-strong bicycle frames cannot be recycled. The qualities that make the materials mouldable and tough also make them impossible to recycle. Wind turbine blades are an example. By 2040 there could be 380,000 tonnes of worn-out blades to dispose of and no way of reclaiming the materials.

Friday 29th July

While average household water use in the UK is 150 litres per person, our consumption of agricultural global produce means that we soak up 4,645 litres of the world's water every day in the food we eat, the beverages we drink and the clothes we wear. In addition, the building industry uses 2

treatment and economic development. Phase 2 of the scheme will bring "whole-village" electrification to the two villages and there are plans to bring solar irrigation to other villages.

Tuesday 5th July

African farmers often experiment and innovate with their crops, but many agricultural scientists continue to do research on behalf of farmers rather than with them. Technologies developed and disseminated by development agencies are not taken up because they do not meet farmers' needs. The Muyafwa Development Program in Kenya chose ten farmers to conduct trials on a new variety of sweet potato. One of them, Janet Wabwire, said: "We sat down as a group and agreed on production performance, size of tubers, pest attack, storability, ease of cooking and taste. When we have knowledge in experimentation, then nobody can cheat us as before, especially some of the seed companies. If they bring new seed, we can experiment and get our own answers."

Wednesday 6th July

Villagers in Malawi, when asked what was the single biggest problem in finding enough food to feed their

children, said: "Our soil is tired out. It has become so hard that even when it rains the water just runs off."

Interviews in Zambia, South Africa, Kenya, Uganda, Mali and Niger revealed the same problem, leading to precipitous drops in food production in recent years. Why?

- 1) Animal manure used to maintain soil fertility, but population growth has meant that many families have only 2-3 animals, whereas to maintain fertility to feed a family requires at least 15 well-fed animals.
- 2) Fallowing the land used to allow it to become fertile again within 10-15 years. But population growth has reduced fallow periods from 15 years in the 1970s to 5 years in the 1990s. Today most farmers fallow their land for 2 years at most – some not at all.
- 3) At today's prices of oil and oil products such as fertilisers, the majority of African farmers will have to give up using chemical fertilisers, causing a one-time drop in productivity of 30-50%
- 4) Climate change has resulted in unprecedented irregularity in the rains, leaving uncertainty as to whether they will start in May, July or even August. Conventional

agriculture based on chemical fertilisers provides no way of solving these problems.

Thursday 7th July

Cheap fertilisers also act as a disincentive for farmers to look for sustainable solutions. The Consultative Group on International Agricultural Research (CGIAR) proposes “green manure/cover crops” as a sustainable way of replenishing the organic matter lost in farming operations. “Green manuring” was used for centuries before chemical fertilisers took over in the 1950s. Plants such as cowpeas can add up to 60 tones/hectare of organic matter, pumping nutrients to the surface, improving water-holding capacity, fixing nitrogen and improving penetrability plus:

- No transportation costs
- No capital outlay after the purchase of seeds
- Cutting the labour of weeding, normally done by women
- Acting, in some cases, as herbicides or insecticides
- Providing the shade of dispersed trees as a protection against drought
- Sequestering thousands of tons of carbon
- Providing food.

Friday 8th July

Rice paddies in Asia used to support fish which, besides supplying protein, helped to recycle nutrients and control pests. But insecticides toxic to fish were introduced in the 1960s, leading to an increase in the pests and diseases which thrive in monocultures. Then, in China's Jiangsu Province, insecticides were banned and fish re-introduced. Rice/fish systems increased from 5,000 hectares in 1994 to 117,000 in 2001. Rice yields increased by 10-15% and each mu (1/15th of a hectare) produced 50 kg. of fish which, preying on mosquito larvae, reduced the incidence of malaria.

Biodiversity on farms makes for higher yields, reduced weeds and labour requirements and avoidance of erosion.

Saturday 9th July

“Evergreen Agriculture” is a combination of agroforestry, which integrates trees into farming systems, and conservation farming, which embraces zero (or minimum) tillage, cover crops and crop rotation. *Faidherbia albida* is a unique fertiliser tree which sheds its leaves at the beginning of the rainy season, stays bare through the crop growing period

Minister to propose solutions for strengthening food security and enhancing food production and supply. Earlier, she called for an end to food export bans and greater transparency around food stocks to reduce uncertainty and price volatility.

Friday 22nd July

In an effort to halt the decline in our bee populations, the Co-Operative Bank has launched a £750,000 Plan Bee Campaign to set up “Bee Roads” across the country, consisting of corridors of wild flowers which will offer a rich habitat for bees, hoverflies, butterflies and moths to find the nectar and pollen that they need. A £60,000 pilot project will reinstate 5 hectares of lost wildflower meadows in Yorkshire plus two long rows of wildflowers which will cross the county in both directions.

Saturday 23rd July

A coalition named “Fairness on Tap” is calling on the Government to set out a strategy to install water meters in at least 80% of English homes by 2020. Metering should be part of a package which includes advice on reducing waste and making taps, toilets and showers more water-efficient. In combination these can deliver water

savings, lowering bills, reducing greenhouse gas emissions and protecting some of our over-abstracted water catchment areas. Nick Reeves, chair of CIWEM, said: “It is inconceivable that for other goods, such as food and fuel, there would be a ‘consume all you can’ policy, so why is it different for water?”

Sunday 24th July

Lord, teach us to come to our senses, to see the folly of our ways and to come back to obey the natural forces that are so much part of our lives. We have the seasons, the wind, the rain and the sun – all these are beyond our control. We know that you have control over all these, yet we interfere with your world at our peril. Help us to understand, Lord, that you will have the final say, because you are in complete control of the universe.

(Ron Wilson)

Monday 25th July

A 2009 FoE report found that we in industrialised countries each consume 15-35 tonnes of materials a year – an increase of 50% over the last 30 years. Of all the materials and energy flowing into the UK economy less than 2% is retained for more than 6 months. Some of it will be recycled, the rest is written

Community Energy Warwickshire's plans for two 70 kW PV arrays on local hospitals; Lincolnshire Fire & Rescue's plans for a 300-400 panel solar array in a field next to the fire station; Energy4All's project for 70 kW solar arrays on secondary school roofs; OVESCO (a community energy company) plans for a 98 kW PV array on a warehouse roof in Lewes. Its chairman said: "We are not a massive multi-national organisation milking the public purse for profit, but a local voluntary enterprise trying to do our bit for society."

Tuesday 19th July

An "Analysis of UK Wind Generation" prepared by the John Muir Trust finds that wind turbines generated on average 27.1% of their capacity in 2009 and only 21% in 2010. "It is clear from this that wind cannot be relied on to provide any significant level of generation any time in the future." By contrast: "Solar is one of the few renewable technologies that can be deployed on or near buildings and be connected to the local distribution system without any loss in transmission. The announced cut of 72% in support for medium-sized solar developments would effectively end

the development of solar in Britain as a major player in the country's low-carbon generation plans."

Wednesday 20th July

New grid connections are essential to Britain's energy security. Both Ofgem and the National Grid express fears over planning restrictions on the necessary infrastructure. Also, "the proposed undersea cable linking Scotland's and England's power infrastructure could tie up the whole of UK manufacturing capability for two years." The UK needed to sign deals with Sweden and Norway to tap into their hydropower to fill the gaps left by our wind generation and to improve our energy infrastructure.

Thursday 21st July

Food price volatility will be on the agenda of the G20 summit in November. Brazil has 19% of the world's arable land and plays a crucial role in global food security. As the world's largest producer of coffee, oranges, sugar and poultry, and one of the top three producers of cocoa, corn and beef, it is also home to one-third of the world's rainforests and one-fifth of its freshwater. Caroline Spelman, our Environment Secretary, has met with Brazil's Agriculture

and leafs again at the start of the dry season. In Zambia more than 160 farmers cultivate maize among *Faidherbia* trees. The average yield of maize in Zambia is 1.1 tonnes/hectare. Unfertilised maize yields near *Faidherbia* trees averaged 4.1 tonnes/hectare compared with 1.3 tonnes beyond the tree canopy.

Sunday 10th July

God grant us the serenity to accept the things we cannot change, the courage to change the things we can, and the wisdom to know the difference. (Reinhold Niebuhr)

Monday 11th July

The Vatican's Pontifical Academy of Sciences has issued a report on the "serious and potentially irreversible impacts of climate change." The chair of the working group, which included leading glaciologists, climate scientists and hydrologists, said: "I have never participated in any report where God is mentioned. I think the Vatican brings that moral authority." The report adds "Our duty includes the duty to help vulnerable communities adapt to changes that cannot be mitigated," and recommends these measures:

- 1) Reduce CO2 emissions without delay, using all possible means to

meet international targets and ensure the long-term stability of the climate. All nations must focus on a rapid transition to renewable energy and other strategies to reduce CO2 emissions. Nations should also avoid removal of carbon sinks by stopping deforestation, and they need to develop technologies to draw down excess CO2 from the atmosphere.

- 2) Reduce concentrations of air pollutants (dark soot, methane, low-level ozone and hydrofluorocarbons) by 50% during this century while preventing millions of preventable deaths from respiratory disease.
- 3) Prepare to adapt to climate changes, both chronic and abrupt, that society will be unable to mitigate; in particular, to build global capacity to assess the impacts of climate change in mountain systems and related watersheds.

Tuesday 12th July

In rich countries staple crops such as wheat can be harvested with losses as low as 0.07%. But crop storage in poorer countries leads to phenomenal levels of waste where the food is most

needed. Western aid has largely ignored the need for grain stores, drying equipment, fruit crates and refrigeration, with only 5% of agricultural improvement directed at reducing post-harvest losses. As the FAO has noted: "It is distressing to note that so much time is devoted to the culture of the plant, so much money spent on fertilisation and crop protection, only to be wasted about a week after harvest."

Wednesday 13th July

Maize is Zambia's most important staple, providing 68% of people's food calories and 76% of rural incomes. A 2009 study showed that 96% of stored maize contained toxic fumusins resulting from the growth of molds. In several African countries 98% of people have aflatoxin in their blood produced by *Aspergillus* fungi which inhibit growth in children and livestock and can cause cancer. German agencies are now helping farmers to build grain stores from locally-available materials, with consequent reduction or elimination of mold growth.

Thursday 14th July

An estimated 2.6 billion people still lack basic sanitation. In Calcutta, 600

million litres of raw sewage are delivered daily to 300 fish ponds outside the city. These produce 13,000 tons of fish annually for consumption by Calcutta's 12 million inhabitants. The ponds provide an environmentally-sound waste treatment centre, with water hyacinths, algal blooms and fish disposing of the waste, while providing a home for migrating birds as well as food for the city. Elsewhere in India a UNICEF-funded project provided 33 families with latrines near their homes, but the villagers continued to use the fields. A local magistrate commented: "We have to change the thinking of people, so that they are amenable to using toilets."

Friday 15th July

Saudi Arabia is one of several rich countries buying up land in Africa to grow food crops for home consumption. In 2008 the Korean conglomerate Daewoo signed an agreement to take half of Madagascar arable land to grow corn and palm oil for export. The resulting popular protest caused the overthrow of Madagascar's president in a coup which saw Daewoo's investment plans go up in smoke. Japan, a big importer of food, is pushing for an international

code of conduct to govern land investments. The main obstacle in many developing countries is the lack of any formal title to the land. Yet in 1984 Thailand issued 8.5 million titles to 5 million hectares. Now, after 16 years, the land was yielding larger harvests, selling at higher prices and giving its owners greater access to credit.

Saturday 16th July

The universal challenge standing in the way sustainable food security in Africa and parts of Asia is to improve the fertility and productivity of worn-out soils. GM technology and artificial fertilisers focus on limiting pest and disease damage and chemical imbalances, while creating other problems such as resistance to herbicides and damage to other organisms such as bees and fish. A UN IAASTED report written by 400 scientists from 80 countries found that industrial agricultural technologies have increased crop yields at times, but at enormous cost to public health, the environment, social and gender equity and the very foundations of food security. "Communities acting on their own cannot redefine the global structures and market forces that favour short-term financial gain by

powerful interests over the long-term well-being of the vulnerable poor and the ecosystem functions on which life on the planet depends. Thus national and international intervention is necessary."

Sunday 17th July

Lord, we have violated your creation with chemicals that will not die. We have planted pollution like grain and are reaping a harvest of desolation. Redeem us, Lord, from the destruction we have wrought. Turn our hearts back to you and our lives to the earth, that therein we might learn how to be your stewards, so that by living once more as part of your creation, we may be reborn to hope and salvation. (from a Filipino liturgy)

Monday 18th July

Since Feed-In Tariffs (FITs) for electricity generation were introduced in April 2010 there have been 40,000 new green energy projects, 7,000 new jobs have been created and scores of new community energy schemes have sprung up. But from August 1st, most of the benefits from FITs are to be restricted to schemes up to 50 kW. This will make many community projects uneconomic, such as: