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EDITORIAL

The Fifth Ministerial Meeting of the World Trade Organisation (WTO) will take place on 10-14 September 2003 in Cancún (Mexico). The Ministerial Conference is the WTO's highest-level decision-making body, and meets "at least once every two years," as required by the Marrakesh Agreement, the founding charter of the World Trade Organization. Preparations have been underway for at least two years, but, as the EU trade Commissioner Pascal Lamy said recently, the road to Cancun is still "bumpy."

For better or for worse the outcome of this Conference will determine the life of millions of poor people all over the world. From the perspective of the poor, we may distinguish between major and minor issues. Two of the most significant issues to be dealt with at Cancun are: subsidies (among other things) in agriculture; and the freedom of foreign investment anywhere in the world. Less important issues are: the special and differential treatment of developed and developing countries; the introduction of Trade Facilitation (TF), by which is meant measures to reduce trade regulations and procedures; the question of allowing international bidding in all government procurement, and the introduction of a 'Development Box' (DB), which in technical parlance means a list of agreed upon exceptions to the liberalizing disciplines imposed by the WTO. A few clarification regarding the two main issues.

Many developing countries are heavily dependent on agriculture and most have vast rural populations. The tariffs and subsidies provided by developed countries under the guise of utilizing non-trade clauses distort world markets with negative impacts on those in developing countries. The International Institute for Sustainable Development reports that "in 1999, OECD countries spent a record of over US$360 billion to support their agriculture with an estimated cost to developing countries of US$20 billion per year in potential exports."

Since the collapse of the Multilateral Agreement on Investment (MAI) negotiations, brought about mainly by pressure from civil society and most developing countries, the push to make developing countries liberalize investment has been successfully resisted. Times, however, have changed: pressures from rich countries have reached a high pitch, and the unity among developing countries is cracking. It must be repeated that the consequences of an agreement on investment disallowing national interests to control foreign investment in areas like mining, logging, development of real state in sea-shore areas, and in health, will have disastrous consequences for sustainable development. The battles of Johannesburg for a more human and just development will continue at Cancun with fewer chances of turning into even small victories.

We would like to encourage the small Jesuit presence at Cancun, at least the one we are aware of, under the mantle of the International Jesuit Network for Development, (IJND) comprising Fathers Jim Hug (USA), Klaus Väthröder (Venezuela), and Bernard Lestienne (Brazil). Miguel A. Segura P., a lay collaborator (Alboan, Spain) is also part of the group which obtained, with great difficulty, official status to attend the meeting. Our participation needs to emphasize that the broad principles of humane and fair development accepted at Johannesburg cannot be sacrificed at the WTO altar.

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REFLECTION REFLECTION

Communal Riots and Hindu Nationalism in Gujarat and India

Lancy Lobo, S.J.

I Introduction

At the very start of the third millennium, conflicts based on religion and ethnicity have proliferated all over the world. One has only to read various reports such as the Annual Report of the Bureau of Democracy, State Department (USA), and reports from Human Rights Groups, to be convinced that we are entering a new phase. Recent happenings in India, and more especially in the state of Gujarat in western India, have serious implications for us Jesuits. The fear is that Gujarat, widely regarded as a laboratory for a growing variant of fascism, will provide a model for the India of tomorrow. Gujarat remains a puzzle. On the one hand, one sees visible signs of religiosity such as the rise of shrines, religious gatherings, celebrations, fasts, feasts; and on the other, inhumanity and insensitivity to fellow human beings. Is this a curious trajectory of 'development,' the result of the unfolding of capitalism in India? In the West, the growth of capitalism was accompanied by liberalism; but in India capitalism has strengthened an underlying feudalism. This difference explains why a liberal ethos fails to flourish in India, and why our assumptions, institutions and efforts do not succeed in Gujarat, or for that matter, in India.

Hindu nationalism (Hindutva) is a political ideology that uses Hindu symbols and idioms to capture political power, and is to be distinguished from religious Hinduism. Hindutva-isation is a deliberately constructed outlook imposed on people through persuasion and intimidation. It spreads hatred against non-Hindus, particularly Muslims and Christians, and advocates violence against these minorities by exploiting the fear and gullibility of people.

The widespread communal riots between Hindus and Muslims in Gujarat after the gruesome Godhra incident of February 27, 2002 left the international community bewildered and drastically reduced the reputation of India as an aspiring super power. The brutality and the inhumanity, the methodical manner in which the violent mobs went about looting and burning, raping and killing, are too ghastly to recount. More than a thousand people (mostly Muslims) were butchered, burnt to death, or maimed for life. These riots seemed 'spontaneous,' but in reality were well planned and executed by a trained militia with the connivance of the state. No expression of remorse has come from the middle and upper classes, who are supporters of Hindu nationalism in Gujarat, nor from Non-Resident Indian sympathizers in the USA and elsewhere. Their silence is deafening.

II The Turn of Events

The following events, which took place over the last decade in Gujarat, were cumulative in their effect.
i) The chariot rallies[1] in the 1990s of L.K Advani (now Deputy Prime Minister of India) led to the demolition in 1992 of the Babri Masjid, a 16th century mosque in Uttar Pradesh claimed to have been built over an ancient Hindu temple.
ii) The targeting of Christians in Gujarat by the Bharatiya Janata Party (the nationalist Hindu party) from 1997-2000 – attacking churches, disrupting religious meetings, harassing religious personnel, conducting a census of Christians, tearing Bibles, and desecrating cemeteries –were on an unprecedented scale.
iii) The work undertaken by the Rashtriya Swayamsevak Sangh (RSS), Vishwa Hindu Parishad (VHP), Bajrang Dal (BD), Vanvasi Kalyan Parishad (VKP)[2], and the BJP in tribal areas of eastern Gujarat, led to a BJP victory in the1998 state assembly elections, from an area where missionaries have been active, and once the bastion of the Congress party.
iv) The inhuman burning on 27th February '02 in a railway compartment at Godhra of 59 Hindus returning from Ayodhya (where the mosque had earlier been demolished) and the consequent riots all over Gujarat were marked by the state machinery's refusal to stop the carnage, and by the systematic brutality of the killings and elimination of Muslims.
v) The December 2002 Assembly elections in Gujarat helped the BJP to use the still fresh memory of the Godhra episode to mobilize Hindus through *Gaurav yatras* (rallies emphasizing the pride of Gujarat and appealing to Gujarati honour) led by Narendra Modi, current Chief Minister of Gujarat and the man held largely responsible for allowing riots to snowball after the Godhra incident.

All this indicates that the BJP has given a definite shape to a majority community democracy. It has fabricated a scare among the majority community that it is under threat. What the majority decides is good for all. Minorities do not count. Minorities are not patriotic. Their allegiance is to Pakistan or Rome. They need to be put in their place.[3]

III Fascistic Developments

While fascism has many variants (German, Italian, British, South African), some characteristics are shared by all varieties. Fascism is intolerant of pluralism, considers democracy a sin, is against liberal values and the values of the Enlightenment, advocates aggressive nationalism, distorts facts to its own advantage, converts lies into half truths, denigrates women, holds the masses in contempt, demonises a group on the basis of race or

[1] A chariot rally or *rath yatra* is a relatively new form of political propaganda in which a leader makes a journey through different regions on a truck decorated with religious symbols, stops at various places and addresses crowds. The most well-known of these is the *rath yatra* undertaken by L. K. Advani (at present Deputy Prime Minister) from Somnath, a place of pilgrimage in Gujarat, to Ayodhya, the birth place of Lord Rama, worshipped by Hindus.
[2] The RSS is a rightwing cultural organization founded in the early part of the twentieth century to promote Hindu nationalism. The VHP is a virulently rightwing Hindu organisation engaged in arousing Hindu sentiments, the Bajrang Dal being its militant youth wing. The VKP is a Hindu organization that addresses indigenous tribal groups (Adivasis or original dwellers, re-named Vanavasis or forest dwellers).
[3] A poll conducted by the Centre for the Study of Developing Societies indicated that the majority of those polled believed the Mulsim population to be 20 per cent of the total population whereas in fact it is only 10 per cent The CSDS pre-poll survey showed that 44% respondents agreed that "Democracy means the rule of the majority community." Only 23% disagreed with the statement (Yadav and Patel 2002:7).

religion, diverts attention from real issues to fictitious ones, and wants power to be retained in the hands of the elite. In Nazi Germany its malevolent and corrosive construction of the Other as the binary opposite of the Self led to a perception of the Other (in that case the Jews) as socially dead beings and to a policy to ensure their complete and permanent removal from the polity.

Hindu nationalists have begun to treat minorities in India in a similar fashion by

i) a process of victimizing, telling the minorities that they live on the goodwill of the majority;
ii) justifying the victimization through citations of historical wrong-doings, selectively isolating the religious acts from their socio-political contexts;
iii) ensuring that the fascist mentality is imbibed by the victims themselves so as to underscore an impression of their separateness (making Christians/Muslims think in narrow sectarian terms as 'we Christians' or 'us Muslims').

IV Possible Responses

Unfortunately the enlightened among us have failed to present an alterative paradigm of thought to the masses, both Christian and non-Christian. The RSS's declaration that minorities should be aware that they live on the goodwill of the majority must be rejected outright. Muslims and Christians will not live on the benevolence of the RSS. They live under the benevolence of the Constitution of India and that alone.

By labelling the proposed anti-conversion bill the "Freedom of Religion Bill,"[4] the Hindu nationalist government in Gujarat has subtly made us restrict our argument to the religious domain. At best, we are made to engage in pleas that seem to seek concessions from the majority, the Constitution, and the government. We need to point out that this government is converting increasing numbers of people to a state of voicelessness. What about this kind of conversion? The minorities are, in many cases, poor and marginalized by the wider economic forces operating in society at the behest of the ruling classes, the latest incarnation of these forces being globalization. Are we doing our duty as liberated and emancipated conscious citizens of this country by being silent on this other conversion, viz., conversion into voicelessness, the immiseration of marginalized citizens taking place on a daily basis? For the last three months I have toured, widely and intensely, the tribal areas of Gujarat, visiting some forty villages and talking to several hundreds of men and women. Despite official rhetoric to the contrary, their economic deterioration, spurred by relentless ecological degradation, has increased at least five fold in the last five years. Displacement (direct or indirect) through construction of dams and quarries; land alienation; deforestation; and transfer of tribal resources to non-tribal hands, have led to ecological degradation, and alternative forms of livelihood, such as labour in mines. Not only are masses of tribals unable to find sustenance in their degraded habitat, but their labour is exploited by vested interests, as is evident from the waves of seasonal migration.

We have been made through the government's diversionary tactic to engage exclusively in discussion of 'religious' matters, such as conversion, apologies, foreign money, and so on. It is time to respond from different grounds, through launching a counter attack that takes the state government up on its poor record: scams, corruption, dismal levels in education, health,

[4] The anti-conversion bill has since been passed in the State Assembly.

water, roads, development, electricity. A continuous attack based on facts must debunk the false claims and propaganda of the state that misleads the masses, most especially those whose lot is being converted into further misery. It is this conversion that we must battle at the ideological level through research, writing and mobilization.

It is not so much the number of Christians that worries Hindu nationalists; but rather the number *of questioning* Christians, of critical and secular citizens being formed. As such, the missionaries, despite working for centuries, have not made many Christians, and by that standard, have failed; their contribution has been in forming secular citizens. This space is being snatched away by Hindu nationalists. And we missionaries are giving it away without much of a fight.

Secularism does not reject religion in Gandhi's sense, but is opposed to religious dogmatism and obscurantism, and relies instead on reason and scientific knowledge to promote the material and cultural progress of man. It seeks to foster harmony among human groups despite differences of faith by ensuring that these latter do not vitiate life in fields where all have to work and live together. Secularism works for universal human values and social justice, discovering meaning in life through these. Religion and secularism are two aspects of the quest for meaning.

Through their schools and educational institutions, Christian missionaries have been dedicated to producing citizens who are, first and foremost, secular. The emphasis they place on building cognitive skills and questioning attitudes in their students is indeed good. This is perhaps more dangerous than converting a few to Christianity.

Regarding conversions, one must reflect seriously on whether the converts' socio-economic status has changed after conversions. Most often it remains unchanged; such changes as occur are instances of individual, rather than societal mobility. Has religious conversion, be it to Christianity or Hinduism, helped the tribals who are being marginalized by the policies of the state? It is this issue that we missionaries need to fight at both ideological and empirical levels.

Note: I am grateful for the discussions and comments I had from Amit Mitra and J.S. Bandukwala in writing this article.

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DEBATE DEBATE

Genetic modified organisms (GMO): a debate

Sergio Sala, S.J.

In his review of the book "World Food Security: Catholic View of Food Policy in the New Millennium,"[1] which appeared in the last number of *Promotio Iustitiae*, Alex Muyebe SJ lamented the fact that such a good analysis of the world food situation had omitted the one element which would have made it quite complete: Genetically Modified Organisms (GMOs). We respond to that comment with a debate in this issue on this highly topical subject.

Over the last few years science has become increasingly involved in social issues. To take just one example, research on renewable energy sources can help prevent not only the ecological disasters brought on by our indiscriminate use of oil and coal, but also wars and the destruction related to the control of energy sources. But we also know that the use of technical-scientific knowledge is seldom neutral, that it is usually used to dominate, and "to redirect it so that it may be useful to human beings, we need a new wind of the spirit."[2] Science related to certain fields and using highly specific language understood only by the experts is increasingly common now in the mass media. The inability to arrive at a reasonable understanding of the issue is one of the most dangerous forms of poverty because it can easily lead to the manipulation of the poor, and the comment that people have to be informed recurs repeatedly in these articles. These appeals echo that of the Pontifical Academy of Science: "...in the present context of the new commitment of science and technology within society a far more important involvement in education of a broad public is of primary importance...".[3] The debate presented here tries to respond to these two needs: information, and the need to find ways to reduce the knowledge gap. But only by networking with others can this contribution go beyond the small group of readers of *PJ* to a broader public. The readers of *PJ* and other publications that focus on the poor, sustainable development and the struggle for justice have to get used to an increasing number of scientific terms in articles and reviews, and make an effort to understand their meaning. The editorial staff will try to explain terms that are not ordinarily in use.

The contributions that you are about to read are based on the personal experience of Jesuits and collaborators, and reveal the full range of aspects within the debate: agricultural, juridical, commercial, political, environmental, as well as ethical and spiritual. The positions taken vary; they may even oppose one another. This is because they come from places that are very far from each other, have distinct cultural approaches, and differ as to whether GMOs can really help those who hunger.

[1] Martin M. McLaughlin, *Promotio Iustitiae* 78 (2003), p. 28.
[2] John Paul II, Speech to the members of "European Physical Society." 1979.
[3] *Pontificiae Academiae Scientiarum scripta varia 99*: Science and the Future of Mankind, Proceedings, (Vatican City, 2001) p. 513.

Once again the Jesuits show that they have a range of views. This can confuse those who are looking for a clear univocal point of reference in the plethora of statements being made on transgenic foods. But this diversity of views is a sign of freedom of thought and of plurality in a historical moment when the centres of power would like to incorporate and "globalize" everyone within their own understanding of development.

The order in which the articles appear attempts to alternate opinions strongly opposed to GMOs with those that are in favour. Constraints of space have meant that some repetitions have had to be cut; anyone wishing for the full articles may write to us at the address on the cover page. The debate is preceded by a short introduction on some of the bases of Genetic Engineering; finally, by way of conclusion, there is a reflection based on Christian creation spirituality and Ignatian spirituality.

Our thanks go to all those who responded to our invitation to this debate, not only for the quality of the papers they have written, but also for their dedication to research and to their daily work on behalf of the poor. Thanks also to those who, even though they could not send us their contribution either because of work commitments or the short notice given by us, have shown an interest in this initiative and will, we hope, complete the work of disseminating information in the future. We invite all those who are involved in different ways with GMOs to send their reflections to the editorial team of *PJ*.

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From the editorial team[4]

The Scope of the Debate

The worldwide debate about GMOs involves a complex array of issues, especially concerning the genetic modification of organisms that are used for human food, but also about organisms that are modified to produce a variety of industrial or pharmaceutical products. It is important to make our readers aware of these problems: we are therefore publishing a wide range of positions, different points of view on each matter, to encourage a better understanding of the issue. The arguments focus on several questions about GMOs. Will GMOs help solve the world food crisis and eliminate hunger? Are GMOs dangerous for human health? Will the international companies promoting GMOs gain excessive control over agricultural resources and reduce the control held by resource-poor farmers? Will GMOs benefit the poor and their food security or only increase their dependency on the wealthy? What impact will GMOs have on the delicate environmental balance in nature? Are there alternative agricultural technologies (especially organic farming methods)? Do GMO crops increase the yield attained by farmers? Are regulatory processes operational in all countries and are they adequate for the task? Will GMOs contribute to further reduction of biodiversity on earth? These are only some of the questions that arise in this debate.

[4] With the contribution of Fr. R. Lesseps and Fr. S. Ignacimuthu.

Note on Biochemistry and Genetic Engineering (GE)

A **gene** is, simply, a hereditary unit composed of a long molecule called deoxyribonucleic acid (DNA). The genes are arranged in a long string called a chromosome, and in plants and animals (but not in bacteria) these chromosomes contain not only DNA but also protein molecules associated with the DNA. We now know that DNA within an organism is subject to a complex regulatory network involving a variety of factors including other genes in the organism, the position of the gene on the chromosome, the degree of compression of the chromosome, and other molecules including proteins and ribonucleic acid (RNA). Which genes are expressed in an organism and when and where in the organism they are expressed depends on this complex set of controls. Furthermore, in most cases the impact of the genes on an organism is affected by interaction of the whole organism with its environment.

Biotechnology refers to "any technological application that uses biological systems, living organisms, or derivations thereof, to make or modify products or processes for specific use." Biotechnology covers a range of different technologies such as gene manipulation, gene transfer, DNA typing and the cloning of plants and animals. In 1953 James Watson and Francis Crick discovered the structure of DNA, the molecule that carries genetic information. In 1961 the first biopesticide was developed. In the 1970s and 1980s, the technology to insert pieces of DNA from one organism into the DNA of another organism (even between distant and dissimilar species) was developed and termed **genetic engineering** (GE).

Genetically modified organisms (GMOs) are organisms whose genetic material has been changed by GE. An example of a GMO is a maize plant carrying a gene from bacteria that enables the maize plant to produce a chemical that kills certain pests.

Opportunities and risks of genetically modified organisms

Ignacio Núñez de Castro, S.J.

Some years ago the term *biotechnology* was coined to refer to the use of live organisms to obtain goods and services. Ever since they formed their earliest rural settlements, human beings have used live organisms for fermentation to produce food such as wine, bread, yogurt, and cheese. Even though we may be tempted at first to say that these were "natural processes," the distinction between what is natural and what is artificial is a very fine one, given the fact that the intertwining of natural and artificial constitutes the essence of what is human. Biotechnology implies a new stage: the production of genetically modified organisms through the techniques of recombinant DNA.[5]

[5] Recombinant DNA refers to DNA that has been altered by joining genetic material from two different sources (Ed).

The application of biotechnology to agriculture constitutes what is called the "third green revolution."[6] Yet, the debate surrounding it is largely justified because this new agriculture is not without risks. These may be broadly summarised:

> i) possible direct harm to human beings, such as allergies to new proteins, or the transfer of antibiotic-resistant genes to the micro-organisms of the intestinal flora, and consequently to other invading pathogenic micro-organisms;
> ii) possible harm to ecosystems due to random transformation of the genomes[7] of other species and also to alterations in the bio-diversity.

Along with the risks, we have to evaluate in addition the benefits of the use of genetically modified organisms in agriculture, such as: high-yield crops, better quality vegetable protein, delayed ripening of fruits, as well as the development of new varieties of plants resistant to attacks by insects, dryness, cold, herbicides, pesticides, and salinity.

Given this context in which doubts and uncertainties at times outstrip our certainties, we can, after a detailed study of the opportunities and risks of the use of genetically modified organisms, arrive at some conclusions.[8]

> 1) The debate on genetically modified organisms urgently calls for unbiased, public information on both the real risks and certifiable facts regarding the use of these organisms; at the same time, the public also needs information on the advantages and possible disadvantages of biotechnology in general, and of biotechnology applied to agriculture in particular, taking into account the fact that it is never possible to reach a zero risk level.
>
> 2) There is need for better and more detailed studies on personal toxicity, on the harm caused to ecosystems, risks of cross pollination, and other similar issues, so that decisions may rest on the basis of facts. Given that, at this point, the unknowns are many, no organism should be used on a commercial scale without previous in-depth studies.
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> 3) It is important that bio-ethics be studied at secondary school and University levels, preferably jointly with bio-technology. A sound education in bio-ethics would help avoid the false social alarms often raised in this area. Such alarm arises because information in the mass media is biased, coloured by ideological prejudices, or lacks a rigorous scientific basis.

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[6] In the articles of the debate the reader will find the expression "Green revolution" preceded by an ordinal number: first, second, third. There is no univocal definition and clear separation between one "Green Revolution" and the next. Actually only the first is universally recognized as such. Generally speaking, the first Green Revolution, which occurred between the 1940s and the 1980s, helped double food production by creating high-yield varieties of wheat, corn and rice. A second Green Revolution in the '70s and '80s included trade liberalization, and added new varieties which increased rice yields by 50 percent in 10 years. The third Green Revolution, currently introducing innovative approaches and utilization of biotechnology, and based on transfer of genetic material to crops, is supposed to raise the productivity of other important food crops such as sorghum, millet, and cassava (Ed).

[7] The genome of an organism is its set of chromosomes, containing all of its genes and associated DNA (Ed.)

[8] Ignacio Núñez de Castro, "Aspectos éticos del uso de plantas transgénicas" en *Introducción a la Biotecnología Vegetal. Métodos y Aplicaciones*, ['Ethical Aspects in the Use of Transgenic Plants' in *Introduction to the Biotechnology of Vegetals. Methodos and Applications*] Eds. J. L. Caballero, V. Valpuesta, J. Muñoz Blanco, (Publicaciones de la Obra Social y Cultural, Cajasur, Cordoba, 2001), pp. 355-372.

4) We have started, wrongly perhaps, with a highly reductionist biological concept: one gene-one enzyme. In other words, the function of a gene determines the synthesis of a specific protein and nothing else. Neither the pleiotropic[9] effect nor the epigenesis[10] have been taken into account. On this point the unknown is much greater than our few certainties. We clearly do not know all the effects that may result from the introduction of a foreign gene into a specific genome.

5) Perhaps things have moved too quickly. We grant that the technological imperative must not take precedence over the ethical imperative; much less should the economic imperative take precedence; yet economic factors seem to be given priority in the application of biotechnology to agriculture.

6) Global regulations developed and agreed upon by international organisations (UN, UNESCO, Council of Europe) should serve as a framework for local legislation in each country so as to avoid conflict if very different laws (permissive in some countries and strict in others) are applied. The problem of biotechnology is a problem of solidarity between people and future generations. We are faced with the need to safeguard third generation human rights;[11] the holders of these rights are all human beings united in solidarity, in other words the present and future human community of today and tomorrow. Therefore, following the old adage: *"quod omnes tangit ab omnibus aprobetur"* (that which affects everyone should be approved by everyone), it is the duty of the international community to devise a legal framework to which national legislation must conform. It is then up to each country to manage within this legal framework the benefits arising from the use of biotechnology, minimising the risks in each case, and taking into account justice and the common good.

7) Such an internationally approved legal framework would give ethical norms grounded in three sources: international treaties, the respective national legislation, and, above all, the ethical conscience of the researchers. The harmonization of these three sources must determine the path and rules of behaviour for the scientific community.

8) All consumers have the inalienable right to be informed, in a clear and precise way, of the composition of food items, whether any component has been obtained through biotechnological techniques, and the method and the origin of the genes that have been introduced. The possible allergies they may cause, even though these may be minimal, should also be indicated.

9) It would not be right to close ourselves to the great possibilities that biotechnology currently offers us to improve the quality of life and alleviate the hunger of so many human beings. Yet I would like to remember here the prophetic words of Pierre Teilhard de Chardin in 1948, words that both announced and

[9] Pleiotropic effect: each gene seems to control many characteristics of the organism, and it probably co-ordinates its activity in relation to the activity of other genes (Ed).

[10] Epigenesis: establishing a basis for a level of organisational control on the activity of all those genes required for the development of a complex organism (Ed).

[11] By 'third generation rights' is meant developmental and environmental rights, whereas the phrase 'first generation rights' stands for civil and political rights, and 'second generation rights' for economic, social and cultural rights.

condemned the future which is the present we are now living out: "In this rush to progress," he said, "aren't we recklessly burning our reserves? … Let's be careful, we still have feet of clay."

10) Finally, the following values to be upheld in the new agriculture:
- Obtain enough food to alleviate the lot of the 800 million human beings who still go hungry.
- Work towards producing food of high quality.
- Improve the systems of distribution and storage
- Reach a more ecologically sound and less contaminating world production
- Always maintain bio-diversity
- Protect the environment and rural human communities
- Develop a system of social security for all rural workers equivalent to that of industrial workers and with the same rights.

My personal position is one of openness to the new possibilities offered by biotechnology, but moderated by a reflection arising from the ethical conscience of the researcher. We need to weigh the possible real risks without being alarmist, but also accept the immense benefits that biotechnology promises to give. Ethical reflection should always be a reflection on nuances that help to discern the common good at a particular moment of history. From this reflection would arise the positive norms that constitute Law.

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Genetically Modified Organisms: Beyond Popular Wisdom

Thibaud d'Oultremont, S.J.

Genetically modified (GM) plants compared to spraying techniques

Compared with insecticide-based approaches, the GMO technique can be seen to have positive aspects. As insect populations have varying and necessary functions within the ecosystem and as GM plants can target *specific* insects, GM plants can minimize disturbances in the ecosystem. Depending on the genes inserted in the plant, the environment will be more or less disturbed. Used with caution, GM plants can theoretically be less damaging to the environment and our health than spraying techniques. Though it may not always be the case and the generalization perhaps too simplistic, one can say generally that the more specific a gene is to an insect population, the less harmful it will be to the environment. The kind of insects targeted is of utmost importance for the health of the ecosystem. For example, if a major predator is targeted and not one of its prey, that particular prey population will not be reduced but will rise drastically, potentially causing great harm to crops. Care must be taken to keep a reasonable balance among predator-prey populations in the fields. Field experiments

suggest that GMOs manage pest populations quite well with far less disruption than spraying and would seem to be more sustainable, at least in the short run.

Beyond the comparison

In their short-term policies, industries tend to pyramid genes that produce toxins[12] against which insects will surely build up resistance. The situation could become uncontrollable. Imagine what it would be like if the human population were to take a large range of antibiotics all the time: bacteria would soon build up resistance against these antibiotics, the antibiotics would cease to be effective, and people would die of formerly innocuous diseases. Insects may be compared to bacteria, and plants to a human population. In other words, industries wishing to reassure people who buy their products tend to "overmedicate" the plants. This is not a sustainable way of proceeding. This is a short-term, money-driven, policy. It is more than likely that there are other such little known technologies that serve a company's economic agenda, and definitely not the small-scale poor farmers.

As more and more technologies are incorporated into GMO varieties by fewer companies, there is a growing loss of genetic diversity in the fields. Companies control the GMO technologies and use these technologies only on specific varieties. Because of their high degree of genetic uniformity, GMOs have a narrower base of resistance to insect pests and diseases than the more diverse traditional varieties. There appears to be little economic incentive to maintain wide genetic diversity.

There is evidence that the first Green Revolution style of farming is not ecologically sustainable. In the Philippines, in India and Nepal, for example, rice yields have been falling gradually since the 1980s because of long-term soil degradation. By increasing plant yields, some scientists believe that biotechnology creates an unsustainable burden of production on the soil structure.

The impact of GMOs on the food chain: an example

The insertion of the gene of the bacterium *Bacillus thuringiensis* (Bt)[13] in plants is one of the most important technological improvements in the area of insect management. Genes from Bt for the production of the insecticidal inactivated toxin (protoxin) are inserted in the genome of crops to control pests. *Bt* in plants is inactivated. When the insect larvae feed on the plant, the protoxin is activated in the insects' guts. Predators feeding on intoxicated larvae ingest the toxin (exotoxin). The effects are generally not lethal, but they reduce the predators' fecundity and vital rates. Metabolism slows down to varying degrees, depending on the insect. As a consequence, not only is the targeted insect population affected, but also their predators. The food chain is thus disturbed in one way or another. For example, when predators feed on maize pollen containing toxins and on prey feeding on maize leaves, the predator population could be drastically reduced or its metabolism slowed down. As a result, the prey population feeding on maize could rise drastically, and the crop could then be seriously damaged.

[12] Toxins: molecules that have certain characteristic toxic effects. We distinguish between endotoxins, released from lysed bacteria; exotoxins, released in the biology environment by specific bacteria; protoxin, inactivated form. In general exotoxins are more dangerous than endotoxins (Ed).

[13] Bt is a biological agent rather than a synthetic chemical. Bt is a spore-forming bacterium that produces crystals of protein called delta-endotoxin. These crystals are poisonous to certain insects (Ed).

Biosafety

Biosafety is probably the most controversial of the issues surrounding biotechnology. Standards exist for risk assessment. Two are explained below:

1. Substantial equivalents: Biotechnology products should be as safe as products produced by alternative means (eg. conventional foods and farming practices). This is how the US Department of Agriculture has viewed currently registered GMOs. This principle operates by considering the types and levels of risk associated with biotechnology in the light of risks from alternative technologies, and then holding biotechnology products to the same relative risk standard.

2. Precautionary Principle[14]**:** The interpretation of this approach is the source of much controversy. Often it calls for conclusive proof of safety before allowing new technologies to be adopted. The precautionary principle holds biotechnology to a standard different from that applied to similar technologies, which do not have to prove safety in this way. As preventive, however, the precautionary principle is sufficiently robust even though it can conflict with the principle of substantial equivalents. The *raison d'être* for this principle is the political will to solve the problem of genetic pollution and other environmental issues.

Cost and impact of regulation

Regulations can be so costly that only big companies can afford to comply with them. The result is that seeds will be owned by large private companies and not, generally speaking, by Third World countries. In addition, small-scale farmers are dependent on expensive purchased inputs that increase indebtedness. This process of regulation contributes to an overall situation in which the basic nutritional needs of a large part of the human population on this planet may not be met.

Intellectual property rights

Plant Variety Protection (PVP) allows plant breeders to protect plant varieties for twenty years. Patents give the inventor the legal right to create a limited monopoly for this period of time, allowing the private sector to own the seeds of these plants. Again, only big companies can afford these patents. Consequently, the Third World does not own the seeds that they can claim. A major question that should be raised is whether nature can in fact be owned, and if so, by whom. All this is complicated by gene pollution that may transfer genes to farmers' fields. Because the farmers' seeds now carry proprietary genetic material of a firm like Monsanto, the farmers are prohibited from replanting them. The prospect of a tighter and more monopolistic control of nature increases year by year.

[14] When an activity constitutes a possible threat to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not scientifically fully established. In this context the proponent of the activity, rather than the public, should bear the burden of proof (Ed).

The price of dependency

GMOs in the hands of big companies are used for profit, not for promoting well being, or meeting the basic needs of poor people who are misled and even cheated in this for-profit process. For example, even when the big companies disclose the genetic content, the farmers are generally not educated enough to know, for instance, if the seeds they have purchased are possibly harmful, or whether they will perform as advertised.

A greater dependency on imported inputs occurs. For example, new seeds from Monsanto and AgrEvo are genetically engineered to work only with certain herbicides, and a farmer has to purchase the whole package. Poor farmers generally try the product because of the possible yield that can be expected, and run rapidly into debt because of herbicides and other fertilizers required to implement the technology.

GMOs warfare

It is possible to use GMO techniques for warfare – bioengineering pathogens to be used against humans or to destroy enemy food systems. Who knows where these warfare technologies can lead us?

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Food Security – GMO or Organic crops?

Paul Desmarais, S.J.

My contribution to the GMO debate is based on 32 years of farmer training in Zambia with small-scale farmers.

I arrived in Zambia in 1971 armed with a degree in agriculture and plenty of farm experience, having grown up on a cash crop farm in Southwestern Ontario, Canada. I had no doubt as to what was required to grow food and increase farmers' incomes – remove all trees in the fields, mechanise with tractors and ploughs, use more fertilizers and pesticides, remove hedge rows, promote hybrid maize and monocrop. This farming system had worked in North America and we were producing a surplus of farm produce and the farmers were relatively well off. In fact the Zambian government was promoting the system through literature, training and its agricultural extension officers. Other NGOs involved in agricultural promotion were all doing the same. I pursued this approach for 15 years. At the beginning of every rainy season farmers would ask for credit to buy fertilizer. We would send the tractor out to the villages to do the ploughing on time (early planted maize has the highest yield). At

field day demonstrations[15] we would show that hybrid maize with fertilizer out-yields open pollinated maize planted without fertilizer. Why couldn't farmers adopt this new technology? It was so obvious to someone trained in science that this was the way to produce sufficient food. With higher production one thought one would also increase income. Finally in the mid 1980s it started to dawn on me that we were not getting anywhere. It was not only in Zambia where we were working, but across the African continent, Asia, South America and yes, even North America that the same problems were seen. Cracks were developing in this farming system. In Ontario farmers were working full-time in salaried jobs despite work on their farms which did not yield them enough. They would have to do their farm work at night upon returning from their city employment and on the weekends. Farmers are simply not making sufficient profit from farming to stay in the business of farming; many farmers are losing their farms; they are told they are not competitive. In fact these farmers are in many instances the early adopters of the new technologies being promoted.

So where are we? There is surplus food produced in the world, yet many people are hungry and farmers are not receiving a just return on their labour and investment. We are in a situation where food is being commodified. Food is being processed and packaged and sold as a commodity. Food is no longer seen as a right for every individual.

The industrialized type of agriculture promoted for the past half century has farmers on a treadmill. Farmers obtain large loans to purchase expensive inputs for their farms in order to harvest high yields – in order to pay back the loans. If the harvest fails they cannot repay their loans and are in danger of losing their farms. Even a good harvest does not rule out the need of yet another large loan the next planting season to buy all those expensive inputs again. It is the same story year after year – indebtedness to banks.

I must admit that when I started looking into organic agriculture in the mid 1980s I was very sceptical. I thought organic agriculture was for a fringe group in society. As we have grown in knowledge of organic agriculture at Kasisi Agricultural Training Centre I can say without any doubt that it is the only way we will ever grow sufficient food to feed the world, and especially the poor. The farmers who grew organically during the poor Zambian rainy season of 2001/2002 had a surplus of food, while those that followed the principles of the Green Revolution failed to produce sufficient food to feed their households. The Green Revolution has increased production in parts of the world but at the expense of the poor and the environment. The Green Revolution is not socially just nor environmentally friendly. The GMO revolution is more of the same way of thinking. In theory it has the potential to increase production, but in practice GM crops have not yet significantly increased production. In fact GM soyabeans have actually decreased yields. GMO proponents state that GM crops will grow in drought conditions, in soils with low nutrient levels or saline problems, and so forth, but this has not yet materialized. GMO farming is definitely not socially just as the patents are held by Transnational Corporations (TNCs) and their bottom line is profits for their shareholders.

What are the implications of GM crops for small-scale farmers, especially organic farmers?
There are ethical questions to be considered in this GMO debate. *Food is about life*. Agriculture is not simply a matter of business, of commerce, and of profit-making. To deal in a complete fashion with the controversial issue of the introduction of GM crops into Zambia, we must therefore raise some serious ethical considerations:

[15] Field days are reserved for practical teaching in the field.

i. GM crops will lead to greater food insecurity. Genetically modified crops are patented by their owners under the provisions of the "Intellectual Property Rights" legislation. Farmers will have to buy GM seed every year and it will be an offence to replant your own GM seed; the farmer who does so may be prosecuted. But farmers have traditionally kept and traded their seed with neighbours for replanting for centuries. Why should Zambian farmers now lose this fundamental right as a consequence of the actions of profit-seeking companies? In Zambia, as in many parts of the world including North America, farmers do keep some of their seed for replanting, but not enough. Small-scale farmers do not have the financial resources to buy inputs every year. In fact, many people who lost their seed at the beginning of the poor rains in 2002 did not have the resources to buy more seed for a second planting. Is it correct for one person or one company to claim ownership of and patent a living organism? Until recently living organisms were never patented. Living organisms were in the public domain, with the benefits for everyone and not only for those with the resources to capture exclusive patents. This, of course, has a direct ethical bearing upon the development of poor people and poor countries like Zambia.

ii. GM crops will wipe out organic farming. As soon as a GM crop is released, it will contaminate, through cross-pollination, other non-GM plants with the modified genetic material and prevent the organic farmer from marketing her or his produce as organic. But there is a fundamental moral responsibility that one's actions should not harm one's neighbour. For example, maize landraces[16] in Mexico, the origin of new maize genetic material, is now contaminated by GM maize. Once released, a GM crop can never be recalled. In Canada organic canola growers have lost their markets because their crops are contaminated by GMOs. Those organic farmers cannot sell their canola as organic canola. It is irresponsible to contaminate species of crops with GM material. By what right is such damage done to a large number of Zambians? Should such contamination be allowed, given its impact on future sustainable agriculture in Zambia?

iii. The food system is being controlled more and more by a few TNCs based in the rich countries of the North. These TNCs own the seed and the pesticides, and in some cases even the grain elevators.[17] For Zambia, a fundamental set of ethical issues arises when we ask: Who benefits from this global food system? Who suffers? Most of the GM crops are modified for herbicide tolerance or insect resistance. Naturally the TNCs will sell the GM seed at a higher price, plus charge a royalty fee and then sell their brand of herbicide to match their seed.

iv. GM crops will favour an industrialized agriculture. An industrialized agriculture will favour large farms and mechanization at the expense of smaller family farms. This will further increase unemployment in Zambia and deepen the serious problem of widespread poverty. The ethical question that arises in fostering industrialized agriculture over small family farms is this: does Zambia want to increase unemployment among its population?

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[16] A landrace is a cultivated plant population which is genetically diverse and genetically flexible. In the past century breeding has often been for pure lines, which means there is less genetic diversity. However, most subsistence crops in the non-industrial world are still landraces.

[17] Grain, especially in North America, is sold by farmers to a grain elevator, a term with a historical basis. The grain is elevated and fed by force of gravity to a storage silo or loaded on a train, boat or lorry.

These and other ethical considerations must enter into the discussion of GMOs if we are to build a future that is respectful of human rights, community development, poverty eradication and protection of the environment. Government officials, political leaders, civil society, church leaders, private sector business people and ordinary citizens must be vigilant in putting these points rooted in ethics at the top of any agenda relating to GM crops.

Our concern here is clear: far from addressing the underlying structural causes of hunger, genetically modified crops will actually exacerbate these causes. Ensuring food security in Zambia requires an approach to agriculture that is, in almost every respect, the *reverse* of that being promoted by genetic engineering companies and their allies in this country.

The way forward is thus marked by the need to wait for more clarity concerning potential risks to, and long-term impacts on, human health, the environment and the agricultural infrastructure. There is an African Model Legislation developed by the Organization of African Unity (OAU) that could be very helpful for a country to follow as it writes its Biosafety Policy. The African Model protects the rights of local communities, farmers and breeders, and provides for regulation of access to biological resources.

So how do we get off this treadmill of industrialized agriculture? The only option I see is organic agriculture. GMOs are incompatible with organic agriculture. Organic farmers can grow their crops with minimum outside interventions, they don't require the huge bank loans that conventional farmers do, they don't require pesticides, and they are in general much more independent of TNCs. Organic agriculture is a system that is socially just, economically viable and environmentally friendly; it will feed the world, sustain the environment and help the poor.

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A contribution to the debate "Is genetically modified food a poison"

Leo D'Souza, S.J.

I am writing this response as a Jesuit plant breeder and a Jesuit Biotechnologist. Plant breeding is in principle modifying the existing genome of plants using various techniques. Genes have been modified by nature, plant breeders and, in recent years, by transgenic technology.

Genetic modification in nature

In nature genetic modification occurs due to abnormal crosses i.e. crosses between plants belonging to different species or even genera, which normally do not mate with one another. Hard wheat and bread wheat are the result of introduction of genes of a wild grass, *Aegilops*, into primitive wheat. Modern maize is the product of a cross between primitive maize with *Tripsacum* a wild grass. Both wheat and maize are therefore essentially genetically modified organisms.

Genetic modification in nature has also occurred as a result of various stresses such as temperature, chemicals and radiations. This is responsible for the vast divergent genetic pool that is presently available in nature.

Genetic modification by classical plant breeders

Classical plant breeders have used the same techniques to create new plants or to transfer a desired gene from a wild relative to a cultivated plant. *Triticale* and *Secalotricum* are crosses between wheat and rye and have been accepted and cultivated in spite of being genetically modified organisms. Genes for disease resistance, for dwarf or tall varieties, have been inserted into cultivated plants. We would not have many of our present cultivars without modifications being introduced into their genetic make up. The dwarf varieties of rice and wheat that ushered in the Green Revolution were the result of mixing and modifying the genomes of a wide variety of these plants. The process of identifying and selecting the plants with the desired character however is very laborious and time-consuming. As in nature, plant breeders have created a wider gene pool by inducing mutations using chemicals and radiation.

Genetic modification using molecular techniques

Molecular biologists have helped to refine the techniques used by classical plant breeders. It is no longer necessary to mate two individuals and to limit the mating to plants, which are able to cross with one another. Specific genes can be identified, isolated and multiplied by molecular methods and can be transferred to another organism with the aid of tissue culture techniques. The problem however is to identify and select plants which have the new gene. For this, the desired gene is tagged on to a marker gene which can be easily, that is, visually or chemically detected. The first marker gene which biotechnologists hit upon was a gene inducing herbicide resistance. Plants, which are putatively transformed, were grown in a medium containing the herbicide. Only such plants which had the Herbicide Resistance Gene (HRG), and with it the desired gene, survived. This technique unfortunately has some drawbacks. It is possible that the plants tagged with the HRG will eventually dominate, resulting in a herbicide resistant race. A discovery that genes can be transferred laterally and can be absorbed by organisms from the soil or water adds to the fear that these genes may be transferred to other cultivars. However, scientists are aware of the problem and are now using alternate marker genes like the green fluorescent protein gene. Techniques have also been developed to withdraw the marker gene once its function is over.

Another fear is that genes, which are introduced from other organisms, could induce allergies in persons who use these as food. The basis of this fear is a gene from a Brazilian nut, which

enhances protein production but causes allergy in some persons. People who were allergic to the nut fell sick when they ate products from plants transformed with this gene. That is why it is necessary to have a warning label while marketing food containing foreign genes. This certainly does not mean that all people who eat food with this gene will be sick.

A similar fear is that if a gene produces a substance that is toxic to pests, as in the case of the Bt gene from Bacterium *thuringensis*, this substance could also be a poison for people who eat the product of the plants modified with that gene. This fear is the reason why many people reject genetically modified maize which has the Bt gene. The residues of this bacterial spray cannot be fully eliminated and so there is a chance it might get into the food chain. But no one has yet protested against its use as a spray on cultivated plants. In recent years the Bt gene has been spliced and built into various plants. Insect larvae of some genera die when they feed on these plants. The gene is however highly specific in its action and requires for its expression a high pH environment[18] which is not available in humans. Studies made so far do not indicate that there is any toxic effect on human beings when they eat food with a Bt gene, whether sprayed on the plants or built into them.

Our Experience and Experiments

In India the only crop allowed to be cultivated is the Bt cotton. Our visits to the farmers and interaction with them show that these farmers are happy with the Bt cotton as it reduces the costs of spraying the crop against the bollworm. Many farmers in their eagerness to grow Bt cotton have bought spurious seeds from fake seed companies and the poor cotton crop of this season has been used as a cudgel with which Bt opponents can browbeat the Bt proponents. However the Bt gene is only an insecticide and, like all other insecticides, is not directly responsible for the quality or yield factors of any crop. The overall poor cotton crop is a result of the prolonged drought and, to some extent, the use of spurious seeds. Compared to genuine Bt cotton, plants without the Bt gene or from spurious seeds have shown a much lower yield due to drought and insect attacks

In our Laboratory we are working on the transformation of three species of plants. Cashew is a commercially useful plant fetching much-needed foreign exchange for the country. Besides, it provides work for a large number of rural women. The cashew trees grown at present are low yielding, the yield is further reduced due to pests, and the raw nuts produced are not enough to meet the market demand and to provide regular work for women. We have established a protocol for large-scale multiplication of elite, high- yielding cashew trees using tissue culture techniques. We are now trying to introduce an insect resistance gene into the cashew plant, for we find that at present the plantations need to be frequently sprayed with heavy doses of insecticides. Spraying brings down the insect attack to some extent but constitutes a health hazard to people in villages around the plantations. Cases of malformation of neonates, deformities and various diseases in grown ups have been reported. An insect resistance gene built into the plant will not only control insect attacks more efficiently but will also help to avoid risks to the health of the people.

Chilli, *Capsicum annuum*, a condiment used by the people of this region, is attacked by pests that bring the yield down considerably. Heavy doses of pesticides are needed to prevent losses. Some pesticide residues remain on the pods even after they have been washed and

[18] pH measures the acidic/alkaline state of aqueous solutions, of soil and other substances (Ed).

enter the food chain of humans. We are currently engaged in experiments to transform the Chilli plants by introducing pesticide resistance genes that will prevent loss of the crop as well as contamination of human food through pesticide residues.

Ragi, *Eleusine coracana*, a coarse grain, cultivated and eaten by the very poor people of the state of Karnataka, is attacked by several insects that destroy the crop, causing great losses to the poor farmers. We are studying the possibility of inserting an insect resistance gene into Ragi to control losses arising from insect attack.

My team members and I are convinced that our work is economically and environmentally useful. It will not only help prevent crop losses due to insect attacks, but will also minimize the use of pesticides, promoting thereby a safer environment.

Conclusion

Introduction of genetically modified food has raised a number of fears, some genuine and some irrational. Human fears, whether genuine or irrational, have to be attended to. New pharmaceutical products are tested for their efficacy as well as their side effects before being marketed. Any new variety of plants is tested for its qualities before being released. So too, genetically modified plants, before they are approved for cultivation, need to be tested for their quality, and particularly to ascertain whether they are in any way toxic to humans. Proper precautions and controls have to be exercised before they are marketed. It is certainly self-defeating if we wholly ban all genetically modified organisms on account of certain problems and fears.

The author did his doctoral studies in plant breeding at the Max-Planck Institute for Plant Breeding in Cologne, Germany. He is currently doing tissue culture and molecular studies of some important crops of India. The paper has been written in consultation with his team, Dr Smitha Hegde, Dr A C Augustine, M Anuradha and Sashikiran Nivas.

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The Geopolitics of GMOs

Peter Henriot, S.J.

If one were to look for an example of the impact of *globalisation* on a poor Third World country, a very good example could be found in the disputes and pressures centering on Zambia and its recent refusal to accept the introduction of genetically modified crops. What might have been simply a scientific dispute about the environmental and health implications of receiving GM maize from the United States became an intense case of international intrigue and back-room diplomacy of surprising proportions.

Introduction of GMOs

In mid-2002, it became evident that Zambia, and several other southern African countries, would be experiencing serious food shortages because of crop failures caused by drought. In response to an appeal for assistance from President Mwanawasa, the government of the United States of America offered to *loan* US$ 50 million to Zambia to purchase maize to be used as relief assistance. Since the maize would be coming from the United States, it would be genetically modified maize.

Since up until that time, Zambia had not officially introduced any GM crops, a serious question arose about the advisability of accepting this offer from the United States.[19] In early August, the President called an emergency meeting to publicly debate the issue, inviting the testimony of government scientists, university researchers, representatives of the World Food Programme and other donors, civil society groups, farm organisations and traditional rulers. Key members of Parliament and political leaders attended the session.

Amidst a spectrum of views heard during this meeting, the majority view supported the invoking of the internationally recognised "precautionary principle" to preclude admission of the GMO food until all questions about environmental and health safety were adequately addressed. To get answers to some of these questions, a team of Zambian scientists subsequently went on a US sponsored tour to the United States and several other countries. They returned home with a scientific report urging the President to maintain the ban against GMOs. This was done, and the ban remains in effect till today.

Reaction of the USA

In order to meet the food shortage crisis, the Zambian government appealed for wider support to receive non-GMO assistance. President Mwanawasa argued that it would be better for some Zambians to starve than for many to be poisoned. The reaction of the USA was swift and severe: sharp criticism of the Zambian government's position, ridicule of the arguments and its supporters, political pressures and threats of retaliation.

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[19] The United States is the world's largest producer of biotechnology crops: more than 88 million acres were planted in 2001, accounting for 68% of total 2001 global acreage planted in biotechnology crops. Argentina ranks as the second largest producer (22%) followed by Canada (6%) and China (3%). See James Stamps, 'Trade in Biotechnology Food Products', *International Economic Review*, November/December 2002, p.5 (Ed).

Mr. Tony Hall, US Ambassador to the Food and Agricultural Organisation (FAO) in Rome even went so far as to call for the trial by the International Court of all government leaders who refused GMO assistance – on grounds of genocide for starving their people. (An ironic call, indeed, by a government that does not recognise the International Court!)

What seems clear is that the action by Zambia has touched a very raw nerve: the contentious relationship between the USA and the European Union over import of genetically modified crops. The EU currently restricts market access unless all such products are clearly labelled – something the USA strongly objects to. Since the USA sends GM crops to other African countries, it perceives the Zambian rejection as a precedent that could have negative ripple effects. In the geo-politics of globalisation of trade, this is indeed dangerous.

Jesuits under fire

That the reaction of the USA was more than simply *humanitarian* concern about hungry people can be seen in the attack mounted by the US government on two Jesuit institutions in Zambia that the USA considered to be influential in the public debate over the acceptance into the country of GM crops. The Kasisi Agricultural Training Centre (KATC) is an educational project working with small-scale (peasant) farmers; the Jesuit Centre for Theological Reflection (JCTR) is a social research and action centre. Prior to the GM relief-maize controversy, these two institutions had collaborated together on a study of the impact of the introduction of GM crops on the agricultural sector infrastructure. They were invited to offer testimony before the government meeting mentioned above. The findings of their research supported the final decision of the government to reject the GM maize.

According to the KATC-JCTR study, the introduction of genetically modified crops would cause long range problems, diminish production, augment the use of herbicides, reduce biodiversity, give unpredictable results and lessen the earnings of small scale farmers who produce 80% of the food requirements of Zambia. The social justice aspects were particularly highlighted, as farming that gives work to many and sustains families would be substituted by intensive food cultivation for commercial purposes, done by large mechanized farms, with the result of increasing unemployment and threatening the food security of the country. (See the contributions in this issue of *PJ* by Paul Desmarais and Roland Lesseps.)

The position taken by the study was scientifically, politically and ethically controversial, but surely arguable on decent lines of respectful dialogue. The report was posted on the JCTR web site and widely circulated to church officials, NGOs, the diplomatic community and other interested parties. Compliments came from some international groups (e.g., Food First, Friends of the Earth) and complaints from others (e.g., some agro scientists who had worked for Montsano) – all to be expected. But, by and large, the debate settled down after the Zambian government's position had been taken.

Then quite a storm broke out on the political side, with a sharp focus on Jesuit involvement in the dispute. Through press stories, it was announced that the US Secretary of State Colin Powell had written to the Vatican to request that the Zambian bishops challenge the government's position. The US Ambassador to the Vatican visited the Jesuit Curia urging that higher authorities intervene with the JCTR to question its activities, arguing that its stance was causing great harm to hungry Zambians. The head of USAID raised questions in

Washington about the Jesuits' insensitivity to the critical famine situation. Articles appeared in some US newspapers accusing the KATC and JCTR study of being irresponsible in their research and support of the government of Zambia's position.

The director of the JCTR discussed the matter with the Zambian USAID representative and some officials of the USA Embassy in Lusaka. He was visited by two senior staff from the US Congress' GAO[20] (official audit body) to get his opinion. Questions and comments came into the JCTR office from various groups around the world, some supportive, some not supportive. But because KATC and JCTR felt that their stance was well-grounded in both scientific research and the social teaching of the Church, they maintained their position.

Wider lessons

Research and advocacy around the GMO issue continues in Zambia and elsewhere. It is not the number one priority of KATC – training poor farmers in sustainable agricultural to feed the nation takes prominence. Nor is it the prime focus of JCTR – pushing issues such as debt cancellation and just wages take up more time and energy. But as other articles in this issue of *PJ* demonstrate, it is an issue of immense ethical and political importance that is not going to go away. In a speech, as recent as mid-May 2003, US President George Bush has repeated his government's position that depriving African countries of GM crops is blocking the efforts to end hunger and that the US would continue to push for wider acceptance of GM products.

This dispute in Zambia might appear minor in the face of more pressing international issues like the Iraq War and terrorism. But it is really part of a much larger picture of globalisation and reveals the geopolitics of trade, influence, corporate interests, etc. And it reveals the constructive role that can be played by civil society, church groups and Jesuits and their colleagues. At least three lessons can be drawn:

1. In confronting stances taken by powerful actors such as the USA and its corporate partners, be sure that good analysis backs up the arguments. It may be controversial but it should be competent.

2. Make clear from the start that justice and concern for the poor are the guiding principles for the advocacy.

3. Connect with others with similar interests, values and competence. This is the strength of Jesuits, for example, who participate in the International Jesuit Network for Development (IJND).

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[20] General Accounting Office (GAO) (Ed).

Genetically modified plants

S. Ignacimuthu, S.J.

Introduction:

At the current population growth rate of 1.4% per year, the world's population is expected to increase from the current figure of approximately six billion to nine billion in the course of the next 50 years. While the demand for increased agricultural production will inevitably rise as a consequence, improving the nutritional quality of human diets for this rapidly growing human population is an equally urgent requirement. Macronutrient and micronutrient deficiencies are prevalent in developing countries, and malnutrition is still a worldwide health issue. Declining natural resources such as arable land and water pose stark challenges – how are the food requirements of the human population to be met without further degrading the environment? Biotechnology offers a valuable tool in achieving these goals.

Development of Biotechnology

The era of biotechnology was ushered into the modern world in 1953 when James Watson and Francis Crick discovered the structure of DNA, the molecule that carries genetic information. Since then, the science of genetics and its technological applications have advanced rapidly. In 1961 the first biopesticide was developed to protect important agricultural crops. In 1973 came the first alteration of a DNA molecule, the biotech process now referred to as recombinant DNA technology. In 1982, the US Food and Drug administration approved the first drug developed by biotechnology: human insulin produced in genetically modified bacteria. In 1989, cotton was genetically modified to protect it against insects, followed by corn the next year. In 1997, Dolly the sheep was the first animal to be cloned from an adult cell.

Applications of Biotechnology

The applications of biotechnology offer enormous potential for agricultural, pharmaceutical and environmental purposes. Genetically modified seeds can be used to grow plants that have characteristics different from those found in nature. The new characteristics help farmers to reduce chemical fertilizers, insecticides and herbicides. This results in a pollution-free environment.

- Let us take the example of Bt gene, obtained from a soil bacterium, *Bacillus thuringiensis* (Bt), found in soil all over the world. There are several thousand types of Bt existing in nature – entirely harmless to human beings and the environment over millions of years. When the Bt gene is taken from the bacterium and inserted into crops like cotton, tomato and tobacco, it makes them less susceptible to pests. What are its implications? It means that we have to use less pesticide to protect the crop against pests. It has the ability to kill pests at nanogram level which is 1/100 million parts of a gram.

- Bt gene is not the only option for crop improvement. There are several other genes that can be incorporated into crop plants to minimize losses due to pests, and to improve productivity or nutritional quality.
- *Cajanus sericus,* a close wild relative of the pigeon-pea, is resistant to *Helicoverpa*. We can take genes from this particular plant, clone them, and insert them into the pigeon pea to produce pigeon pea plants that are resistant to *Helicoverpa*.

Supporters of genetically modified plants argue that what scientists are doing now is only a replication of what was happening in nature through breeding and hybridization, which were non-directional and random. Through this modern technique of genetic engineering – selecting a specific gene and allowing it to integrate with the genome and express a modified form – scientists are enabled to give a direction to the mobility of genes.

Our work

We have been working at our Entomology Research Institute since 1998 on genetically modifying varieties of rice and bean. We have been successful in producing genetically modified rice that is resistant to the stored product insect *Sitophilus orizae.* We have also succeeded in producing a bean variety that is resistant to the stored product insect *Callosobruchus maculatus*. Both varieties are grown only in a controlled environment on trial basis and have not yet been released for common use by farmers.

Some data

- It is a well-established fact that the United States of America leads the whole world in the successful production of varieties of crops and food materials in the transgenic mode.
- When the Americans introduced the pesticide-resistant genes into the plants, the first objection raised was that insects might develop resistance to these genes, just as insects have shown themselves capable of developing resistance to chemical insecticide. It seems not to have happened so far.
- We in India must genetically improve some of our own native plants such as sorghum and johar. Developing these cereals is important because they are the poor man's staple food, and any degree of safety from storage pests or harvest pests will give an incremental economic advantage to poor farmers, especially those in the tribal regions.
- GMOs are probably the best alternative for a resource-poor nation like ours if we are to increase our raw material base. We are losing 30% in the field and 10-20% in storage owing to pests and diseases. In 1996, the world had only about 4.3 million acres under cultivation of GM crops; this has grown exponentially over the last few years. In 2000, the figure rose to over 100 million acres.
- Using this technology, we can improve existing yields and introduce resistance in the crops to combat specific pests. We can in addition increase nutritional quality and fight diseases. GM crops can be used to produce a number of pharmaceutical products and to raise vaccines for a number of diseases.
- Some years ago, a GM variety of corn which had not been cleared for human consumption but only as an animal food item got into the food distribution system in the US as the result of a complicated transportation and delivery system.

- A prominent analyst, Mr. Crysten Brown, Director of the Centre for Consumer Research in Davos, feels that the present swelling upsurge against GM plants is a passing phase and that people will eventually realize that GM foods are indeed good.
- Iowa University reports that 26% of farmers reduce their use of chemicals when they use genetically engineered crops.
- GM crops bring other benefits – more water, healthier soil, and fewer residues. Growing herbicide resistant plants means that the land is ploughed less frequently. The chances of washing off the topsoil and nutrients are thereby reduced and the ecology improved.

Conclusion

Insect resistant GM plants will curtail the use of hazardous pesticides by engineering genes that encode natural biodegradable proteins with no harmful effect to animals and human beings. The application of plant biotechnology will doubtless be more meaningful in the poor and non-industrialized parts of the world. It is here that socio-economic development is dependent on sensible adoption of advanced agricultural practices that enhance food, feed and fibre production, leading to an overall improvement in living standards. It is undeniable that environmental concerns such as the escape of transgenes to weedy relatives have been raised. There appears, however, to be little threat to human health through the consumption of GM foods. At the same time we need new methods and concepts to probe into the compositional, nutritional, toxicological and metabolic differences between GM crop and conventional crops, and to study the safety of the genetic techniques used in developing GM crops if we want to put this technology on a proper scientific foundation and allay the fears of the general public.

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The impact of transgenic products on small agricultural producers in Bolivia

Nele Marien

This article attempts to answer the questions surrounding the risks and benefits of transgenic products for small agricultural producers and indigenous people in Bolivia. These small-scale farmers together constitute a third of the Bolivian population. Almost all small-scale agricultural producers in Bolivia are indigenous peasant farmers; the large commercial farmers, on the other hand, are not generally descendants of the indigenous people of the Americas. There is thus both an economic and cultural divide between the two groups of small and large producers, and their interests are naturally very different.

The impact of transgenic products on small-scale producers is analysed in this paper at four different levels:

(i) economic, taking small producers as an economic entity;
(ii) cultural , looking at the issue from the perspective of indigenous people;
(iii) productive, from the perspective of large producers;
(iv) governmental, taking into consideration the fact that Bolivia is a developing country.

Transgenic products are now becoming increasingly common all over the world. Bolivia has not been immune to this trend; already there have been field experiments with the production of transgenic potatoes and, more recently, with soya. A large number of transgenic products are available in the markets, imported either legally or illegally. The Bolivian government has, on the one hand, declared a moratorium on field experiments in transgenic products, but on the other hand, it has allowed trials for these in some cases. The same contradiction prevails in its policy on international trade: the entry of transgenic products is prohibited, but in specific cases, such as wheat from the United States, permission is granted. There are no consistent regulations and no implementation of clear policies.

From the perspective of the small-scale producers, who produce the lowest yield in Latin America as a whole, increased production levels and reduction of diseases and pests can appear highly advantageous. But using transgenic products involves difficulties that have to be considered. First of all, the cost of the seeds, which are patented, is high, and free use of them is forbidden. Small-scale producers are concerned because they run the risk of having to pay for patents, and may possibly also be fined for using transgenic seeds. At present, they do not have the resources to pay these costs; nor is there any guarantee that by using transgenic products they will be able to increase their productivity, and more especially, their sales, so as to cover the costs of the seeds.

Secondly, the concomitant use of specific agrochemicals without which transgenic products cannot flourish, adds to the cost. The same transnational company controls the sale of both seeds and agrochemicals, and thus has, in effect, complete control over the farmers.

A third problem is the need for new technology during the harvesting and post-harvest stages of transgenic products, as many of these products are very sensitive to handling. Small-scale producers do not currently have the needed farm machinery.

These three factors – seeds, agrochemicals and harvesting technology – create a vicious circle of double economic dependency. The farmers are dependent, first, on the producers of the companies that provide seeds and agrochemical products; and second, on the sales in the international markets – sales must be high enough to enable them to purchase the materials needed.

It is in the matter of the market that small-scale producers in Bolivia are at a great disadvantage. Their productivity is much lower than in neighbouring countries and the technological divide is increasing. Even with the introduction of new technologies such as transgenic products, scientific know-how and governmental support in neighbouring countries increase faster. In addition, Bolivian small-scale farmers have to contend with adverse climate conditions and the lack of good roads.

As already mentioned, these small-scale producers are members of indigenous communities, such as the Aymaras, Quechuas, Guaranies, all with their own strong traditions and culture in agriculture. When it comes to agriculture, each of the 33 different native groups in Bolivia has its own beliefs, rituals, and visions. But there is one element that is common to all: respect for nature and for biodiversity, a respect mixed, in large part, with religious elements. This respect does not allow them to see the earth as an element to be exploited for quick profit; on the contrary, it is seen as a fundamental part of the cosmos, to be cultivated by asking of it only that which is needed, or for which it is reasonable to ask. Excessive exploitation through fertilisers and agrochemicals means going against the inherent characteristics of mother earth, respected by all, though she might have different names in different cultural groups. The use of transgenic products, a new form of overexploitation of the earth, thus does not fit into the cosmic vision of the native people.

These same native people have over the centuries cultivated an impressive variety of native plants and have based their production on bio-diversity. For example, in Bolivia there are over a hundred varieties of potatoes. In addition to the plants domesticated by native people, Bolivia also has an immense biodiversity of wild plants. There is a great danger that with the introduction of transgenic products, many varieties of local creole plants will become extinct, and with them, some of the ancient knowledge systems as well. This will inevitably happen if there is a change from production based on diversity and biological control to the monoculture so necessary for the cultivation of transgenic products. To this we add another great danger – the contamination of traditional plants with transgenic products.

Another sector which is interested in the problem of transgenic products comprises large commercial farmers who specialise in the production and export of products like soya. Their levels of productivity too are lower than in the neighbouring countries, and up till now they have not dealt with transgenic products. They are certainly interested in increasing productivity so as to be more competitive in the international markets. But they also have to take into consideration the characteristics of the international markets. Many countries – mostly European – have refused to buy transgenic products, and have even sent back ships full of wheat because there were indications that the shipment contained transgenic products. The same can be said of the refusal of transgenic products by the general public in other countries with significant markets. The sector of agricultural exporters will have to decide whether it prefers to increase productivity or find more secure markets for sales.

The following question must now be raised: what should be the position of the government of Bolivia as a developing country? While developing its policies on rural development (and this includes the issue of transgenic products), a government needs to take account of its strengths and weaknesses, as well as the cultural identity of its citizens Among the weaknesses we may mention: very low agricultural productivity, and problems associated with exporting (lack of markets and little capacity for large scale production, especially for the products typical of small producers). An added problem is the identity of the native producers which does not fit with the current world policies of globalisation, and which seems to be antithetical to the productive interests of the relatively large agricultural producers.

However, the other side of the coin indicates that these weaknesses can be turned into strengths if the government can begin to consider the specific characteristics of native producers as an opportunity. Instead of getting into an endless race for more and more technology, Bolivian agriculture could be based on age-old knowledge, and on the productive diversity of the different cultures. Bolivia could become a country with an agro-ecological

focus. The news should be spread abroad far and wide that Bolivia, thanks to its huge biodiversity, has a large number of exotic and wholly healthy products. A specifically Bolivian agriculture needs to be marketed.

With this background, the government needs to develop policies on transgenic products that are coherent and profitable in the long term. Bolivia has the potential to become known as a country that specializes in agro-ecological production, respects the culture of indigenous people, and finds a niche for itself in the market for healthy products.

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Back to using local rice-seeds

Yohanes W. Wartaya, S.J.

This short note is an attempt to explain my experience with a group of small rice farmers in Central Java, Indonesia. In 1999, I encouraged a group of 23 farmers who had banded together as an independent group interested in sustainable agriculture to plant a local variety of rice called *menthik.* I had brought *menthik* seeds from somewhere else and I distributed them now to this group in Ngreja, Tirtomoyo, an area situated in Central Java. The group had been meeting every month to discuss a way of improving their farming techniques and increase their income.

The experiment, they believe, has been a success. As we sit down together for our evening meetings, they discuss enthusiastically the benefits of introducing a local seed variety. According to them, the amount of chemical fertilizer they have to use has been considerably reduced and they have started using more compost or organic fertilizers instead. Experience, then, has taught them that this local rice does not need much chemical fertilizer; they calculate that now they use only one-fourth of the quantity of urea they were using with hybrid varieties.

A major reason for being happy with the local variety is that they no longer have to buy seeds. They were all convinced that the introduction of this variety has made them independent, and, in a sense, the real owners of the crop. There is also a sense of security because this local variety gives them the confidence of getting enough seed for the next harvest. With smiles on their faces, many of them kept repeating that they do not have to go again and again to the shop. These are some of the important aspects to rice production by small-scale farmers that seem to be ignored in promoting a homogenizing pattern of rice production.

At our meetings, they also discussed the positive effect of the local variety in reducing irrigation costs. Compared with other rice varieties, these local seeds need less water. Rainfall in this mountainous region has lately been scanty, the water level in the reservoirs has gone down, and they have to pay heavily to pump water into their land. For this reason the farmers are happy to plant these local seeds in this terrain because they grow well enough and need much less water.

There are other advantages that the local variety has over other hybrid varieties. The duration of harvest for the local rice seeds is the same as for the hybrid variety for which they buy seeds from the shop, and sometimes, even shorter. But perhaps the most important advantage, culturally speaking, is that the taste of the local rice, *menthik*, is for them much more delicious. It is also a fact that *menthik* fetches them more income. For example, 1kg of *menthik* rice is sold at Rp 2400 (about 0.30 $), and the other hybrid variety (64 rice) costs Rp 2100 (about 0.25 $). Farmers in these groups who sell their rice to the Association called *Paguyuban Wukir Lestari* find that their income has increased.

The local seeds have now spread out all over the area, far beyond the initial group of farmers. Some other local varieties like *pandan wangi*, *sari wangi*, *Ho Ing*, have also become popular because of their taste. I have encouraged the farmers to plant these local seeds. It is for them clearly a way of being efficient and effective.

To support and complement their agricultural activities they rear goats and cows, and this is their source of organic fertilizer. In the small village of Ngreja there is also an organic farming movement. I can only say that people are happier than before, and that they enjoy consuming these local varieties. They do not know anything about transgenic seeds, and I wonder if they would even be interested !

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Genetic Engineering evaluated from the perspective of Christian and Ignatian creation spirituality

Roland Lesseps, S.J

Introduction: my position concerning GMOs

My position on the questions raised in the Introduction is that the evidence we have now does not support promotion of GMOs in agricultural systems. The present GE technology does not permit the insertion of the foreign DNA into a particular location on the host chromosome, nor the addition of the normal regulatory mechanism. Insertion of DNA can cause deletions and rearrangements of the original DNA at the insertion site. This information helps us

understand that GE is significantly different from conventional breeding techniques. I think that our human family should, at the very least, follow the precautionary principle and not adopt a technology that is still inadequately tested. We already have many examples of serious problems brought about by our not being able to see the undesirable consequences caused by our use of what seemed to be a wonderful benefit, e.g the insecticide DDT was later found to lead to death of bird embryos by thinning the egg shells and to cause cancer. The refrigerant gas chloroflourocarbon was found to be destroying the ozone layer, and the tranquilizer thalidomide caused severe abnormalities in over 7000 children born of women who took the drug during pregnancy.

I will not in this short article attempt to give elaborate answers to the above questions about GMOs, partly because I am sure that most of these questions will be addressed by others in this issue of *Promotio Iustitiae*. Rather, what I will try to do is offer some reflections on genetic engineering that arise from our Judaeo-Christian and Ignatian spirituality.

Judaeo-Christian creation spirituality and GMOs

A fundamental principle to guide us in our reflection about GMOs is that all of God's creatures have intrinsic value, in and of themselves. Nature is not just useful to us humans, but is valued and loved in itself, for itself, by God in Christ. A scriptural basis for this appreciation of all creatures is in Genesis 1: "God saw that it was good…God saw everything that God had made, and indeed, it was very good." This is an amazing statement, points out Sallie McFague: "God does not say that creation is good for human beings or even, more surprising, good for me, God, but just good, in fact very good. God is saying that nature is good in itself – not good for something or someone but just plain good. God's pronouncement here is an aesthetic one: appreciation of something outside oneself, in itself, for itself. The writer of the first chapter of Genesis leaves no doubt that the goodness of creation is its message: it is repeated seven times in the space of 31 verses. How have we missed this?"[22]

If we are willing to shift from an anthropocentric view of other creatures and recognise that other creatures have intrinsic value, then we will be able to accept that these creatures also have rights including the right of each species to preserve its genetic integrity. Sean McDonagh puts it this way: "From an ethical perspective the nub of the issue revolves around whether other creatures have 'intrinsic' value. If they do, then it seems logical to argue that they have rights that their own 'specialness,' especially the species boundary, be respected by another creature."[23]

Thomas Berry attributes the cause of the present environmental crisis to "the effort of western peoples to produce a civilization that recognizes the rights of humans and grants no rights to any other mode of being."[24] Berry, however, claims that "every component of the Earth community has three rights: the right to be, the right to habitat, and the right to fulfil its role in the ever-renewing processes of the Earth community." Fitting well with these rights is certainly the right of each species to preserve its genetic integrity.

[22] *Super, Natural Christians: How We Should Love Nature*. Minneapolis: Fortress Press, 1997, p. 165
[23] *Greening the Christian Millennium*. Dublin: Dominican Publications, 1990, p. 136.
[24] From an unpublished manuscript, *A New Jurisprudence*, which he circulated among friends in 2001.

Ignatian creation spirituality and GMOs

God's appreciation of creatures as very good is clearly reflected in Ignatius' relation to creatures. It is striking that David L. Fleming expressed this Ignatian thought as the obligation we have to *appreciate* and use these gifts of God insofar as they help us toward our goal of loving service and union with God.[25] We who are made in God's image ought to reflect God's attitude toward nature: appreciation. We are to appreciate things in themselves, for their intrinsic value. "Neither Genesis nor the Exercises offer licence to *mis*use the things God made. On the contrary, 'insofar as any created things hinder our progress toward our goal, we ought to let them go' is freedom and respect, not abuse and rebellion."[26]

This Ignatian approach to creatures, which he shares with Francis of Assisi, may be even clearer in the Contemplation for Learning to Love Like God. God dwells within all creatures. "The world is charged with the grandeur of God," wrote Gerald Manley Hopkins. We experience the creative love of God flaming at the core of all creatures and are moved to respond with our own deep love, love for God and for all God's creatures, a love expressed in our deeds. "The *Contemplatio* proposes a reverential respect for all things. It calls for the threefold relationships among God, humans, and nature to be not only respectful and generous, but also loving."[27]

God labours and works in all creatures, continually calling them out of chaos and nothingness. God continues to create all things at each moment. If, through some impossibility, God would ever cease creating, we would all immediately disappear back into nothingness. This "work" of our Creator God is very different from that of a human tinker, fixing, adjusting, mending, repairing. John F. Haught presents the theological position that our God is humble, self-emptying, suffering love. "Since it is the nature of love, even at the human level, to refrain from coercive manipulation of others, we should not expect the world that a generous God calls into being to be instantaneously ordered to perfection. Instead, in the presence of the self-restraint befitting an absolutely self-giving love, the world would unfold by responding to the divine allurement at its own pace and in its own particular way. The universe would then be spontaneously self-creative and self-ordering."[28] God lovingly renounces domineering omnipotence and allows the universe to evolve without divine intervention, even with all the suffering, struggle, waste, and loss that have occurred. It is Ignatius' dream for us in the *Contemplatio* that we imitate this divine self-restraint, God's humble love. The application of this to the GMO debate is obvious: we should abandon our arrogance and our acceptance of the principle that, because we can, it is good for us to modify the genetic makeup of other creatures in such a profound way.

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[25] *Draw Me into Your Friendship: A Literal Translation and a Contemporary Reading of the Spiritual Exercises*. St. Louis: Institute of Jesuit Sources, 1978.
[26] *Promotio Iustitiae*, 70, p. 23.
[27] *Promotio Iustitiae*, 70, p. 31.
[28] *God after Darwin: A Theology of Evolution.* Boulder, Colorado: Westview Press, 1999, p. 53.

EXPERIENCES EXPERIENCES

"I would like to hope"

James C. Dabhi, S.J.

It has been a year since the Gujarat carnage left the State devastated. Socially, economically, and from the point of view of religious faith, it has polarised Gujarat and its citizens into two camps – the 'old' and the 'new,' 'we' and 'they,' 'Hindus' and 'Muslims.' This is the worst thing that could have happened. I attempt below to put down some of my thoughts, experiences, fears, my sense of helplessness and frustration, and my dream of a more humane society in a state called Gujarat and a nation called India.

Let me begin with my anger at all those who masterminded, executed and participated in the Gujarat carnage. The various outfits of the 'Sangh Parivar' and their leaders are the prime focus of my anger. I have reasons to believe that Godhra and its aftermath were masterminded by these 'Hindutva' fascist leaders for political gains and to fulfill their agenda of a 'Hindu Nation' cast in the mould of our neighbouring country. My anger is directed at the bureaucrats and the police department, especially the high-ranking officers in Ahmedabad and Gujarat, for failing to do their duty. They buckled under political pressure and failed to protect human lives and property, and the human rights of people as laid down in the constitution.

My disappointment is reserved for the judiciary here in Gujarat. I am not surprised that the poor, the marginalised, the activists, and lawyers who are committed to justice and human rights are frustrated with the courts, and more especially, with the High Court[1]. Recently, the killing of an ex- BJP leader[2] in Ahmedabad brought the Centre Bureau of Investigation[3] (CBI) promptly to Gujarat. It appears, however, that the CBI are merely following the speculations of the Deputy Prime Minister of India at the cremation of the deceased regarding the killers who, he said, must have been 'foreign agents.' One wonders why if, he knew who the killers were, the CBI was needed. But the joke among secular groups here is that if even a dog dies in the street, the 'Sangh Parivar' will see a foreign hand in its death!

Random arrests and the threat of POTA (the Prevention of Terrorism Act) are applied to Muslims, while many of the culprits belonging to the 'Sangh Parivar' and named for

[1] The High Court is the highest judicial court in a state, and its verdicts can only be reviewed by the Supreme Court of the country.

[2] The person in question was BJP leader, Haren Pandya who was shot dead in his car near the public gardens where he usually took his morning walk. There was much speculation regarding motives behind the killing as his party had not given him a ticket to contest the Assembly elections in December 2002.

[3] The CBI is the autonomous government body entrusted with the responsibility for investigating irregularities at the highest level.

mass killings in Ahmedabad and other parts of Gujarat roam free. Under these circumstances, when all democratic institutions had failed the victims of State sponsored violence, one's last hope was that the judiciary would withstand political pressures. But many like me have lost that hope too. The judiciary too seems to have taken on a saffron tinge.[4] Whom do you go to when the State is party to such mass human rights violations and suffering?

The attitude and actions of Gujarat's Dalits and the Tribals have disappointed me too. Some of them, brainwashed by Hindutva ideology propagated by self-proclaimed leaders of Hindus like Praveen Togadia[5] participated in the violence – killing, burning and looting. I am angry because these communities have allowed themselves to be used by the Hindutva fascist forces for their political agenda. These communities have been customarily objectified for the benefit of so-called 'high caste' Hindus in India whom they have been made to serve. They have been subjected to the worst kinds of suffering – murder, physical violence, social and economic discrimination, to the point of being robbed of their very self respect. And these very communities have been used by the perpetrators of the caste system (caste Hindus, wedded to 'Hindutva and Brahmanical ideologies) to victimise the Muslims and Christians. Some of these community leaders are made spokespersons of Hindutva ideologies and plans. Dalits participated in the breaking of the Babri Masjid mosque to build a 'Ram Temple.' Don't these Dalits know that they cannot enter a temple in their own village, in some places cannot even defecate in a so-called high caste person's farm? It may be noted that many Dalits are landless – so where are they to go?[6]

My disappointment and frustration are directed against some of the well-known 'elite' institutions of higher learning in India, including those of the Church, and, more especially, those run by the Jesuits. They have catered to, and still continue to cater to many of the so-called high caste Hindus who are wedded to Hindutva ideology. These institutions will not easily open their doors to Dalits, Tribals, Muslims and other backward communities. I hope we can rise above our narrow boundaries and really become 'catholic' in the spirit of the risen Christ.

A very limited understanding of evangelisation on our part has often led to a focus on Christian 'tribals,' thereby directly or indirectly excluding other tribals. The Hindutva forces have taken advantage of those disgruntled non-Christian tribals who may have not been able to get admission in our schools and used them against their own community and other minorities. We, the 'chosen ones of Yahweh,' rise in protest when injustice is done to one of our own people, and when Church interests are trespassed upon. Yet we are slow to respond to violations of human rights elsewhere, atrocities on the marginalised communities, exploitation of women and children, and gross neglect and exploitation of the environment. The Bush-Blair propaganda of equating Islam with terrorism seems to have affected Christians and religious leaders as well. I wish many of us would open the doors of our institutions to them – "whatever you do to the *communities in need* you do that to me."

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[4] Saffron is the colour of the Bharatiya Janata Party (BJP) and of rightwing fundamentalist Hindutva forces which together form the 'Sangh Parivar.'

[5] Dr. Praveen Togadia, belonging to the Patel community, is a cancer specialist by profession, and contrary to the ethics of his profession, has succeeded in spreading the cancer of 'communal hatred' in Gujarat and India.

[6] In a country where indoor sanitation is not available to all, the problem assumes critical proportions.

The religious leaders of all communities in Gujarat and in India, barring a few, do not see the present crisis as a **crisis of faith**, *failure of faith in other human beings.* This crisis of faith has nothing to do with any particular 'god.' People tend to forget that they are human beings first, and Christian, Muslim and Hindu later. Ontological differences are forgotten and priorities are skewed. The transcendental aspect of communion occupies ample space in our 'services,' sermons, spiritual retreats and discourses, but I wish that there were more space for horizontal communion with other human beings.

I would like to be hopeful, but I find it very difficult. I would like to be kind to those who have killed and burnt alive innocent people, raped, destroyed properties, made people homeless, but I find it very difficult. Like many others, I would like to support and be with the suffering communities and assist in rebuilding their lives and regain their trust in humanity, and like many others, I find that it is not easy either. Mobilising resources is always a problem when people are prejudiced against a community, but it is much worse when in a democratic country the government, ruling party and their associated social organisations are bent on destroying the minority in order to secure their one point agenda of establishing a 'Hindu Rashtra.'

I take solace from my experience of working with, and for the Citizens' Initiative (a coalition of secular individuals and social organisations, among them JESA or Jesuits in Social Action). Citizen's Initiative is one of the few organised efforts within Gujarat to reach out to the victims. It comprises people of various faiths as well as those beyond 'any one faith,' and is supported by many secular groups from outside Gujarat, including the Indian Social Institute, a Jesuit NGO in Delhi.

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Point of Arrival … Point of Departure

Fabrizio Valletti, S.J.

When in the 1960s the thrust of the Council encouraged the Society and many Jesuits to come in closer contact with the world of the marginalized, of poverty and of social and political injustices, the relationship between theological reflection and pastoral choices changed. The metamorphosis, rooted as it was in many misconceptions and differences, was conflictual and painful. The wise mediation of Father Arrupe and his encouragement of new apostolic ways, led to many significant and prophetic experiences. The commitment to refugees, to the

poorest and the most oppressed, to the world of workers, the marginalized, the drug dependent, and the homeless, has meant an increasing involvement of individuals and communities with these issues. This in turn has been an opportunity to put into practice the spirit of the General Congregations, to overcome the internal tensions and the suspicions of the Church authorities themselves.

It is only in the last few years that we have been able to elaborate and clarify the basis of a new evangelisation free of a sectoral or partial point of view. The Society, as a body, rather than individual Jesuits, felt the need to bring together these new evangelical guidelines in terms of a "service of faith, promotion of justice, search for a new inculturation," a language in keeping with the present spirit. The Italian Province has followed this direction, identifying the priorities that seemed most suitable to the situation of the Church and of society.

This preamble, superficial and rapid as it is, helps me to express the deep joy that I experience in the most recent mission which the Society has assigned to me, and which I have welcomed with the spirit of adventure and naiveté that obedience sometimes requires. This is like a point of arrival in my life as a Jesuit after my earlier missions. These I undertook with many limitations, it is true, but with great enthusiasm and gratitude to God, working with the youth, in the schools, in the University, in the prisons, among those who are most marginalized, at times going through difficult and tense relationship with the institutions, but with a spirit always open to respond to emerging needs. But for me now, to live in a neighbourhood in Naples, with a small community of Jesuits and a few lay people at the service of the Church and of society, is also a starting point, finding new ways of service and of evangelization (which for me are one and the same). The greatest need that I have experienced in my own skin is the desire to sense the Spirit of God incarnate itself in each person and in every place, overcoming all the barriers which culture, politics, economy and even the same religion can create.

It is an ambitious project and for this reason I entrust myself to the power of the Spirit and of obedience. The challenge is to be at the service of a poor, pain-ridden reality in the 'neighbourhood–city' of Scampia. This neighbourhood, which grew in the early 70s with a vision of urban development, has condemned almost 80,000 inhabitants to live separated from the rest of the city, isolated, a place where people come only to sleep, with no spaces for regular cultural events, and very poor services and resources. Over the years the situation has worsened owing to the increasing disparity between, on the one hand, a minority middle class, and on the other, a majority of families without work, or unstable and irregular work, and a high percentage of problems with the law. The overcrowded detention centre located within the neighbourhood is a symbol of the fatal link between everyday life and a state of being doomed to commit crimes. Old people, women, and children suffer in the context of an aggressive and overbearing culture where men often make irresponsible choices. There is no culture of work and high levels of illiteracy due to exclusion and a high drop-out rate. The birth rate is one of the highest in the country, revealing both an attachment to family traditions, as well as a lack of preparedness regarding the responsibility of educating children. Street children are to be found everywhere. They are the best candidates for recruitment as foot soldiers by organised crime, the only *entrepreneurial* activity operating in the area. This is the current reality prevalent today in the peripheries of large cities, the result of a neoliberal, freedom-destroying economy, an economy that renders large sections of the population unable to affirm their own dignity and their right to full citizenship. There is also much that can be said about the culture of these people whose milieu is one of deep affections, generous hospitality, strong family links, a capacity to adapt and to "make do," and

a joyful propensity to optimism, but also to violence as a response to provocation and to games played by groups possessing power.

Evangelization requires first of all a capacity to lose oneself in this world, to let oneself be consumed by the daily suffering of many. It also needs the capacity to plan initiatives for cultural growth, job training and awareness raising, and to develop existing resources that are already available. The Church itself experiences isolation and diversity not only because of its actual distance from the rest of the city, but also because what it offers is a distracted Christianity and a religious experience that focuses more on rituals and sacraments than on the formation of communities. It appears indifferent to the growth of an adult faith that may be expressed through stress on a de-christianized reality and the promotion of justice.

It is necessary to experiment with new ways of doing catechises, new ways of bringing together youth and adults, to be always an attentive and welcoming presence to families that suffer for different reasons, to free the youth from the yoke of the Mafia so that they can start living again within the law, and to seek and find work possibilities.

The "Scampia project" plans to elaborate reflections, plans and experiences, which will include three aspects: i) inculturation and cultural growth; ii) development, training, and organisation of job opportunities for the employment of young people, and iii) pastoral experiences which aim at formation and the growth of a Christian community. This is a project that calls the Society of Jesus to invest in people ready to stay the long course needed here, but who would also be open to working in synergy with what is already in the territory. A private initiative, exclusive and 'individual,' by one Jesuit from the Society is not appropriate in this context. The idea of working in 'pastoral unity,' a concept being developed by the six parishes in the area is stimulating and rich. So too, the link and the collaboration with public institutions are indispensable, and perhaps critical and conflictual. I often think that I am losing myself in an immense sea, but there is always a compass!

A reflection out of context, but perhaps not altogether so: the Society has all the spiritual and cultural instruments, and the social sensibility to be committed to these realities. It will be interesting to see how we can in the future develop the conscious and competent participation of the other Jesuits in Naples (there are more than one hundred!) in this experiment. This is an experiment in trying to bring together resources and means that have to be lived necessarily as an 'apostolic body' in a city and a diocese among the most interesting and significant in Italy. It could be a further challenge for the Neapolitan Jesuits who in their various communities experience almost the totality of what the Society can express apostolically.

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REVIEWS REVIEWS

Faith and Freedom: The Life and Times of Bill Ryan, SJ

Michael Campbell-Johnston, S.J.

Bob Chodos and Jamie Swift, Faith and Freedom: the Life and Times of Bill Ryan, S.J. Ottawa: Novalis, Saint Paul University, 2002.

Future historians may well look on the second half of the twentieth century as the period when the social dimensions of the Church's teaching and apostolic work suddenly took on new life, reached a high point and then, as the new millenium approached, started declining or being side-tracked by other concerns. Starting with *Mater et Magistra* in 1961 and ending with *Centesimus Annus* in 1991, no less than ten major papal encyclicals were devoted to specifically social issues. The longest and best-known decree of Vatican II, *Gaudium et Spes*, consists in a wide-ranging survey of the Church's Social Teaching.

In Latin America, the second conference of Latin American bishops at Medellin in 1968, followed by Puebla in 1979 and, less resolutely, by Santo Domingo in 1992, set the church in that continent on a new and largely unexplored path of solidarity with the oppressed, necessarily bringing it into conflict with vested interests and authoritarian governments. Liberation Theology was born, for a while flourished mightily in spite of strong opposition, and then gradually declined.

Religious Orders and Congregations played a crucial role in this development, some anticipating it, the majority integrating it into their way of proceeding through general chapters and apostolic initiatives. In 1949, the then Superior General of the Jesuits wrote the first ever instruction on the social apostolate addressed to the whole Society. The General Congregation that elected his successor, Pedro Arrupe, in 1965 decreed that social centres or institutes be promoted in every province or region. In the General Curia itself, a social secretariat was set up and a publication, *Promotio Iustitiae*, launched to promote and integrate the social apostolate throughout the Society. The subsequent General Congregation in 1975 declared the promotion of justice to be an integral part of the service of faith and a task for all Jesuits. In 1983, the General Congregation which elected our present Superior General, Peter Hans Kolvenbach, made in the name of the Society and in harmony with many other religious congregations, a preferential option for the poor. Yet, 14 years later, a massive attempt to define the essential characteristics of this social apostolate somehow seems to have fizzled out.

Other religious congregations have followed a similar trajectory which has been repeated in many countries of the world. *Faith and Freedom* chronicles one such path in Canada and does so through the eyes and work of one of its principal actors, Bill Ryan S.J. His early life was marked by exposure, during school vacations, to the hardships of the Ottawa valley lumber camps where his father worked. Here he was able to see the effects of racial and religious prejudice and a social injustice which probably lay at the root of his Jesuit vocation, though he himself found the latter to be a total mystery.

His religious training was different from the prevailing norm in two crucial respects. First, on finishing philosophy, he did a masters degree in economics at St Louis University followed, after ordination, by a doctorate in the same subject at Harvard. As he himself recognised, this had a determining influence on his future work. Secondly, after a year of theology in the then rural Heythrop near Oxford, he transferred to Louvain in Belgium where, in particular, he became exposed to the writings of Teilhard de Chardin which made a big and lasting impact on him.

Over the next 30 years he occupied four important posts, each of which both influenced and was influenced by social developments not only in the Canadian church but in the Jesuit Order and the Catholic Church as a whole. They were:

1) The Social Action Department of the Canadian Catholic Conference (1964-1970);
2) First Director of the Centre of Concern in Washington (1970-1978);
3) Provincial Superior of the Upper Canadian Province (1978-1984);
4) General Secretary of the Canadian Conference of Catholic Bishops (1985-1995).

In the course of these activities, he attended and made important contributions to three Synods of Bishops in Rome, two General Congregations of the Society of Jesus and many other national and international meetings. For Bill the highpoint was the 1971 Synod of Bishops which declared in its famous statement *Justice in the World:* "Action on behalf of justice and participation in the transformation of the world fully appear to us as a constitutive dimension of the preaching of the Gospel."

The final chapter of the book relates a series of painful closures of some of the Jesuit works Bill Ryan was most closely linked to: the Jesuit Centre for Faith and Justice, the publication *Compass,* the Farm Community at Guelph. It also recounts a general scaling down of the social justice work of the Canadian Conference of Catholic Bishops, especially in its Social Affairs Commission. The reasons for this are doubtless many and varied and, as the authors point out, part of a larger set of changes taking place within the Church, both within Canada and internationally. And they go so far as to say: "The momentum that was generated by Vatican II – the moves to collegiality, ecumenism, religious liberty, social justice – has not been reversed; it has simply stalled. Institutions as old and complex as the Roman Catholic Church – arguably the oldest and likely one of the most complex on the planet – certainly do not change easily, particularly when headed by a self-perpetuating and unaccountable leadership whose prevailing response to change has historically been to hunker down and adopt a siege mentality."

As an account of what happened over 40 years in a key area of the Church's work and of the activities of a man largely responsible for promoting it, this book is well worth reading. It will bring back many memories to others similarly involved in different parts of the world. It has been carefully and competently put together by two sympathetic authors on the basis of extensive interviews with many of the other actors and, of course, with Bill himself. Though inevitably it ends on a certain downbeat, perhaps the international seminar on **Present Crisis, Future Hopes: Globalization and Catholic Social Teachin**g, due to take place in Toronto this coming September and which Bill Ryan is masterminding, will address this topic. Hopefully we will be assisting, not at a burial but a resurrection, albeit in different forms.

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