

Prajateerpu: a Citizens Jury / Scenario Workshop on Food and Farming Futures for Andhra Pradesh

Michel P Pimbert and Tom Wakeford

Introduction

The State of Andhra Pradesh (AP) is currently re-thinking its approach to farming, land use and marketing. The AP government's vision of the future of the state's food system is presented in strategy papers and in its document 'Vision 2020'. Released on Republic Day 1999, Vision 2020 sets out the future of AP as imagined by the government - a future in which poverty is totally eradicated. Vision 2020 seeks to transform all areas of social and economic life in AP, not just food and farming. It aims to build human resources, focus on high-potential sectors as the engines of growth, and transform governance throughout the state (GoAP 1999). The government's poverty-reduction strategy is intimately linked with the delivery of this comprehensive vision. External development agencies support the Government of AP in this endeavour, with the World Bank and the UK Department for International Development (DFID) being the main donors (DFID 2001, Ruddock 2001).

About 70 per cent of the state's recorded population of 70 million work in agriculture (www.andhrapradesh.com). Fundamental transformations of the food system are proposed in Vision 2020, yet there has been little or no involvement of small farmers and rural people in shaping this policy scenario (GoAP 2000a, 2000b, 2001a). Recently local and state-level partners have revealed considerable concerns about the possible impacts of Vision 2020 on livelihoods security, agricultural biodiversity and the very fabric of local food systems and economies. AP officials and international donors also point to areas in Vision 2020 that need further public consultation and refinement. It was in this context that the UK-based International Institute for Environment and Development (IIED) and the Institute of Development Studies (IDS) designed a participatory process to encourage more public debate in policy choices on food futures for the State of Andhra Pradesh.

Prajateerpu - the 'citizens jury' on food and farming futures in Andhra Pradesh - was a six-day exercise in deliberative democracy involving marginal-livelihood citizens from all three regions of the state.¹ It took place at the Government of India's Farmer Liaison Centre (Krishi Vigyan Kendra - KVK) in Algole Village, Zaheerabad Taluk, Medak District, Andhra Pradesh, from June 25 to July 1, 2001.

The national partners involved in this international collaboration on deliberative democracy and the future of food systems, livelihoods and the environment included the Andhra Pradesh Coalition in Defence of Diversity, the University of Hyderabad, AP, and the All-India National Biodiversity Strategy and Action Plan (NBSAP).

Deliberative and inclusive processes ²

Over the past quarter century a number of 'participatory' methods have been developed to supplement conventional democratic processes by moving beyond traditional forms of consultation (Chambers 1997). Often called deliberative and inclusive processes (DIPS), these methods include citizens juries, neighbourhood forums, consensus conferences, scenario workshops, multi-criteria mapping, participatory rural appraisal, visioning exercises and deliberative polling. They can differ substantially in detail and have been applied to a wide range of issues and contexts. What they have in common, however, is that to varying degrees they all seek to adopt the principles of deliberation and inclusion.

Examples of recent exercises that have allowed local voices to influence policy, planning, service delivery and technology assessments include:

- Scenario workshops and consensus conferences on urban planning in Denmark
- A Citizens Jury on Genetically Modified Organisms (GMOs) in Karnataka
- Consensus conferences and deliberative polling on the location of toxic wastes in Switzerland
- Citizen Foresight - including multi-criteria analysis
- The use of RRA/PRA to inform policy decisions on land tenure and national resource management legislation in Madagascar and Guinea

There has been a significant increase in the use of deliberative and inclusive processes, in both North and South, particularly during the last decade. This is the result of a number of interrelated social and political trends.

Political change

In many countries the kind of so-called 'representative' democracy that relies on the accountability of elected politicians has been heavily criticised for its frequent inability to protect the interests of a large proportion of its citizens (Brock et al. 2001). Marginalised groups in both North and South are not often given the opportunity to participate effectively, and the poor are often badly organised and ill-served by the organisations that mobilise their votes and claim to represent their interests (Narayan et al. 2000).

The current concerns of donors for 'good governance' and the strengthening of civil society have increased interest in the use of DIPS for policymaking in the "South". Civil society organisations (North and South) have been largely responsible for the growing interest in a wide range of participatory methodologies. Over time these organisations have begun to take on a greater advocacy role, demanding that citizens voices be heard during both the formulation of government policies and the design of technologies to meet human needs in environmentally sustainable ways. These social actors also argue that DIPS have the potential to improve the quality of decision-making and increase the likelihood that policy formulation and implementation will be more legitimate, effective, efficient and sustainable.

Lack of trust in professional expertise and science

The growing public mistrust, their scepticism, loss of deference and perception of declining legitimacy regarding professional and scientific expertise also partly explains the rising interest in DIPs. Science has thus become increasingly drawn into policymaking as specialists, such as scientists, engineers, health professionals and urban planners, make decisions about social, economic and environmental issues to provide policymakers with options. This involvement of scientific expertise has tended to remove decisions from democratic politics, allowing instead more opaque technocratic decision-making to prevail in many cases (Buhler et al. 2002, Irwin 2001).

Attempts to overcome low public confidence in government institutions and scientific expertise have often emphasised a more deliberative and inclusive form of debate and policymaking. The value of formal scientific specialisms is recognised, but so is the importance of citizens perspectives as an alternative way of framing issues.³ Advocates argue that DIPs allow multiple perspectives into debates, thereby generating better understandings of the uncertainties of science-policy questions. The potential of DIPs to broaden democratic control over science and technology is also important (Stirling & Mayer 1999).

Uncertainty and complexity

The introduction of new technologies and all policy processes involves making decisions without being able to predict the effects of different courses of action. As the problems and systems become more complex and unstable, levels of uncertainty increase significantly. Environmental uncertainties and technological risks are particularly problematic in this connection, as environmental dynamics and effects are usually complex and long term. Biophysical processes, such as climate change or interactions between GMOs and the environment, are often characterised by non-equilibrium dynamics and high levels of instability. Predicting the long-term impacts of the products of genetic engineering on the living environment is beyond the power of existing science. The traditional approaches of risk management and cost-benefit analysis are inadequate when we don't know what we don't know, and where we don't know the probabilities of possible outcomes. In other words, even specialists are ignorant of the extent of their own ignorance (Irwin 1995).

Given such uncertainty in the face of complexity, 'experts' and 'specialists' may have more knowledge at their fingertips, but they are no better equipped to decide on questions of values and the public good than any other group of citizens. Perceptions of both the problem and the appropriate solution are value laden and differ enormously within society.

Advocates claim that the use of DIPs under conditions where there is uncertainty and ignorance can help:

- create a political space in which the values and views of non-specialists can be elicited on different visions of the future, whilst establishing spaces and forums for their debate and arbitration;
- generate new knowledge to inform social, environmental, economic and science policy through the interaction of diverse social actors, including local residents, citizens and divergent interest groups; and

- ensure that knowledge and policy processes respond more adequately to both local realities and local definitions of well-being and progress.

Rationale and methodology of the citizens jury

There are a range of ways in which political actors can 'represent' the opinions of citizens. Perhaps the most widely known is the opinion poll. In the period leading up to elections, different media outlets compete to give the most representative opinion poll of the state of play between the main political parties based on the instantaneous reactions of voters 'in the street'.

The opinion poll and jury are each based on different concepts of representativeness. Statistical representativeness arises purely from the mathematics of random sampling. The concept of a jury, including the citizens jury design of Prajateerpu, relies instead on the judicial representativeness of taking twelve citizens, more or less at random, and allowing them to deliberate on evidence to reach their final verdict. Because it is an informed decision, reached after extensive opportunity for deliberation, the verdict they reach is seen as far more valid than if a question was asked of one thousand un-informed citizens. The method is designed to allow participants to represent their own views, which are formed after discussions with others. Contrary to the methods used in much market research, most decisions in people's lives (from 'shall we have a cup of tea?' to 'should we have children?') are taken after anything from a brief discussion to an extended deliberation between those concerned with the issue. It is therefore opinion polls (and even many other supposedly objective social research methods) that are unrepresentative in that they do not allow citizens to reach informed decisions in conversation and deliberation with others. When it is argued that citizens juries are 'qualitative' and therefore not statistically representative, it should be understood that their comment refers to statistics, not representative democracy (Abramson 2000).

Under the model of citizens jury most commonly used in the UK and US, jurors are often recruited via a random selection of people taken from the electoral roll (Coote and Lenaghan 1997). It is widely agreed, however, that this method is not appropriate and is not an effective way to get a representative sample of citizens in nations where not only are people living in extreme poverty, but electoral records are often incomplete. In many adivasi regions of East Godavari District, the home region of two jurors, no elections at any level have been held for four years, and no electoral roll exists.

The selection of jurors in Prajateerpu followed the model adopted in the Karnataka jury (Wakeford 1999), whereby independent researchers were commissioned to recruit the members of the jury. A team of researchers from the University of Hyderabad, trained in participatory development and communication, were chosen to conduct the recruitment. Although this meant that the jury was not randomly selected in the mathematical sense, it was more representative of small and marginal farmers than if recruitment had been via other methods, such as using the highly error-prone electoral rolls which systematically exclude the many poorer citizens who are eligible but are not registered to vote.

Also, the process that we were beginning was not one of quantitative market research, but of qualitative action-research linked to empowerment. From this point of view, working through existing groups and identifying participants who were active members of

those groups would mean that if people wanted to take forward the issues raised in the jury, they were at least in contact with a group that might allow them the opportunity to do so. The fact that all participants had some involvement with, or membership of, a local group, meant that participants were not plucked off the street as most opinion poll and focus group participants are, but that they had some knowledge baseline of exposure from which they could participate.

Research for jury selection was conducted by the Department of Communication, University of Hyderabad. The team interviewed a range of rural people who they contacted using names provided by community groups from a range of organisations.

Having collected a list of names and addresses, the team then travelled to the villages where these farmers lived and conducted detailed interviews. In selecting the jurors, the researchers laid particular emphasis on recruiting dalit, adivasi and women farmers. The selection criteria were that they should be:

- small or marginal farmers living near or below the poverty line;
- open-minded, with no close connection to NGOs or political parties; and
- likely to be articulate in discussions.

In addition, one urban juror was recruited to give the perspective of someone who was a consumer of farm produce but was not earning a living from the land. While she could obviously not be expected to represent the full range of views of urban citizens (i.e. those not involved in agriculture), it was clear that the deliberations would be enriched by participants being able to take on board her concerns and knowledge. (For details of a process in the UK that also mixed urban and rural perspectives in this way see National Consumer Council 2002).

The Scenario Workshop

The jurors were presented with three different scenarios or visions of the future. Each was presented using a 30-minute video and by key opinion-formers who tried to explain the logic behind the scenario.

1. Vision 1: Vision 2020. This scenario has been put forward by Andhra Pradesh's Chief Minister and has been backed by a loan from the World Bank. It proposes to consolidate small farms and rapidly increase mechanisation and modernisation. Production-enhancing technologies will be introduced in farming and food processing, reducing the number of people on the land from 70 to 40 per cent by 2020. DFID (UK) provides budgetary support to the GoAP for the implementation of Vision 2020(DFID 2001).⁴

2. Vision 2: An export-based cash crop model of organic production. This vision of the future is based on proposals from IFOAM and the International Trade Centre (UNCTAD/WTO) for environmentally friendly farming linked to national and international markets. This vision is also increasingly driven by the demand of supermarkets in the North who want a cheap supply of organic produce and to comply with new eco-labelling standards.

3. Vision 3: Localised food systems. A future scenario based on increased self-reliance for rural communities, low external input agriculture, the re-localisation of food production, markets and local economies, and with long-distance trade only in goods that are surplus to production or not produced locally.

Specialist witnesses

Another crucial part of the deliberative process depended on identifying individuals willing and able to defend a particular vision of food and farming futures in Andhra Pradesh. The invited specialist witnesses all had a proven track record of engagement with the issues to be discussed and were broadly representative of government, industry and civil society. Each specialist witness agreed to address the jurors directly and also be open to cross examination⁵.

The jurors considered all three visions, assessing the pros and cons on the basis of their own knowledge, priorities and aspirations and taking into account the specialist witnesses' contributions. The jurors were not asked to simply choose Vision 1, 2 or 3, but were encouraged to assess critically the viability and relevance of all the elements of each scenario for the future. They could choose one particular vision or combine elements of all three futures and construct their own unique vision(s). The scenarios are images of different possibilities for the future. They are meant to stimulate the imagination, inspire criticism and help generate new visions and action proposals. An important task of the jury was to devise an action proposal which could be implemented to achieve their chosen vision. The resulting action proposals were considered both in small groups and in plenary.

Oversight Panel

The jury/scenario workshop process was overseen by an 'Oversight Panel' - a group of external observers or stakeholders. The role of the panel was to monitor and evaluate the fairness and credibility of the entire process. The inclusion of observers with a diverse range of interests was an important way of ensuring that the methodology was trustworthy and not captured by a group with a particular perspective or vested interest. In this context, the concept of stakeholder was widened to include those who are 'stakeless', having been marginalised by prevailing socio-economic forces. This was based on the coordinating team's belief that only if there was a balance on the panel between those whose human rights are at risk and those with power, would this produce a process that is both fair and seen to be fair.

Two members of the Oversight Panel critically reviewed the scripts of the videos to ensure that each food and farming future was presented in a fair and unprejudiced way. All panel members were involved in the critical evaluation of the jury process and its deliberations.

The panel was chaired by a retired Chief Justice of the Supreme Court of India, and included representatives of the international donor community, civil society organisations and tribal peoples⁶. As a stakeholder/observer panel the composition was carefully balanced using guidelines from previous exercises to include a broad range of interests and perspectives without any one of them dominating (Coote and Lenaghan 1997, Wakeford 1999). The panel was not pushed artificially into being so broad-based as to

include, and potentially be disrupted by, individuals who are opposed to democratic accountability of governments and corporations.

The Jury's Verdict and Vision of the Future

Some of the most significant sections of the Prajateerpu verdict are given below, along with an explanation of these conclusions and brief discussion of the issues arising.

Chemicals

We desire:

- **A switch to a system of farming that does not need toxic chemical pesticides**
- **Diverse native forests instead of monoculture plantations (e.g. eucalyptus)**

All the farmers and the consumer on the jury expressed general anxiety and specific concerns about the use of agro-chemicals in farming. Several jurors spoke about the mild to severe forms of pesticide poisoning that they experience on a daily basis. Others described the inferior food quality of crops grown with high inputs of chemical fertilisers. All referred to the debts of farmers hooked on the pesticide treadmill and the many cases of farmer suicides in AP. Given the severity of pesticide poisonings throughout the state, the jury found the government's policies to be socially and ecologically irresponsible. This was particularly highlighted in an exchange between the AP Deputy Director and Deputy Commissioner for Agriculture and a woman farmer from Kurnool: Deevenamma: "What happens when we get injured by pesticides that are used inappropriately? Sometimes we even get killed by their adverse health effects. Will you give us compensation? What about all those jeeps coming to our villages and persuading us to use their pesticides. Why can't you stop them?"

Akbal Rao (answering): "Pesticides are like cigarettes. People get addicted to them and use more and more. Only then are they injurious to their health. They need to be educated not to become addicted. We can't stop firms going round the villages marketing their product. If you feel they have cheated you, you should register a complaint with the police".

(And later during the same exchange)

Deevenamma: "It is fine that you are thinking of reimbursement from the company if there is a crop loss. But what about loss of lives, with the use of these materials [pesticides]"?

Akbal Rao (answering): "We cannot do anything. It is in the hands of God".

But pesticides are part and parcel of the process of modernisation spelt out in Vision 2020, according to Professor MV Rao:

"Earlier one of you was talking about the ill effects of pesticides and chemical fertilisers, and getting into debt. But you cannot stop using them completely. The crops need some protection. This is the first time in the state that a document like Vision 2020 has been presented. The loans from the World Bank would be used to modernise agriculture". Jurors did not view these trends as inevitable. They spoke of alternative, more effective and safer methods of pest control and fertiliser use, many of which are based on indigenous knowledge and management systems. The need to change perverse policy incentives and subsidies that encourage the use and abuse of agro-chemicals was emphasised in the jury's deliberations. A woman farmer from Visakhapatnam District expressed this vividly:

Ammaji: "We know the harm caused by chemical inputs and we will stop it. People are lured into chemical farming because of the subsidies. It's [conventional farming] like a father-and-son company, the father sells sugar and the son sells ants, and in the end the ants eat away the sugar".

One of the specialist witnesses echoed her calls for changes in policies and economic incentives:

Dr KPC Rao: "There's no encouragement for organic farming. Farmers are forced to take up chemical farming because the government provides subsidy only for chemical fertilisers and pesticides. There needs to be a change, changes need to be brought into government systems and policies".

Incentives to reduce the use of dangerous and expensive agro-chemicals in farming and livestock management were clearly linked with the need to switch to more diverse, sustainable, low external input or/and organic agriculture. The ecological resilience and safety of diversity-rich farms and forests were generally seen as more appropriate than monocultures, which were seen to be riskier and linked with the continued use of pesticides and chemical fertilisers. The jury was confident that small farmers could grow safe, quality food for everyone, provided policies were enabling for the farmers rather than the suppliers of off-farm inputs.

Mechanisation

We oppose:

- **Labour-displacing mechanisation**

The American prairie-style mechanisation of agriculture in AP is central to its government's Vision 2020. One of its supporters, the specialist witness Professor MV Rao, summed up Vision 2020 in three words: 'mechanisation and consolidation'. While not being opposed in principle to machines, the jurors were gravely concerned about the effects they are likely to have on the part-time work they have as casual labourers (or 'coolies') on richer farmers' fields. If such farmers were using machines this crucial source of income would surely be reduced, they suggested.

A second concern surrounding the increased use of machinery on the land for jobs such as ploughing and load-carrying was the long-term health of the soil. Already Andhra has seen a slump in the number of livestock as a result of the move from using farmyard manure to artificial fertilisers. The livestock are often left to wither, while manure is increasingly expensive. If ploughing and load-carrying was to be done by machines, these last major roles for cattle would disappear, with the result that they would disappear from villages altogether. Narsamma's concern, expressed below, is that the inevitable lack of available manure would sap the soil of its strength. Her concern was not addressed by Akbal Rao, who seemed unaware of the link between increased mechanisation and livestock scarcity. Nor did he acknowledge that increases in income due to increased productivity would be unlikely to trickle down to the marginal farmers whose jobs would have been lost and who made up the jury.

Narsamma: "You said that we should use machines, it will be good for agriculture. Why should we use them? If we did, we wouldn't get [jobs for ourselves as] coolies. Instead you should give us bullocks for farming. We'll get manure also and we can use the manure to grow our crops".

Akbal Rao: "The population is increasing manifold. You need to find other jobs [than as coolies] and diversify into various other fields such as business. As I said earlier, [today] 70 out of 100 people depend on agriculture. There will be some drawbacks arising from

mechanisation - unemployment is one of them - but machines will speed up the work, and increase production also”.

He later added: “Tractors can do in one day what used to take one hundred days of labour. Of course we should have them. You can of course continue to use bullock carts, but we need tractors because it saves money on labour”.

Narsamma: “If we use machines, the soil will lose its strength”.

Akbal Rao: “Who’s asking you to stop rearing animals? You should have animals and you should use the farmyard manure. Both are different, you need to have both.

Anyway, there is only 1 per cent mechanisation as of now”.

The verdict should not necessarily be taken to mean that marginal farmers would never want to make use of agricultural machines, but rather that they oppose the system of labour-displacing and soil-destroying machinery and tractor use as outlined in Vision 2020.

GM Crops

We oppose:

- **GM crops - including Vitamin A rice and Bt cotton**
- **Wasting money on research and development into inappropriate technologies that could instead be diverted to help us achieve our vision**

The Prajateerpu jury heard more evidence on GM (genetically modified, also called genetically engineered) crops than on any other single issue during its proceedings. They heard from two molecular biologists (Professor MV Rao and Dr Debashis Banerji), one bureaucrat (Akbal Rao), one seed company executive (Dr Partha Dasgupta), and the leader of a lobby group for large farmers (Chengal Reddy).

None of the jurors had heard of GM crops before the hearings, yet by the end of the hearings they felt informed enough to reach a strong set of conclusions. The following extracts from the evidence presented to the jury will help to contextualise the verdict they finally reached.

Chengal Reddy, though supportive of GM crop technologies, identified them as coming from the laboratories of the ‘white man’. But he suggested that the white man had brought many good technologies that, just like education, had helped people to progress in life, and that farmers like those on the jury should try out new agricultural technologies such as GM before deciding whether they were for or against them:

“It is not sensible to be against the technology. Do you want to stick to traditional practices and methods? But when you fall ill you will only go to an allopathic [conventional] doctor for a cure. You do not want to follow traditional medicine - you will want to go to a hospital and get treatment. On these occasions dealing with technology is okay with you? Do you tell your children to go to school or to do farming with you? It is not wrong to deny education to your children? Any parent would want their children to be educated and engage in professions other than farming such as doctors, engineers or government jobs.

There are many changes taking place. It is not as if everything is good or everything is bad. Things are not always black and white. You like having facilities like electricity, radio, television, etc., and like to have the latest things in your homes. All of those were also introduced by the white man. The clothes that you wear and the pen that you use, that is also from them. Those are because of technology. There are other sections of society who are benefiting from technology - doctors, engineers, computer engineers, etc. They have progressed a lot in life.

You should question, test the technology, examine its usefulness to you and then decide whether you want to adopt or reject it. It's very sad if you decide to say 'No' before it even comes to you. First you need to think of yourselves, what is profitable for you". While Chengal Reddy appealed to the juror's enlightened self-interest, Dr Partha Dasgupta appealed to their faith in science:

"Whenever human beings see a challenge, they make an effort - a physical effort, an intellectual effort - to meet that challenge, to cross over that challenge. So today we think that a 1km river cannot be crossed, but eventually we find out a way to cross that river. This is the greatness of human thinking power, the intelligence which is the mother of all science. We are sitting here in a rural set-up with all the hi-tech, with the video camera, with the digital system. All this is the result of constant human thinking which is going on to develop something new. So each time there is a challenge, we find an answer. Each technology, or each knowledge or each science has its own limitations. It can give you so much and not more. When you come to the limit of your particular technology, we search for another method or technology which will be able to cross even that barrier. So in 100 years using classical [crop] breeding, with the help of the knowledge of Gregor Mendel, we were able to take the potential yield from barely 2 tonnes to 12 tonnes [per acre]. But at the same time the scientists realised that the classical breeding has this much limitation and we cannot go beyond that".

Dr Dasgupta used a Malthusian-inspired argument to show the need to increase productivity. He then described a range of GM crops that would directly benefit those presently without food. They included rice genetically engineered to resist bacterial leaf blight, insect-tolerant cotton, insect-tolerant maize and herbicide-tolerant soybean. He highlighted the advantages of these 'input' traits, which he said: are known today for insect resistance, for fungal disease resistance, for viral disease resistance, for salinity resistance, for drought resistance, and for low or high temperature resistance.

He also went on to describe 'output' traits which 'improve the quality of product'.

A grain contains starch, protein, fat, and we try to make that grain more nutritious, we try to change the amino acid composition, if it is an oilseed we try to change the fatty acid composition of the crop; or if that grain is an edible food and it is deficient in some vitamins, we try to enrich it with those essential vitamins.

This led Dr Dasgupta into a detailed description of 'golden rice' - a variety enriched in Vitamin A. Professor Rao also extolled the virtues of golden rice:

"People have gotten used to eating polished rice which has lost some of its nutrients. Now the new technology like GM provides rice with all the nutrients, such as Vitamin A. With provision of such rice there will no longer be Vitamin A deficiencies. Farmers should come forward and cultivate it".

Professor Rao also suggested that 'GM technology will allow farmers to do away with pesticides'.

The only witness that focused on the risks of introducing of GM was Dr Debashis Banerji. He gave several specific case studies, including the development of the world's most commonly grown GM crop - Bt cotton.

"Scientists belonging to certain places [Monsanto] thought how about transferring this bacterial toxin [Bt] as a gene, a chemical, which can produce pesticide - the Bt toxin. So a transgenic crop, a Bt crop, was produced which had this Bt gene; that is now this cotton, the cotton leaves, the cotton boll, the cotton stem, could produce this Bt toxin. It was a very great hope. So people said, the claim was, that now pesticides will not have to be sprayed. The farmers were happy that we would not have to use pesticides. The environmentalists, the ecologists, were happy that now we will not have to spray pesticides. But what happened? You see, within two years the farmers found that the bollworm has developed resistance against all multiple forms of the Bt toxin. I hope you

understand, the bollworms developed resistance to the Bt cotton - i.e. the Bt cotton were being eaten up, the bolls were being eaten up by the bollworm. So the US farmers were very very unhappy. So, now what happens to the poor farmer?

The poor farmer goes to the company - Monsanto, which produces Bt cotton saying tell us what to do. Monsanto and the scientists they say that what you do now is also buy some non-Bt cotton. Farmers saying 'why Sir, I am already buying Bt cotton, why should I buy non-Bt cotton?' So the scientist says 'look, if you have all your plants as Bt cotton, then all the bollworms will become resistant, we want some non-resistant worms also'. The farmer gets confused. He says, 'I do not understand, what do you mean?' Now the scientist says 'we have to have some susceptible bollworms which will be killed by this plant, all bollworms should not become resistant. So, what you do is you have this non-Bt crop, where the non-resistant susceptible worm will also survive, they will mate with the resistant worm and so the susceptible lines will continue.' So the farmer says 'but what about the resistant bollworm?' The scientist says 'you have to use pesticide. Again you have to use pesticide, and stronger pesticide than you used before.' So now see the scenario: the farmer - a poor farmer - has to buy Bt cotton, non-Bt cotton, he has to buy pesticide. And this is much to the advantage of the companies. So what has really happened? Who has gained? It is the company which has gained ultimately by taking this 'eco-friendly' stand".

Dr Banerji accused agrochemical multinationals of irresponsibility and of risking the livelihoods of poverty-stricken farmers for their own financial ends. He also echoed earlier witnesses' concerns about the loss of employment and farmer self-reliance that would arise from the use of GM crops:

"One of the first companies to start herbicide resistance was Monsanto and there are other companies who have also made such GM crops. In India it is very difficult to understand the use of herbicides, because normally we are growing cotton, soya-bean, etc., what we do, we use cattle, we run cattle to remove the weeds in smaller farms, such as the ones I know in Madhya Pradesh. In states with larger farmers like Punjab, Haryana and western Uttar Pradesh the application of herbicides can be understood. It is basically not to waste money on labour, not to waste money on employment but to use it on chemicals - this is the basic logic. You can get on a helicopter and spray herbicides - this is the US model of farming. So, has it yielded good results? OK, some people are very happy, they were very happy in the US that now they don't have to engage labour and you have the herbicide-resistant plants. So no problem. But look at the logic - why were the [GM crops with] herbicide resistance developed? It is not that you have a general problem of [weeds developing] herbicide resistance. Say I am producing a herbicide A, a chemical which will kill the weeds, and I am producing also a plant which is resistant to A. So the farmer has to buy the herbicide-resistant seed as well as the herbicide [from the same company], so the company gains".

Dr Banerji also claimed that golden rice was not as beneficial as had been claimed, as so much of it would have to be eaten per day to get the recommended daily dose of Vitamin A. He also outlined the alternatives to GM crops that the NGO that he works for is practicing in Madhya Pradesh:

"It is no use criticising without alternatives. The alternative is to do sustainable dryland agriculture, which we are doing. In Samaj Pragati Sahayog, in Dewas District, Madhya Pradesh, we are doing watershed development work, a very important part of which is an agricultural development programme. Our area is like this, it is a dryland area, and what we are doing, we are using traditional varieties of crops, together with HYVs obtained from agricultural universities. We are producing crosses with traditional varieties that require much less water, much less fertiliser and much less pesticide. These new varieties are being developed by agricultural universities, and the main thing

is that you can reuse the seeds. Because of this work in our village there is food security, and despite the drought last year there is a one-metre rise in the water table". Most jurors were convinced that their own methods of agriculture were more reliable than most so-called HYVs or the new GM crops. Their views were summed up by Deevenamma:

"Long back when we were doing our own agriculture using our own [indigenous] methods we were also producing enough and we were also eating and we had good comfortable living with clothing and food and everything. Then we shifted to chemical agriculture because they promised that it would give good high yields and more production. So we shifted to this kind of agriculture, but slowly we have to increase our inputs in the form of buying more and more fertilisers and pesticides and many other forms of management.

Already we are having joint pains and other health problems because of this chemical agriculture. Now you are telling us that we have another type of agriculture - GM crops. Now you are also telling us that you have created new varieties. We don't know whether it is safe for our consumption. Because of chemical agriculture our own fodder is already not edible to our own cattle because of pesticide residue. HYV fodder is not relished by our cattle. If you give them GM crops, which kill an insect when a leaf is eaten by the insect, how can you be sure that it does not poison or kill ourselves and our cattle when we use it for human consumption and as cattle feed? All these are genuine doubts we have. I am sure that our own methods of agriculture are safer than these new untested ones".

Even before the evidence from Banerji, one juror had responded sceptically to the claim from Professor Rao that GM crops would not need pesticide applications. 'If that really was the case', said the juror (in a remark made off-camera to Kavitha Kuruganti), 'why would the pesticide companies allow GM crops to come in?' They were under no illusions that the same companies that had sold them pesticides in the past would now be attempting to sell them GM crops.

Perhaps a crucial moment in Dasgupta's evidence to the jury was when he hinted that golden rice was particularly useful in that it improved nutrition without having to change people's basic condition of poverty.

"This poster says that when you give a child rice, along with that you should give some green vegetables, give some pulses, carrots, etc., etc. But there are vast areas of Asian countries, especially in the coastal belt, where very poor people live, and there are many of them, who will be lucky if they get one meal of rice a day, and only rice, perhaps with a pinch of salt. They cannot buy vegetables or fruit, or anything. It is their rice I am talking about. If that rice is genetically engineered to contain a little more beta carotene, then at least just by eating rice, without changing the economic condition, the child will have better health".

Another juror condemned the amount of money being spent on biotechnology research: "Why spend so many crores of rupees [millions of US\$] on your research projects, and on ones which will only damage farmers' lives too? The farmers know what to do, and they have the knowledge to do it. Please leave the farmers alone. Or give them half of what you are spending, because they can do better".

Deevenamma felt very strongly that GM was dangerous. She asked Banerji to 'please take all this knowledge and plunge it into a deep ocean or sea with all these papers and calculations, etc., so that it may not come out again on the television and in the papers.'"

Livestock / manure

We desire:

- **The continued integration of livestock in our agriculture (including goats)**
- **Practices that maintain soil strength - (including livestock/farmyard manure /mixed cropping, cover crops, neem cake, groundnut husk)**

Factors such as declining fodder and water resources combined with blanket animal-breeding policies fuel a downward spiral of loss in livestock genetic diversity, draught power, natural fertilisers, livelihoods and household assets.

Valuable local animal breeds (Ongole and Deoni cattle, Deccani sheep and Aseel poultry) often end up in the slaughter houses for want of fodder. Yet Vision 2020's strategy of high milk production for export is based on the intensive development of fodder resources (increasing the area already under exclusive fodder crops; and contract farming for major feed ingredients like maize and soybean). Dr Sagari Ramdas, a specialist witness on livestock, asks:

"The government is asking you to provide fodder from your lands. You have small lands. Will you feed yourselves or your livestock? Who can afford it? Only people having 40, 50, 60 acres of lands can provide for fodder from their own lands. Earlier we used to cultivate crops [all pulses, cereals, varieties of corn, etc.] that would also provide feed for our livestock. Now we are forced to abandon those and grow cotton, tobacco. Where will we get the fodder?"

Drawing on her experience in Kurnool, Deevenamma reminded the jury that the intensification of fodder production through the use of agri-chemical inputs has already affected the nutritional quality of fodder. Vision 2020 plans will only aggravate these trends:

"Because of chemical agriculture our own fodder is already not edible to our own cattle because of pesticide residue. HYV fodder is not relished by our cattle".

Based on what they already observe throughout AP, the jury did not believe that the Vision 2020 plans for livestock development was in the best interests of society and the environment. Declining populations of work bullocks are leading to shortages in draught power during the critical agricultural season. Many farmers leave their lands fallow because of insufficient draught power. Feed shortage and a declining cattle population have resulted in acute shortages of organic manure. Farmers have had to switch to using polluting chemical fertilisers, even though they prefer to use natural manure. Moreover, inappropriate animal breeding programmes and discrimination against livestock important for the poor also contribute to the demise of livestock-based livelihoods in AP. For example, the government's policy of upgrading all local cattle with exotic and cross-bred germplasm has resulted in dairy animals that are non-economical for farmers with limited resources. The improved breeds can only give high milk yields if provided with the necessary feed, water, labour and veterinary health care. The majority of farmers in AP are simply unable to provide or pay for these high inputs.

The government's proposals to ban goat rearing in the state would further harm biodiversity and the poorest; goat rearing is critical for the survival of many households among the adivasi, dalit and low castes.

Sharing his concerns about the government's lack of sensitivity to the needs and priorities of small livestock rearers, Philip concluded:

"All that the government seems to be interested in is setting up many factories for meat production. The government wants increased dairy production. And they will only support very few farmers. The NGOs should support the small and marginal farmers in dairy production. Then we could [at least] contribute in protecting the local and original breeds".

The jury believed that this erosion of livestock biodiversity would increase with the type of agriculture proposed under Vision 2020. According to them, the local animal breeds

important for livelihoods and sustainable agriculture should be conserved in-situ by strengthening integrated farming and indigenous systems of land use in which livestock play a key role in nutrients cycles and the maintenance of soil fertility.

Western models of development and export led growth

We oppose:

- **The proposed reduction of those making their livelihood from the land from 70 to 40 per cent in Andhra Pradesh**
- **Loss of control over medicinal plants including their export**

The jury was able to relate Vision 2020's proposals for food and farming in AP to the experience of farming communities who had travelled down the same road in the US and Europe. In his witness presentation, a small farmer from Cornwall (UK) said:

"Then in 1947 we had an act of our parliament called the 1947 Agricultural Act which in a way is very similar to Vision 2020. So between 1947 and 1996, we lost 300,000 farmers in Britain. Now I know in your terms that's not very many, but there were only 500,000 farmers in Britain in 1947. And that act of Parliament in 1947 was for less farmers, more mechanisation, and intensive cropping. The whole idea was to produce a lot more food for Britain. ... [but] despite all the increase in production, despite loss of labour from the land, we in Britain have reached the point where farming no longer makes any money for the families involved. While the farms have got bigger and more intensive, we have damaged the environment, we have damaged the wildlife. We now have a very large payment needed each year in Britain to remove fertiliser and chemical pesticides from the water. So we have done with all the intensification tremendous damage to the countryside... Our policy..., has lost many many farmers from their farms.... Many of them still have no work... Ask yourselves where is the market for food grown for export, and what will it be worth?" Michael Hart

Experience from India also shows how loss of land through consolidation and mechanisation usually leads to more destitution, injustice and livelihood insecurity, as explained by another specialist witness:

"Once your lands are lost, you will then become unemployed. There is no scope for these farmers to get good jobs, because they are illiterate, and they have no work skills. The government plans to employ you as fourth-grade workers in their industries, because they will also need workers in all the industries they are planning to set up... This is not a method or system for backward people. It is not for the poor, for women, for dalits. It is for the high caste and the developed. Maybe men from the upper castes might agree with it [Vision 2020]". Srinivas

Vision 2020 sees food exports as the most efficient way to ensure prosperity in AP. The government advisor Dr. MV Rao mentioned that AP's remarkable comparative advantage stemmed from the low cost of labour and its rich endowment of agricultural crops and natural resources:

“The SWOT analysis of Andhra Pradesh shows that AP has a huge potential for exports. AP is leading in tobacco and mangoes. Some products that have potential for exports are aquaculture products – prawns, freshwater fish, cashew, milk products oilseed cakes, turmeric and coriander, green chillies, sugar, corn, medicinal herbs, castor and tamarind... AP is leading in seed production. There are brighter prospects for exports of seeds... Export will yield more financial gains. There is much scope for doing organic farming and exporting those products. There is also scope for exporting processed food items. We need to motivate the farmers to pursue this...A lot of changes will come by 2020 and there will no longer be starvation, hunger or drought”.

Drawing from their own experience with markets, several jurors openly doubted the validity of this economic theory and the Utopia of plenty promised by Vision 2020. One of the jurors asked:

“Why is it that only export of food grains is talked about? Don't you think that we should first talk about feeding ourselves and our families before we talk of cultivating crops for the sole purpose of exports. Trucks of food are being sent out for somebody and thanks to this we will be left with drought and shortage of food for ourselves”. Deevanamma

The jury was clearly aware of how dependence on external markets for food exports and the supply of inputs made them vulnerable to cost price squeezes. In an exchange with the government's senior advisor on biotechnology and food policy, Deevanamma asked:

“What we grow is for AP. But you send it to other countries. Everything comes to us at a very high cost, we have to pay heavy electricity bills as a result of machines, there is unemployment for both men and women farmers [both ploughing and harvesting work is replaced]. How do we progress?”

Acknowledging that farming was not economically viable under present policies, MV Rao answered back: “Do not depend entirely on farming, engage in other occupations also”.

Jurors were alarmed by the government's plans to further expand and facilitate corporate sector involvement in export-oriented agriculture. The issue of medicinal plants highlighted the conflict between production for human needs *versus* production for profitable export markets.

“Regarding medicinal plants, we have plenty of resources in our country. At present you have problems with middle men. There should be a direct link between farmers and companies. The government is making attempts in this direction. Up to Rs.80,000 crores can be earned from exports [of medicinal plants]. At present the government is giving up to Rs.1 crore to some of the farmers in Nalgonda and Mahabubnagar, in AP, to cultivate medicinal plants [for export]”. MV Rao

The importance of medicinal plants in the indigenous healthcare systems of people and livestock was strongly emphasised by all the jurors. Philip told MV Rao that the jury was not against trade *per se* but that policies should take human need as the starting point:

“About export of medicinal plants – we should use it first for our needs, you should provide us with inputs and training on how to use them and then only the surplus should be exported”.

The fundamental motives and rationale behind Vision 2020 seemed apparent to all jury members. As one juror put it:

“They [government] have not done anything. During elections they come to get the voters’ support, they distribute alcohol, and ask us to make self help groups... Through Vision 2020 they have devised strategies to earn money, they have not invested anything in us”.(Philip).

At times no words were uttered by the jury as they imagined and weighed up the future prepared for them from above. For example, body language, eye movements and head nodding were used by several jury members as they closely and intensely identified themselves with what a witness said about the plight of farmers in the UK:

“So I talk to you as one farmer to other farmers. Many of the problems, as I have already said, you have are the same as ours. We have low, very low prices, we have many farmers committing suicide because they cannot make a living. We have many experts and government ministers giving advice and making policies, and just as appears to be happening here, never actually talking to the farmers and consulting us on what we want and what we can do and what we would like to see”. Michael Hart

The jury understood all too well how Vision 2020 would alter the distribution of income from inequitable to inhuman. Their opposition to Vision 2020 was total. They could see no future for the land and ordinary people in what would be an ever-increasing integration of the State of Andhra Pradesh into the global economy through trade and investment rules, privatisation and new technologies.

Self reliance

We desire:

- **Food and farming for self reliance and community control over resources**
- **Agricultural systems that require low investments**

Without doubt the most prominent concern of the jurors both at the beginning and at the end of the Prajateerpu process was that they wanted a system of agriculture that would allow them to rely on their own knowledge, skills and resources. This included the management of biological resources in the form of crop varieties and natural resources such as water and soil. The most critical resource that they did not want their farming to become dependent on was cash.

All of the jurors were living in various degrees of poverty. They did not want to spend hard-earned rupees on seeds (usually high-yielding varieties) that required further investments in expensive and unreliable fertilisers and pesticides. Many among the jurors had tried this strategy in the past and had been left owing monies when they had been assured they would make a profit. Some were still trapped in a cycle of debt, often triggered by the use of Green Revolution packages.

The phrase ‘Grain that does not mean debts, and crops which do not mean expenditure’ (in Telegu Appuleni dhanyaalu, kharchu leni panta) became a refrain among the jurors during Prajateerpu. Though not perhaps a universal consensus among all jurors, it was used by one or another juror in almost every discussion.

Their fears were echoed by Srinivas, one of the specialist witnesses, who stated that: “Small farming does not enjoy any prospects at present. There is no support or

encouragement for small farming, and there doesn't seem to be any scope for it to become self-reliant".

Traditional farming methods

We desire:

- **Indigenous agriculture - including an appropriate combination of silt, farmyard manure, traditional seeds, improved seeds, mixed/rotated cropping, farm-saved seed, and control over seed selection**
- **The maintenance of the variety and diversity of our crops and animals**

Jurors emphasised the values of indigenous farming and land-use systems based on biodiversity. In terms of cropping system diversity a one-to-two acre farm will usually host 8 to 12 types of crop. Genetic diversity within each crop type can be high, particularly on land farmed by marginal and small farmers. Hardy, locally adapted and diverse livestock breeds (poultry, sheep, goats, pigs and cattle) were also seen as key in farming systems favoured by the jury. The importance of livestock as a source of high-quality organic manure was also emphasised by the jury. Many referred to organic manure as the basis of good husbandry and healthy crops, animals and people. Speaking on behalf of the jury, Ammaji, from Visakhapatnam District, called for production systems that reflect and reinforce farmers' autonomous decision-making: "We want to be in a position to continue with our own farming, cultivate our own crops with farmyard manure and be self-sufficient".

Whilst the jurors were clearly aware that indigenous farming and its knowledge basis were ecologically sound and less risky, they were also aware that decisive policy changes and technical re-orientations were needed by the government to realise the full potential of diverse agricultures and land uses. They specifically called for appropriate training and research as well as for government support to re-introduce livestock. In summing up the jury's verdict, Philip from Guntur District described how the government could be more enabling in this regard: "We want to follow traditional methods and cultivate traditional crops. For this we need training and need to be provided with livestock".

The jury thought that the needs of smallholders and marginal farmers (i.e. improved draught animals, milk production, livelihood diversification), particularly in the arid and drylands, could be creatively fused with the regeneration of soils and healthy agro-ecosystems through applications of organic manure.

Local institutions and government

We desire:

- **Local outlets for produce, and local sources of inputs**
- **That the formation of representative organisations of farmers should be facilitated**
- **That we can be linked up to farmers in different regions**
- **That all employees of the state should be accountable to us - including forest officials**
- **That the government should be responsible for providing basic services such as drinking water, monitoring prices, compensation in case of loss of life in**

agriculture, giving loans to small, marginal and landless farmers, and banning spurious pesticides

- **That foreign aid (from white people) should follow this vision and benefit the poorest**

Witnesses only rarely addressed themselves directly to issues of local institutions and governance. Yet jurors' accounts of experiencing socially unjust systems of governance were prominent both in their questions to witnesses and in their deliberations leading up to the verdict. Their final conclusions listed six 'desires' all of which related directly to local institutions and governance (see above).

The jurors had clearly moved on from an analysis of the current defects in local, regional and national institutions to thinking of practical solutions that could improve their lives and that of their communities. However, there clearly remained real anger on behalf of rural people living in poverty that money was being frittered away by corrupt and unaccountable systems of government. In the final press conference Anjamma, who had been listing the conclusions of the jury, could not resist repeating the jurors' distress: "We do not have a clue as to where the money (funding) is coming from or whom it is going to. It is definitely not reaching us and this is a mystery to us. Whenever we approach the government they simply throw up their hands and do not take any responsibility".

Concluding Remarks

Prajateerpu's aim was to make a contribution towards ensuring that those citizens who are often left out of the policy debates were allowed an opportunity to inform themselves about Vision 2020, along with some alternative visions, and then formulate their own future policy scenario. We have deliberately devoted more space to the voices of the poorest of the poor in this paper, - to *their* analysis and vision for food, farming and rural development -, than we have to our own analysis. Critical reflections on the Prajateerpu process, its strengths and weaknesses as well as the oversight panel's evaluations and statement of trustworthiness are described elsewhere (Pimbert and Wakeford, 2002). Here we offer some concluding remarks.

1. It is striking that in their vision to civilise food and farming in AP, the jury calls for more justice, fairness, humane treatment and democracy as organising principles for the conduct of social and economic life. The categories of economic efficiency and the market are largely absent, or subsumed in society and subordinated to the needs and rights of citizens. The Prajateerpu process stressed the primacy of politics over economics, re-affirming the importance of democratic debate and citizen choice on the ways and means of satisfying fundamental human needs. Deliberative and inclusive processes that empower citizens to imagine and invent their versions of the 'good life', with the corresponding policies, are potentially of enormous theoretical and practical relevance in re-imagining "development".

2. The methodologies used in Prajateerpu are widely replicable. Whilst government and donors may find them initially demanding in time and money, the systematic and more widespread use of citizen jury/scenario workshop methods can create spaces for the poor to plan and negotiate development and aid interventions. Independent oversight panels made up of different actors,- including representatives of the poor and

marginalized-, will be crucial in ensuring that no specific interest group captures the process and its outcomes in each situation.

3. Prajateerpu, 'the people's verdict' has clearly demonstrated the value of a participatory empowerment process, and articulated a grassroots vision of food, farming and rural development. While the process clearly contains flaws, we hope it will inspire others to continue to innovate with deliberative and inclusive democratic processes, as has been urged by analysts, NGOs and donor agencies alike (Buhler et al. 2002, Conway 1997, DFID 2000, World Bank 2002). The potential of Vision 2020 to damage the livelihoods of small and marginal farmers in Andhra Pradesh is at least as great as other mega-projects such as the Narmada Dam or the introduction of 'Green Revolution' technologies (Vasavi 1999a, 1999b). We invite all those involved in the first Prajateerpu process, together with those who read this report, to reflect critically on the lessons to be learned for future activities of this kind and their potential role in participatory development. In particular, we hope the remarkable achievements of the nineteen jurors will inspire those who seek to experiment with deliberative methods that work towards socially just, ecologically sustainable and citizen-shaped futures. We urge opinion-formers and decision-makers in India and internationally to respond to the results of Prajateerpu by reviewing their assumptions about rural futures and by engaging in further democratic processes of this kind.

References

- Abramson J (2000) *We the jury: The jury system and the ideal of democracy*. Harvard University Press, USA.
- Atkinson R and J Flint (2001) 'Accessing Hidden and Hard-to-Reach Populations: Snowball Research Strategies' in *Social Research Update*. Sociology Department, University of Surrey (Download from: www.soc.surrey.ac.uk/sru/sru.html).
- Brock K, A Cornwall and J Gaventa (2001) *Power, Knowledge & Political Spaces in the Framing of Poverty Policy*. Institute of Development Studies Working Paper 143, IDS, University of Sussex. (Download from: www.ids.ac.uk)
- Buhler W, S Morse A Beadle and E Arthur (2002) *Science, Agriculture and Research: A Compromised Participation?* Earthscan, London.
- Chambers R (1993) *Challenging the Professions*. Frontiers for rural development. Intermediate Technology Publications, London.
- Chambers R (1997) *Whose Reality Counts? Putting the First Last*. Intermediate Technology Publications, London.
- Conway G (1997) *Doubly Green Revolution: Food for All in the Twenty-First Century*. Penguin, London.
- Coote A and J Lenaghan (1995) *Citizens' Juries: From Theory to Practice*. IPPR, London.
- DFID (2000). *Making Globalisation Work for the World's Poor*. UK Government White Paper on International Development, DFID, London.
- DFID (2001). *Andhra Pradesh: State Strategy Paper*. DFID India, New Delhi.
- Genetics Forum (1999) *Citizen Foresight: A tool to enhance democratic policy making*. Genetics Forum and University of East London, London.

GoAP (1999) Vision 2020: Swarna Andhra Pradesh. See: www.andhrapradesh.com

GoAP (2000a) 'Swarna Andhra Pradesh Vision 2020'. Working Paper on Livestock Development Policy. Animal Husbandry Department, Government of Andhra Pradesh.

GoAP (2000b) 'Swarna Andhra Pradesh Vision 2020'. Working Paper on Agriculture Development Policy, Agriculture Department, Government of Andhra Pradesh.

GoAP (2001a) 'Strategy Paper of Agriculture and Allied Departments'. Government of Andhra Pradesh.

GoAP (2001b) 'Biotechnology Policy 2001. Andhra Pradesh, Beyond tomorrow'. Department of Industries and Commerce, Government of Andhra Pradesh, India.

GoAP (2002). Web site: www.andhrapradesh.com

Irwin A (1995) Citizen Science. A study of people, expertise and sustainable development. Routledge, UK.

Irwin A (2001) 'Citizen engagement in science and technology, a commentary on recent UK experience' in Pimbert and Wakeford (eds), *ibid.*

Narayan DC, R Chambers, MK Shah and P Petesch (2000) *Voices of the poor: Crying out for change*. World Bank, Washington DC, p.172.

National Consumer Council (2002) 'Feeding into Food Policy: A submission to the Policy Commission on the Future of Farming and Food on the view of low-income consumers'. NCC, London. (available from www.ncc.org.uk/pubs/pdf/feeding_in.pdf)

Pimbert MP and T Wakeford (eds) (2001) 'Deliberative democracy and citizen empowerment', PLA Notes 40. IIED London with the Commonwealth Foundation, ActionAid, DFID, and Sida.

Pimbert, M.P and T. Wakeford, 2002. Prajateerpu. A Citizens Jury/Scenario Workshop on Food and Farming Futures for Andhra Pradesh, India. International Institute for Environment and Development and Institute for Development Studies, IIED London. 74pp.

Ruddock J (2001) Written parliamentary questions to the Secretary of State, DFID, in Hansard 20 July: Column: 477W (available from www.parliament.uk).

Stirling A and S Mayer (1999) *Rethinking Risk: A pilot multi-criteria mapping of a genetically modified crop in agricultural systems in the UK*. Science Policy Research Unit (SPRU), University of Sussex, UK (available from www.sussex.ac.uk/spru/).

Vasavi AR (1999a) *Harbingers of Rain: Land & Life in South India*. Oxford University Press, New Delhi.

Vasavi AR (1999b) 'Agrarian Distress in Bidar: Market, State and Suicides', *Economic & Political Weekly*, August 7, 2263-69.

Wakeford T (1999) 'Indian Farmers Judge GM Crops'. ActionAid, London (available from: www.actionaid.org/resources/foodrights/foodrights.shtml).

World Bank (2002) For more information on the World Bank's loans and support to the Government of Andhra Pradesh see www.worldbank.org.

Footnotes

1 -Prajateerpu is the Telegu word for people's verdict. A comprehensive analysis of the process is given in Pimbert and Wakeford, 2002.

2 -References to much of the work described in this section can be found in Pimbert and Wakeford (2001) 'Deliberative democracy and citizen empowerment: An overview', in: PLA Notes 40: pp.23-29. This can be downloaded from www.iied.org.

3 -In this report we favour the use of the word 'specialist' rather than expert because it avoids the false contrast between 'experts' and 'lay people' so often condemned in analyses of knowledge/power relations. The word specialist acknowledges that some people in society have had a specialist training - whether it be in genetics, sociology or hydrology, whereas 'non-specialists' have insights based on more general experiential learning. We recognise that this 'specialist' / 'non-specialist' division, like most generalisations, masks considerable diversity in levels of specialism. However, the terminology at least avoids the implicit hierarchy between the 'lay' person or public whose knowledge is less reliable or rational, and that of experts or scientists who are assumed providers of expert and reliable assessments.

4 -DFID works with the World Bank to support a programme of structural adjustment for poverty elimination in AP. The four main pillars for budgetary support are Power Sector Reform and Restructuring, Fiscal Reform, Governance Reform and Rural Development/Agricultural Reform. Both DFID and the World Bank work closely to help the AP government refocus its spending priorities and divest functions and services where this is more appropriate. Specific support efforts are made to strengthen the Government of AP's capacity to manage the privatisation programme outlined in Vision 2020. The State of Andhra Pradesh receives over 60 per cent of all DFID aid to India (DFID, 2001).

5. The specialist witnesses were **Mr K Akbal Rao**, Deputy Commissioner and Deputy Director of Agriculture Andhra Pradesh, Government of India; **Professor M V Rao** Former Vice Chancellor of Andhra Pradesh Agricultural University, Hyderabad, India. Senior Advisor to the Government of AP on biotechnology and agricultural policy; **P Chengal Reddy**, President AP Federation of Farmers Associations, Andhra Pradesh, India; **Dr K P C Rao** Principal scientist, Economic Planning, National Academy of Agricultural Research Management, Hyderabad, India; **Dr. Alexander Daniels** General Secretary IFOAM-Asia; **Dr. Shivram Krishna** Cultural Anthropologist working with Tribal Peoples in AP; **Dr Sagari Ramdas**, Director, Anthra, Specialist in livestock issues; **Dr. Partha Dasgupta**, SYNGENTA Seeds Asia-Pacific; **Dr Debashis Banerji**, Former Head and Professor Botany and Molecular Biology CCS University, Meerut; **Michael Hart**, President of the Small and Family Farm Alliance, UK; **Colin Hines**, Associate, International Forum on Globalisation, UK; **Dr T N Prakash**, Professor of Agriculture and Coordinator, Agro Biodiversity Group of National Biodiversity Strategy and Action Plan (NBSAP), India.

6. The oversight panel members were **Justice P.B. Sawant**, Chairman Press Council of India (former chief justice at the Supreme Court of India), New Delhi, India; **Paul ter Weel**, First Secretary Advisor Development & Environment, DGIS, The Netherlands Embassy, New Delhi India; **Ms Savitri**, Girijan Deepika Addatheegala, East Godavari District, AP; **Y. Divanjulu Naidu** Coordinator of AME (Man and Ecology), Andhra Pradesh; **Sandeep Chacra**, Regional Director ActionAid, Hyderabad, India.

Authors

Dr Michel Pimbert
Principal Associate
International Institute for Environment and Development
3 Endsleigh Street
London, WC1H 0DD
UK
e-mail: michel.pimbert@iied.org

Dr Tom Wakeford
Environment Group,
Institute of Development Studies,
University of Sussex
Brighton, BN1 9RE
UK
e-mail : t.wakeford@ids.ac.uk