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# Final report

*project*

## Facilitating efficient agricultural markets in India: an assessment of competition and regulatory reform requirements

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*prepared by* Scott Davenport, Rajesh Chadha and Sisira Jayasuriya.

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*co-authors/  
contributors/  
collaborators* Allan Fels, Donald MacLaren and Steve McCorriston.

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*approved by* Dr Simon Hearn, Research Program Manager for Agricultural Development Policy, ACIAR

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# 1 Acknowledgments

The project authors were:

Mr Scott Davenport, Director Economic Policy and Research & Chief Economist, NSW Department of Trade and Investment.

Dr Rajesh Chadha, Senior Fellow, National Council of Applied Economic Research.

Dr Sisira Jayasuriya, Professor of Economics, La Trobe University.

Dr Donald MacLaren, Associate Professor, Economics Department, Melbourne University.

Professor Steve McCorrison, Head of the Department of Economics and Professor of Agricultural Economics, Exeter University.

Professor Allan Fels, Dean, Australia New Zealand School of Government.

The authors wish to acknowledge and thank:

- India's National Council of Applied Economic Research (NCAER) for the central role played in enabling this project to occur and the support provided by past and present Directors-General, Suman Bery and Shekhar Shah;
- the Australian Centre for International Agricultural Research (ACIAR) for funding the project and Dr Simon Hearn and Dr John Dixon for project support and direction;
- the Project Steering Committee; and
- Dr Ramesh Chand, National Centre for Agricultural Economics and Policy Research (NCAP) and Ms Jyoti Gujral, Director, Infrastructure Development Finance Company Ltd for their support and project input.

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## 2 Executive summary

The project was based on the premise that India's trade policy reforms at the border need to be complemented by 'behind-the-border' domestic reforms if government policy objectives of improved productivity, higher rural employment and incomes and enhanced food security are to be met.

This project therefore involved policy makers and academics from India, Britain and Australia in identifying an approach to agricultural policy reform in India that would enable the gains from trade reform to be shared by the farm sector. The policy reform framework identified was consistent with contemporary public policy principles whereby policy objectives are clearly linked to accepted forms of 'market failure', and the form of regulation is that which least restricts competition.

By providing a policy framework that helped to achieve more efficient markets, where commodity price signals are linked more directly to market demand, the project also made a strong contribution to putting India's agricultural sector on a pathway by which its true comparative advantage in production/cropping systems can be revealed.

The objectives of the project were to:

1. Document agricultural marketing and competition policy settings in India and a selection of other developing countries (Brazil, Russia, China). Emphasis was placed on identifying relevant policy objectives, policy change processes and the 'market failure' principles driving those changes, in order to facilitate debate in relation to the necessary elements of a competition policy framework that might apply in India.
2. Undertake a policy comparison across those same developing countries of trends in agricultural sector regulation more broadly in order to identify and assess efforts being made to facilitate farm level adjustment in response to less regulated international trading arrangements.
3. Using the country comparisons and an appropriate public policy framework, undertake 2-3 industry case studies which identify current policy settings and how an alternative competition policy and regulatory reform initiatives would apply. The focus of these studies was on (i) wheat in Punjab; and (ii) horticulture products in West Bengal.
4. Formulate a set of policy recommendations that guide the introduction of necessary competition and regulatory reforms.

The project was undertaken in two stages. Stage 1 consisted of the preparation of a report by NCAER and the NSW Department of Trade and Investment describing agricultural policy settings and reform pathways in the emerging economies of Brazil, Russia, India and China (BRICs). Stage 1 addressed objectives 1 and 2 of the project.

Stage 2 then sought to look at Indian agricultural policy settings in more detail, particularly the extent to which regulatory interventions along the supply chain were consistent with contemporary public policy principles. This was done by way of case study analysis.

Final recommendations were then made drawing on findings from the BRICs report and the case studies.

### ***The Stage 1 BRICs Report***

Based on the review of agricultural policy reform in the BRICs countries, it was found that the extent of adoption of market based reforms in emerging economies was mixed. An important finding, however, was that sectoral productivity growth was positively correlated with market-based agricultural policy reform. The review revealed a particular concern in

the context of India, where the lack of agricultural policy reform is potentially a key contributing factor to declining sectoral productivity.

Preparation of the BRICs Report also provided an important early opportunity for project collaborators to jointly discuss and consider how 'market failure' principles can be used as a framework to guide government intervention and to identify policy reform opportunities.

### **The Stage 2 Supply Chain Case Studies**

Having considered the broader trends in international agricultural policy reform within the BRICs countries, project collaborators were then well placed to consider agricultural policy reform in India in more detail.

The activities of the Food Corporation of India (FCI) and India's statutory wholesale marketing arrangements (Agricultural Produce Marketing Committees) were, on *prima facie* grounds, considered to be having major impacts on competition and price transmission to the farm level. The likely extent of those impacts was considered sufficient to warrant in-depth, quantitative, analysis of efficiency losses associated with FCI activities, such as their stockpiling and procurement arrangements (including minimum support prices to farmers in certain locations). The analysis also included an assessment of the appropriateness and compatibility of the FCI's various public policy objectives and identified alternative, less competition restricting, policy options for meeting those objectives.

This work was extremely powerful and influential among policy makers given it was the first such study to quantitatively demonstrate that more efficient programs could be devised to meet the FCI's food security and farm income objectives.

### **Agricultural Policy Reforms & Strategic Directions for India**

The comparative study of the agricultural experience in the BRICs countries provides significant evidence that a range of market orientated agricultural policy reforms can lead to higher rural incomes, increased agricultural productivity and reduced poverty. Market orientated reforms, however, necessarily involve progressively decoupling agricultural assistance from farm input and output prices and the associated quantities. Significant efforts are required by government, however, to tailor such changes to the specific circumstances of each country.

A clear message from policy developments in both developed and emerging economies is that policy reform and the 'openness' of economies hold the key to productivity gains, rather than having governments attempting to 'drive' growth through subsidised agricultural input and output prices.

A related concern is the continuing focus of some governments on establishing 'growth targets' as the centrepiece of rural policy. This experience highlights the need for governments to also be ensuring that food security and rural income goals are achieved in the most efficient manner so that national resources and limited government funds can be efficiently utilised. Pursuing output and growth targets, without regard to the economic, social and environmental costs of achieving them, has been demonstrated to be a waste of national resources and ultimately incompatible with the goal of achieving food security and increasing rural incomes in a sustainable manner. Government policies must be redirected toward increasing market efficiency and correcting market failures, such as poverty alleviation.

In the case of India, given the current status of agriculture and the rural sector, the challenge is therefore to make this transition without placing in jeopardy the food and income surety of vulnerable groups including marginal and small farmers. This calls for a well thought out strategy for gradually, but not unduly slowly, transforming Indian agriculture and establishing a policy environment that can provide rural producers with the flexibility to face the challenges of a fast growing modern economy.

More generally, the focus of government needs to shift from effectively acting as a market operative, through efforts aimed at directly influencing farm prices, to one of facilitating the development of more efficient markets, with appropriately targeted safety nets and adjustment assistance.

Various studies find that:

- food security can be addressed more efficiently through direct income support programs directed at the poor, than through large scale government food stockpiling and distribution which goes beyond the maintenance of stocks needed for emergency food security needs. However, where such arrangements are maintained, the potential benefits of commercialisation should be evaluated;
- that farm income support delivered directly through farm input and output prices leads to unintended and inefficient resource use distortions, and by delivering most benefits to better off farmers and processors, it is not only regressive but also ineffective in targeting support to those most in need; and
- once programs are in place that effectively target the poor and disadvantaged, governments need to consider whether their price stabilisation and risk management objectives can be more efficiently addressed at the farm and industry level through strategies such as production diversification, off-farm income and private marketing options such as forward contracts.

A truism is that market based policy reforms are inevitable in response to changing supply and demand conditions and the need for economies to maintain global competitiveness. Nevertheless, they are often politically sensitive and need to occur in an orderly manner that engages with key stakeholders and the broader community.

Hence there is a strong case, particularly for emerging economies, to introduce public institutions and associated regulatory review processes that enable transparent and ongoing scrutiny of agricultural policy settings, with review processes complemented by:

- the regular monitoring by government of farm incomes and sectoral productivity to assess the impacts of reform; and
- an ongoing program of independent public policy research aimed at enhancing the welfare and productivity dividends of the government's regulatory portfolio.

A major concern for India is that traditional forms of agricultural policy, such as the FCI, its food grain procurement arrangements, APMC markets, minimum support prices and input subsidies, have created an incentive system throughout India's food supply chains which maintains certain 'historical' production patterns, and in so doing, limits agricultural sector adjustment which would otherwise enhance sectoral incomes, productivity and food security.

The unintended impacts of these arrangements, such as their contribution to food price inflation and decelerating total factor productivity, are also now becoming more evident. They may also be acting as a disincentive to farmer participation in new programs and to private sector and foreign investment in areas such as infrastructure provision.

Importantly, they also incur significant budgetary costs that impede the capacity of government to otherwise assist farm families and communities through the introduction of new government adjustment programs.

In this context, the productivity of India's agricultural sector needs to be re-considered with a focus on total factor productivity, as defined by the relationship between inputs and outputs, rather than on 'partial' productivity measures, such as crop yields.

The current emphasis of government assistance on subsidising prices, needs to shift to focus on those forms of market failure typically associated with farming systems, such as information failure with respect to the development and adoption of new technology, credit markets and the introduction of industry and government partnership arrangements aimed

at facilitating more efficient levels of investment in environmental management, food safety, biosecurity and infrastructure provision.

Given the focus of the recently constituted Competition Commission of India on ensuring fair and healthy competition in the economy to achieve efficient resource use and faster and inclusive growth and development, it follows that it has an important role in considering the application of trade practices law to agriculture as part of India's new 'agricultural policy program'. This will help ensure that the gains from reform are efficiently and equitably distributed among supply chain participants consistent with national goals. Important areas of focus will be (i) 'unconscionable conduct' and 'market power abuse', rather than on differences *per se* in market power between buyers and sellers, and (ii) farm level arrangements that provide for collective bargaining.

### **Policy Options**

Recognising that policy reform is the domain of the Indian Government, the following policy options are put forward for consideration based on the project analyses:

1. That the Indian Government, with the Competition Commission of India, move to adopt a 'market failure' based policy framework to guide agricultural policy reform.
2. Key components of that framework include:
  - a transparent legislation/regulation review process, whereby agricultural regulation that significantly influences competition and food chain prices is subject to an independent, rolling, 5 year review process;
  - as part of a broader agricultural policy reform program, government objectives need to increasingly focus on facilitating efficient input and output markets with necessary targeted assistance and safeguards for vulnerable groups;
  - regular monitoring and surveying of the farm sector to enable a sound understanding of developments in farm incomes and productivity in response to the government's policy reform agenda, to be shared with key stakeholders; and
  - the strategic application of competition law.
3. Analysis of alternative mechanisms for meeting the current government objectives pursued through FCI operations indicates that current problems with wasteful levels of stocks and denial of food to needy consumers can be minimised by:
  - addressing the FCI's food security objective through the introduction of targeted programs which effectively meet those food security objectives in relation to the rural and urban poor, such as a food stamp program;
  - addressing the FCI's farm income objective through alternative arrangements, such as a guaranteed price deficiency payment scheme;
  - requiring the FCI to focus on the management of the buffer stock.
4. Given that much information already exists in relation to the adverse effects of agricultural policy involving the provision of government assistance through input and output prices, early reform priority be placed on:
  - improving the ability of rural labour and farm families to adopt more efficient farm practices and to move into other sectors of the economy; and
  - implementing an orderly transition program from currently provided input subsidies to new farm programs which focus on more appropriate measures of productivity and the market failure issues typically associated with agricultural production systems.

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## 3 Background

India's agricultural sector has experienced rapid growth since the beginning of the green revolution in the mid sixties. This growth occurred in a protected environment facilitated by policy support, new production technologies and public investment in irrigation infrastructure. The sector has also been heavily shaped by India's national goals of long term food security and price stabilization.

A key challenge over the medium term is therefore the development of agricultural policy settings which enable farmers to efficiently adjust to a less regulated production and marketing environment.

Project ADP/2007/062 '*Facilitating Efficient Agricultural Markets in India: An Assessment of Competition and Regulatory Reform Requirements*', followed on from ACIAR project ADP/2002/089, '*Agricultural Trade Liberalisation and Domestic Market Reforms in Indian Agriculture*'. The earlier project involved an assessment of the impacts of international and domestic market reforms on agricultural prices, production and incomes. As that project progressed, it became clear that trade policy reforms at the border need to be complemented by 'behind-the-border' domestic reforms, if government policy objectives of improved productivity, higher rural employment and incomes and enhanced food security are to be met.

Members of the Project Advisory Committee for project ADP/2002/089 and other Indian policy makers therefore suggested that the project team look at extending the research into these issues and pointed out that Australia has an international reputation in the area of implementing competition policy and deregulation measures in agriculture.

Project ADP/2007/062 was therefore designed to complement the earlier project by seeking to identify (i) the role of competition policy in promoting the efficient distribution of gains from international and domestic market reform; (ii) those policy and regulatory settings that may be impeding farmer adjustment; and (iii) formulating feasible measures to achieve efficient regulatory reforms in Indian agriculture.

This project therefore focused on the manner in which deregulation might be achieved, by identifying some of the competition policy settings required to ensure that the gains from trade reform are shared by the farm sector.

ACIAR assessed the project as being consistent with their stated India 'priority' of analysing policy constraints to technology adoption and evaluating policy alternatives. For example, the lack of an effective competition policy regime in India will likely limit farm sector gains from trade reform, and in so doing, constrain farmer capacity to adopt new technologies. The project was also consistent with ACIAR's aim of engaging with policy makers with a view to developing policy settings that provide incentives for new technology adoption.

The study was also consistent with Sub-programs 1 and 3 of ACIAR's indicative research priorities for India and its Medium-term South Asia Strategy. By facilitating the development of appropriate competition policy settings and identifying regulatory arrangements that may be impeding adjustment (i.e. technology adoption), the project can be viewed as having made a strong contribution to the Sub-program 1 priorities of:

- maintaining the competitiveness and sustainability of production in favoured areas which have access to resources and markets; and particularly to the sub-priority
- of adjusting to the challenges and opportunities of international trade.

By providing a policy framework that helps to achieve more efficient markets, where commodity price signals are linked more directly to market demand, the project has also made a strong contribution to putting India's agricultural sector on a pathway by which its



true comparative advantage in production/cropping systems can be revealed. This will also help to maximize the benefits from production research funded by donor agencies, such as ACIAR. For example, projects such as CIM/2006/094 *“Enhancing Farm Profitability in Northwest India and South Australia by Improving Grain Quality of Wheat”* may have far higher pay-offs in the absence of regulatory impediments to farmer adoption, or the inability of growers to capture potential profits due to certain marketing arrangements or market behaviour.

Finally, by focussing on 'behind-the-border' issues that impact on trade and commerce, the project is consistent with Australia's trade related interests and the emerging priorities of APEC which is interested in enhancing prospects for trade reform and regional economic integration.

Project Collaborators included:

Dr Rajesh Chadha from India's National Council of Applied Economic Research (NCAER);  
Professor Allan Fels from the Australia and New Zealand School of Government;  
Mr Scott Davenport from the NSW Department of Primary Industries;  
Dr Sisira Jayasuriya from LaTrobe University;  
Dr Donald MacLaren from the University of Melbourne; and  
Professor Steve McCorriston from Exeter University.

The project was also guided by an Advisory Committee comprised of the following eminent industry, government and academic representatives:

1. Mr. Suman Bery, Director General, NCAER, New Delhi;
2. Mr. Bharat Desai, Senior Executive Vice President, Reliance Industries Limited, Mumbai;
3. Mr. R. Gopalan, Secretary Economic Affairs, Government of India;
4. Ms. Jyoti Gujral, Specialist, Food and Agriculture Infrastructure, IDFC, New Delhi;
5. Professor Ramesh Chand, Director, NCAP, New Delhi;
6. Professor Arvind Panagariya, Columbia University, USA;
7. Professor Allan Fels, Dean, Australia and New Zealand School of Government; and
8. Mr. Augustine Peter, Former Economic Adviser, Competition Commission of India.

The project also benefited from interaction with:

1. Mr. Dhanendra Kumar, Chairman, Competition Commission of India;
2. Professor S. S. Acharya, Institute of Development Studies, Jaipur;
2. Professor T. Haque, Chairman, Commission for Agricultural Costs and Prices, India;
3. Professor Thomas W. Hertel, Purdue University, USA; and
4. Mr. Vyas Ji, Former Secretary, Competition Commission of India.

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## 4 Objectives

With Indian agriculture facing major adjustment pressures as it becomes increasingly exposed to international market forces, the aim of the project was therefore to help ensure that the gains from international and domestic market reforms translate into real income gains to Indian farmers by facilitating the development of appropriate market based, pro-competition, policy settings. The objectives of the project were to:

1. Document agricultural marketing and competition policy settings in India and a selection of other developing countries (Brazil, Russia, China). Emphasis was placed on identifying relevant policy objectives, policy change processes and the 'market failure' principles driving those changes in order to facilitate debate in relation to the necessary elements of competition policy framework that might apply in India.
2. Undertake a policy comparison across those same developing countries of trends in agricultural sector regulation more broadly in order to identify and assess efforts being made to facilitate farm level adjustment in response to less regulated international trading arrangements.
3. Using the country comparisons and an appropriate public policy framework, undertake 2-3 industry case studies which identify current policy settings and how an alternative competition policy and regulatory reform initiatives would apply. The focus of these studies was on (i) wheat in Punjab; and (ii) horticulture products in West Bengal.
4. Formulate a set of policy recommendations that guide the introduction of necessary competition and regulatory reforms.

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## 5 Methodology

The project was undertaken in two stages. Stage 1 consisted of the preparation of a report by NCAER and the NSW Department of Trade and Investment describing agricultural policy settings and reform pathways in the emerging economies of Brazil, Russia, India and China (BRICs). Stage 1 addressed objectives 1 and 2 of the project.

Stage 2 then sought to look at Indian agricultural policy settings in more detail, particularly the extent to which regulatory interventions along the supply chain were consistent with contemporary public policy principles. This was done by way of case study analysis.

Final recommendations were then made drawing on findings in the BRICs report and the case studies.

### **The Stage 1 BRICs Report**

Based on the review of agricultural policy reform in the BRICs countries, it was found that the extent of adoption of market based reforms in emerging economies was mixed. An important finding, however, was that sectoral productivity growth was positively correlated with market-based agricultural policy reform. The review revealed a particular concern in the context of India, where the lack of agricultural policy reform is potentially a key contributing factor to declining sector productivity.

Preparation of the BRICs Report also provided an important early opportunity for project collaborators to jointly discuss and consider how 'market failure' principles can be used as a framework to guide government intervention and to identify policy reform opportunities.

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/BRICs\\_Discu\\_Paper.pdf](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/BRICs_Discu_Paper.pdf)

### **The Stage 2 Supply Chain Case Studies**

Having considered the broader trends in international agricultural policy reform within the BRICs countries, project collaborators were then well placed to consider agricultural policy reform in India in more detail.

The activities of the Food Corporation of India (FCI) and India's statutory wholesale marketing arrangements (Agricultural Produce Marketing Committees) were, on *prima facie* grounds, considered to be having major impacts on competition and price transmission to the farm level. The likely extent of those impacts was considered sufficient to warrant in-depth, quantitative, analysis of efficiency losses associated with FCI activities, such as their stockpiling and procurement arrangements (including minimum support prices to farmers in certain locations). The analysis also included an assessment of the appropriateness and compatibility of the FCI's various public policy objectives and then identified alternative, less competition restricting, policy options for meeting those objectives.

This work was extremely powerful and influential among policy makers given it was the first such study to quantitatively demonstrate that more efficient programs could be devised to meet the FCI's food security and farm income objectives. This work was undertaken by Dr Donald MacLaren from Melbourne University and Professor Steve McCorrison from Exeter University.

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/Donald&Steve.pptx](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/Donald&Steve.pptx)

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/Donald&Steve.doc](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/Donald&Steve.doc)

As well as the abovementioned in-depth quantitative analysis of what were considered particularly significant regulatory restrictions on competition, on the advice of Professor Allan Fels, case studies were undertaken which focused on identifying the portfolio of regulations within particular agricultural supply chains (horticulture and food grains) and analysing their effect on price transmission through to the farm level. In so doing, the

approach provided a methodology for identifying particular regulations which significantly impede price transmission and therefore where reform gains may be significant in terms of improved market signals leading to enhanced industry adjustment and sectoral productivity growth.

The NCAER played a lead role in obtaining food grain and horticultural price data at various points in the supply chain in order to assess where regulatory interventions, such as the Agricultural Produce Marketing Act, may be correlated with high margins which insulate growers from actual market trends.

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/R\\_Chadha.ppt](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/R_Chadha.ppt)

[http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/R\\_Chadha\\_Compensation\\_Regulation.doc](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/R_Chadha_Compensation_Regulation.doc)

Key findings from this work were that the existing system of controls on agricultural markets have not served the purpose of enhancing competition among market intermediaries. Lack of market incentives has also impeded the development of agricultural infrastructure and regulatory restrictions and controls apply to rice processing in almost all the major states. Inefficient supply chains are also resulting in high levels of wastage in food grains and horticulture crops.

An exciting development, not part of the original project design, was the offer by Ms Jyoti Gujral from India's Infrastructure Development Finance Company Ltd to prepare two papers that proved to be highly relevant to the supply chain case studies and the final project workshop theme of identifying regulatory impediments to competition and reform options. The first paper titled '*Competition Issues in Agricultural Marketing and Procurement in India*' involved an investigation of how India's statutory APMC markets breach competition policy principles. The second, titled '*Regulatory Impediments to Market Based Policy Reforms in Agriculture: The Case of National Warehouse Receipts*' considers how APMC markets act as an impediment to farmer involvement in new grain market options.

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/Jyoti\\_Piyush\\_Anuradha.ppt](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/Jyoti_Piyush_Anuradha.ppt)

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/Jyoti%20Gujral%20and%20Piyush.ppt](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/Jyoti%20Gujral%20and%20Piyush.ppt)

## 6 Achievements against activities and outputs/milestones

**Objective 1: To identify and document agricultural marketing and competition policy settings in India and a selection of other developing countries (Brazil, Russia, China and South Africa)**

no.	activity	outputs/ milestones	completion date	comments
1.1	Establish and conduct collaborator, govt stakeholder and Steering Committee meetings – Delhi.	1. Delhi meeting completed.  2. Project revised based on stakeholder feedback.	July 2008.  July 2008.	
1.2	Gather/collate policy information across a selection of developing countries.	3. Competition policy comparison report – draft complete.	Dec 2008.	

**Objective 2: To undertake policy comparisons across the same developing countries of trends in agricultural sector regulation more broadly in order to identify and assess efforts being made to facilitate farm level adjustment.**

no.	activity	outputs/ milestones	completion date	comments
2.1	Document and categorise India's and other developing country agricultural marketing and competition policy settings.	4. Regulatory settings comparison report – draft complete. Milestones 3 and 4 combined to form draft Stage 1 Report.	February 2009.	Milestone 4 – draft Stage 1 Report finalised – Conference paper presented to 2009 AARES Conference.
2.2	A. Fels engaged to assess trends in the application of competition law in developing countries and in India specifically.	5. Advice provided on appropriate development path for India's competition policy regime with emphasis on agriculture. Advice also informed case study analyses.	December 2008.	Meeting held with A. Fels regarding his project involvement in October 2008. Agreement reached and preparations made for him to be Keynote Speaker at April 2009 Mid-Term Workshop. Those arrangements subsequently postponed due to announcement of Indian elections.
2.3	Stakeholder Mid-term Project Workshop and Steering Committee Meeting	6. Mid-term W/Shop and Steering Committee meeting to maintain stakeholder engagement and to inform Stage 2.	Originally April 2009.  Rescheduled to Nov 2009.	With ACIAR agreement, W/shop postponed 6 months due to Indian election.  November W/shop highly successful. Strong competition policy reform theme with A. Fels and R. Chand as keynote speakers and strong line-up of international speakers including from the OECD.

2.4	Stage 1 BRICs Report finalised.	7. Final Stage 1 Report to ACIAR.	<p>Originally June 2009.</p> <p>Rescheduled to January 2010 due to postponed mid term W/Shop.</p> <p>Then rescheduled again, on advice from ACIAR, to coincide with Final Project W/shop.</p>	<p>As for Milestone 6, Milestone 7 delayed due to Indian election.</p> <p>Final Stage 1 Report was then to be finalised after stakeholder feedback from that W/shop, however, following a Project Planning Meeting in Melbourne in August 2010, it was agreed with ACIAR, that the Final Stage 1 Report be delayed for presentation at the Final Project W/shop to maximise impact of Report and W/shop.</p>
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**Objective 3: Using the country comparisons and an appropriate public policy framework, undertake 2-3 case studies which identify current policy settings and how alternative competition policy and regulatory reform initiatives would apply.**

no.	activity	outputs/ milestones	completion date	comments
3.1	Case studies undertaken in collaboration with stakeholders.	8. Case studies complete.	<p>Originally December 2009.</p> <p>Rescheduled due to Indian election - to be completed prior to Final Project W/shop.</p>	<p>The 6 month project postponement agreed to by ACIAR due to Indian election flowed through to Objectives 3 and 4.</p> <p>Both the BRICs report and the case studies were therefore targeted for completion and presentation at the Final Project W/shop.</p> <p>NCAER completed horticulture and food grain supply chain case studies which identified India's APMC wholesale farm produce markets as a major impediment to competition.</p> <p>Melbourne and Exeter Universities completed ground-breaking quantitative research into regulatory reform options for the Food Corporation of India (FCI) which was also identified as a major restriction on competition.</p>

**Objective 4: To formulate a set of policy recommendations to guide the introduction of necessary competition and regulatory reforms.**

no.	activity	outputs/ milestones	completion date	Comments
4.1	Stakeholder engagement – working meetings with key agencies.	9. Stakeholder working meetings, as required throughout project.	Originally July 2008 to May 2010.  Extended in consultation and agreement with ACIAR until final project w/shop in February 2011.	Numerous meetings with key agencies, statutory marketing authorities and farmer groups throughout project.
4.2	Case study analysis and feedback from working meetings amalgamated into draft Stage 2 Report.	10. Milestones 8 and 9 combined to form draft Stage 2 Report.	Originally May 2010.  Extended in consultation and agreement with ACIAR until Final Project W/shop in February 2011.	<p>The case studies focus on food grains and horticulture.</p> <p>NCAER analysed price transmission along horticultural and food grain supply chains to assess whether regulations significantly impede price signals flowing to the farm level.</p> <p>The case study undertaken by Melbourne and Exeter Universities focused on efficiency losses associated with the activities of the FCI and on identifying more efficient approaches to addressing the FCI's multiple objectives.</p> <p>The decision is made with ACIAR to maintain two separate Stage 2 reports. One covering the work of NCAER and one covering the work of Melbourne and Exeter Universities.</p>

4.3.	Final W/shop Steering Committee meeting on policy approach, learnings and outcomes – Delhi.	11. Final project w/shop around March - April 2010 completed.	<p>Originally June 2010.</p> <p>As with all previous Milestones, postponed 6 months due to Indian elections and then postponed a further 2 months to February 2011 at the request of NCAER due to their existing work commitments.</p>	<p>Final Project W/shop highly successful. With Allan Fels hosting a dinner on the evening prior to W/shop of representatives from India's govt policy making agencies.</p> <p>Project collaborators present Final Stage 2 Report containing policy reform options in relation to the Food Corporation of India, APMC markets and input subsidies.</p> <p>Ground-breaking quantitative research presented by Melbourne and Exeter Universities into reform of the FCI.</p> <p>Two commissioned papers presented by India's Infrastructure Development Finance Corporation into (a) impediments to the uptake of warehouse receipts as an alternative grain marketing option and (b) the ways in which APMC markets may be in breach of competition principles and laws.</p> <p>More broadly, the lack of agricultural policy reform proposed as being a key factor explaining declining sectoral productivity.</p>
4.4	Stage 2 Report finalised.	12. Final Stage 2 Report to ACIAR.	<p>Originally September 2010.</p> <p>Rescheduled to coincide with Final Project W/shop.</p>	<p>The case studies and the BRICs Report are drawn upon in the preparation of the Final Stage 2 Report (see comments at Milestone 11)</p> <p>The Final Stage 2 Report is titled '<i>Facilitating Efficient Agricultural Markets in India: An Assessment of Competition and Regulatory reform Requirements – Summary and Recommendations for Discussion and Consideration</i>' (International Workshop February 2011, New Delhi).</p> <p>Success of Final Project W/shop and Final Stage 2 Report is reflected in request from Chief Economic Advisor to the Indian Government to meet with project collaborators on the day after the Final Project W/shop and his further request that the project be extended to assess impediments to competition in the Indian onion market.</p> <p>The Competition Commission of India subsequently requested that NCAER undertake similar work on the onion market and announced a review of impediments to competition in agricultural food supply chains with emphasis on APMC markets.</p>



## 7 Key results and discussion

The project was originally planned to be undertaken over 2.5 years commencing on 1 May 2008 and ending on 31 October 2010. The project was, however, extended by 6 months until April 2011 due to the Indian Government calling a national election in May 2009 and the decision, made jointly with ACIAR, that the mid term project workshop (which was also to be held in May) be postponed to enable better engagement with key Indian government agencies and policy makers.

The mid-term project workshop and associated project deliverables were therefore postponed 6 months until September 2009.

In addition to the two analytical 'stages' of the project previously discussed, important further milestones achieved through the course of the project were the Mid-Term and Final Project Workshops in New Delhi. The Mid-Term Workshop, titled '**Achieving Food Security in India: Improving Competition, Markets and Efficiency of Supply Chains**' and held in November 2009, was a high profile international event which focussed on providing participants with an overview of the project, but which also focussed on providing attendees, including government policy makers, with detailed insights into international agricultural policy reform initiatives, particularly those in OECD countries. Key speakers included Professor Allan Fels AO, Dean, Australia New Zealand School of Government, Prof. Ramesh Chand, National Professor, National Centre for Agricultural Economics and Policy Research, Mr. B.J. Phillips, Head of the Competition Division, OECD, Dr. Eduardo Pérez Motta, President, Federal Competition Commission, Mexico and Prof. Arvind Panagariya, Columbia University.

[www.ncaer.org/popuppages/EventDetails/E24Nov2009/aci-ar-ncaer-conf2009.htm](http://www.ncaer.org/popuppages/EventDetails/E24Nov2009/aci-ar-ncaer-conf2009.htm)

The Final Project Workshop was also held in Delhi in February 2011. On the preceding evening Professor Allan Fels AO agreed to lead a dinner event where key Indian Government policy makers and academics were given the opportunity to discuss policy and reform issues on a one-to-one basis.

With much effort by all project partners, the Final Project Workshop on the following day titled '**Indian Agriculture: Improving Competition, Markets and the Efficiency of Supply Chains**' exceeded the expectations by bringing all of the project components together in a highly complimentary series of research presentations covering:

- international agricultural policy reform trends;
- the Indian case studies of regulatory impediments, with a highlight being the ground-breaking research of Professor Steve McCorrison and Dr Donald MacLaren into the efficiency gains of reforms to the Food Corporation of India; and
- impediments to competition associated with the Agricultural Product Marketing Act.

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/aci-ar-ncaer-conf2011.htm](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/aci-ar-ncaer-conf2011.htm)

A very important aspect of the Workshop was the participation by a very senior group of officials from the Competition Commission of India, headed by Dhanendra Kumar. Many of them were initially very sceptical about having an important potential role in the agriculture sector, but as the workshop progressed, they shifted their position and participated actively in debates and discussions and expressed their desire to collaborate more closely in the future.

This work was then brought together in a challenging presentation by Professor Sisira Jayasuriya and a focussed Final Project Report containing agricultural policy reform options and recommendations for the Indian Government (see Appendix).

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/Sisira.pptx](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/Sisira.pptx)

As a further indication of the progressive nature and timeliness of the project's findings and policy recommendations, a paper titled *'Indian Food-Grain Policy: Are There Better Alternatives?'* has been submitted to India's 'Economic and Political Weekly'.

[www.ncaer.org/popuppages/EventDetails/E16Feb2011/EPWDraftPaper.doc](http://www.ncaer.org/popuppages/EventDetails/E16Feb2011/EPWDraftPaper.doc)

Given that a key objective of the project was to engage with Indian policy makers, the success of the project was further heightened by an invitation from the Chief Economic Advisor to the Indian Government, Professor Kaushik Basu, to meet with him following the workshop to discuss the project findings. He was particularly interested in the proposed reforms to the Food Corporation of India given the recent high food inflation being experienced despite the high stock holdings of the FCI.

As a further indicator of project success, Professor Basu requested that the project partners undertake further work into the reasons for the high onion prices being experienced. This has resulted in ACIAR and the other project partners agreeing to progress a further project on regulatory impediments and competition in the onion supply chain in India.

This activity has helped to drive engagement with Indian policy makers further, with the Dr Chadha and the NCAER being subsequently approached by the Competition Commission of India to undertake further work into the policy and regulatory settings of Indian agriculture. This is a most encouraging development since the request from the Competition Commission arose as a direct result of their participation in the final workshop and exposure to the project research findings and recommendations.

Overall, the project has therefore played a significant role in increasing awareness among Indian and Australian policy makers of the impediments to competition that outdated regulation can create with associated adverse impacts on sectoral productivity and rural incomes and employment. Importantly it has also increased awareness of the market failure principles that can underpin a proactive policy reform program and a set of policy options and recommendations that can be used as the basis for initiating an ongoing reform program.

*Note: All project milestones were met either in accordance with the original project proposal, or in accordance with mutually agreed changes agreed to by ACIAR.*

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## 8 Impacts

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### 8.1 Scientific impacts – now and in 5 years

The project confirmed that agricultural supply chains in India are subject to numerous forms of regulatory intervention by government, such as input subsidies, APMC markets and the activities of the Food Corporation of India. These interventions are generally inefficient in meeting their stated public policy objectives and therefore unnecessarily restrict competition and significantly distort price signals through to the farm level. This is having the effect of maintaining certain farm production patterns and hence, impeding farm adjustment into the production of commodities where India has a comparative production advantage.

The response by government to declining yields and resource degradation has been ongoing increases in input and output subsidies. This has resulted in marginal yield gains now being achieved at very high levels of inputs and hence sectoral productivity is entering a declining phase with associated adverse implications for regional incomes and poverty.

While this situation can only be arrested with significant agricultural policy reform and sectoral adjustment, there are important and fundamental implications for the focus of technical farm level research. Much technical research into crop yields is arguably aimed at addressing 'symptoms' rather than 'causes', and is therefore likely to be having the effect of reducing the pressures on government to progress policy reform.

The project should therefore for the foreseeable future cause scientific institutions to re-consider the merit of technical research where it relates to regulated production systems characterised by subsidised input and output prices.

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### 8.2 Capacity impacts – now and in 5 years

As well as identifying directions for agricultural policy reform, the project significantly enhanced the capacity of Indian and Australian policy makers in evaluating the efficiency of public policy settings.

Important underpinning public policy principles drawn from contemporary international experience were that (a) public policy objectives should be closely aligned with addressing significant and accepted forms of 'market failure' and (b) the form of intervention should be that which meets the objective and which imposes the least restriction on competition.

The Stage 1 BRICs Report provided India's National Council of Applied Economic Research and NSW Department of Trade and Investment with the opportunity to consider agricultural policy settings in Brazil, Russia, India and China and to assess the extent to which they were based on contemporary public policy principles and the extent to which traditional industry policy settings were being replaced with trade practices law. The Stage 2 case studies similarly provided collaborators with the opportunity to consider actual agricultural policy settings in India and to consider the merit of policy objectives and the means by which governments were endeavouring to achieve them.

The Mid-Term Project Workshop also focussed on capacity building in regard to the application of contemporary public policy principles. A wide range of Indian Government agencies attended to hear from a number of OECD speakers on policy reform programs being implemented in their respective countries and what were considered to constitute 'best-practice' approaches to regulatory reform and the application of trade practices law.

The Final Project Workshop and the Final Stage 2 Report presented effectively represented strong agreement among project collaborators and their respective

organisations about the policy principles that now need to underpin government intervention in the agricultural sector. The Chief Economic Advisor to the Indian Government sufficiently agreed with the proposed approach to request that further work be undertaken on the Indian onion market to assess whether regulatory restrictions on competition and and/or anti competitive behaviour could explain recent high onion prices.

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## **8.3 Community impacts – now and in 5 years**

### **8.3.1 Economic impacts**

India is facing immediate food price inflation and declining agricultural productivity. By providing an approach to agricultural policy reform and identifying specific reform options in relation to the Food Corporation of India, the project outcomes were extremely timely and well received. As a consequence, the Indian Government now has a number of agricultural policy reform initiatives in place through agencies such as the Competition Commission of India.

It follows that there are now increased prospects for more efficient price signals to flow through to the farm sector, both immediately and over the next five years that will stimulate farm level adjustment and higher farm incomes. Further work will be required, however, by government in closely and transparently monitoring agricultural incomes and productivity, and the effects of agricultural policy reform on those sectoral performance measures.

Regulatory impediments to the inter-sectoral adjustment of capital and labour also need close, ongoing, consideration and need to be subject to the same competition disciplines as has been proposed in the project for the agricultural sector.

Farm level adjustment in response to policy reform will impose adjustment costs on farm families requiring further consideration of adjustment assistance by government. Broader public benefits in the form of enhanced public and private investment in food production and associated services will however be the result along with more affordable food prices. International commodity trade and food security will potentially be enhanced.

### **8.3.2 Social impacts**

Agricultural policy based on subsidised input and output prices inevitably leads to lower farm incomes, over exploitation of the natural resource base and increasing public sector debt. Not only does this result in poor social outcomes for the agricultural sector, but the capacity of government to fund the provision of other public services, such as health and infrastructure is reduced, thus reducing the social well-being of the community generally.

Agricultural policy reform as outlined in the previous sections necessarily has its impacts over an extended time horizon, rather than immediately. While farm and community level policy reform may in the short term impose significant adjustment costs on highly assisted industries, ultimately, more sustainable employment opportunities within agriculture and other sectors of the Indian economy will result in much improved social living standards.

### **8.3.3 Environmental impacts**

Current agricultural policy settings are leading to increased degradation of India's natural resource base. Subsidised electricity prices are, for example, leading to excessive ground water pumping, salinity, depleted aquifers and production systems characterised by high levels of greenhouse gas emissions. The reform of subsidised food grain commodity prices and input subsidies would directly address these problems.

## 8.4 Communication and dissemination activities

An important communication pathway for disseminating the project results has been through project collaborators such as the NCAER and the Project Steering Committee consisting of a wide range of Indian government representatives and academics.

The Mid-Term and Final Project Workshops were also a critical part of the project's communication and information dissemination strategy. All participants were provided with either copies of all reports and papers or were informed of the NCAER web-links where the material could be sourced.

The final 'Project Conclusions and Recommendations' contained in the report titled, '*Facilitating Efficient Agricultural Markets in India: An Assessment of Competition and Regulatory Reform Requirements – Summary and Recommendations for Discussion and Consideration*' (see Appendix) were communicated to the highest levels of the Indian Government through consultation which is ongoing with the Chief Economic Advisor to the Indian Government.

In addition, a final paper titled *Indian Food-Grain Policy: Are There Better Alternatives?* was submitted to the influential Indian journal *Economic and Political Weekly* potential reforms to the Food Corporation of India.

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## 9 Conclusions and Policy Options

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### 9.1 Agricultural Policy Reforms – Strategic Directions for India

The comparative study of the agricultural experience in the BRICs countries provides significant evidence that a range of market orientated agricultural policy reforms can lead to higher rural incomes, increased agricultural productivity and reduced poverty. Market orientated reforms, however, necessarily involve progressively decoupling agricultural assistance from farm input and output prices and the associated quantities. Significant efforts are required by government, however, to tailor such changes to the specific circumstances of each country.

A clear message from policy developments in both developed and emerging economies is that policy reform and the 'openness' of economies hold the key to productivity gains, rather than having governments attempting to 'drive' growth through subsidised agricultural input and output prices.

A related concern is the continuing focus of some governments on establishing 'growth targets' as the centrepiece of rural policy. This experience highlights the need for governments to also be ensuring that food security and rural income goals are achieved in the most efficient manner so that national resources and limited government funds can be efficiently utilised. Pursuing output and growth targets, without regard to the economic, social and environmental costs of achieving them, has been demonstrated to be a waste of national resources and ultimately incompatible with the goal of achieving food security and increasing rural incomes in a sustainable manner. Government policies must be redirected toward increasing market efficiency and correcting market failures, such as poverty alleviation.

In the case of India, given the current status of agriculture and the rural sector, the challenge is therefore to make this transition without placing in jeopardy the food and income surety of vulnerable groups including marginal and small farmers. This calls for a well thought out strategy for gradually, but not unduly slowly, transforming Indian agriculture and establishing a policy environment that can provide rural producers with the flexibility to face the challenges of a fast growing modern economy.

More generally, the focus of government needs to shift from effectively acting as a market operative, through efforts aimed at directly influencing farm prices, to one of facilitating the development of more efficient markets, with appropriately targeted safety nets and adjustment assistance.

Various studies find that:

- food security can be addressed more efficiently through direct income support programs directed at the poor, than through large scale government food stockpiling and distribution which goes beyond the maintenance of stocks needed for emergency food security needs. However, where such arrangements are maintained, the potential benefits of commercialisation should be evaluated;
- that farm income support delivered directly through farm input and output prices leads to unintended and inefficient resource use distortions, and by delivering most benefits to better off farmers and processors, it is not only regressive but also ineffective in targeting support to those most in need; and
- once programs are in place that effectively target the poor and disadvantaged, governments need to consider whether their price stabilisation and risk management objectives can be more efficiently addressed at the farm and industry level through strategies such as production diversification, off-farm income and private marketing options such as forward contracts.

A truism is that market based policy reforms are inevitable in response to changing supply and demand conditions and the need for economies to maintain global competitiveness. Nevertheless, they are often politically sensitive and need to occur in an orderly manner that engages with key stakeholders and the broader community.

Hence there is a strong case, particularly for emerging economies, to introduce public institutions and associated regulatory review processes that enable transparent and ongoing scrutiny of agricultural policy settings, with review processes complemented by:

- the regular monitoring by government of farm incomes and sectoral productivity to assess the impacts of reform; and
- an ongoing program of independent public policy research aimed at enhancing the welfare and productivity dividends of the government's regulatory portfolio.

A major concern for India is that traditional forms of agricultural policy, such as the FCI, its food grain procurement arrangements, APMC markets, minimum support prices and input subsidies, have created an incentive system throughout India's food supply chains which maintains certain 'historical' production patterns, and in so doing, limits agricultural sector adjustment which would otherwise enhance sectoral incomes, productivity and food security.

The unintended impacts of these arrangements, such as their contribution to food price inflation and decelerating total factor productivity, are also now becoming more evident. They may also be acting as a disincentive to farmer participation in new programs and to private sector and foreign investment in areas such as infrastructure provision.

Importantly, they also incur significant budgetary costs that impede the capacity of government to otherwise assist farm families and communities through the introduction of new government adjustment programs.

In this context, the productivity of India's agricultural sector needs to be re-considered with a focus on total factor productivity, as defined by the relationship between inputs and outputs, rather than on 'partial' productivity measures, such as crop yields.

The current emphasis of government assistance on subsidising prices, needs to shift to focus on those forms of market failure typically associated with farming systems, such as information failure with respect to the development and adoption of new technology, credit markets and the introduction of industry and government partnership arrangements aimed at facilitating more efficient levels of investment in environmental management, food safety, biosecurity and infrastructure provision.

Given the focus of the recently constituted Competition Commission of India on ensuring fair and healthy competition in the economy to achieve efficient resource use and faster and inclusive growth and development, it follows that it has an important role in considering the application of trade practices law to agriculture as part of India's new 'agricultural policy program'. This will help ensure that the gains from reform are efficiently and equitably distributed among supply chain participants consistent with national goals. Important areas of focus will be (i) 'unconscionable conduct' and 'market power abuse', rather than on differences *per se* in market power between buyers and sellers, and (ii) farm level arrangements that provide for collective bargaining.

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## 9.2 Policy Options

Recognising that policy reform is the domain of the Indian Government, the following policy options are put forward for consideration based on the above project analyses:

1. That the Indian Government, with the Competition Commission of India, move to adopt a 'market failure' based policy framework to guide agricultural policy reform.
2. Key components of that framework include:

- a transparent legislation/regulation review process, whereby agricultural regulation that significantly influences competition and food chain prices is subject to an independent, rolling, 5 year review process;
  - as part of a broader agricultural policy reform program, government objectives need to increasingly focus on facilitating efficient input and output markets with necessary targeted assistance and safeguards for vulnerable groups;
  - regular monitoring and surveying of the farm sector to enable a sound understanding of developments in farm incomes and productivity in response to the government's policy reform agenda, to be shared with key stakeholders; and
  - the strategic application of competition law.
3. Analysis of alternative mechanisms for meeting the current government objectives pursued through FCI operations indicates that current problems with wasteful levels of stocks and denial of food to needy consumers can be minimised by:
- addressing the FCI's food security objective through the introduction of targeted programs which effectively meet those food security objectives in relation to the rural and urban poor, such as a food stamp program;
  - addressing the FCI's farm income objective through alternative arrangements, such as a guaranteed price deficiency payment scheme;
  - requiring the FCI to focus on the management of the buffer stock.
4. Given that much information already exists in relation to the adverse effects of agricultural policy involving the provision of government assistance through input and output prices, early reform priority be placed on:
- improving the ability of rural labour and farm families to adopt more efficient farm practices and to move into other sectors of the economy; and
  - implementing an orderly transition program from currently provided input subsidies to new farm programs which focus on more appropriate measures of productivity and the market failure issues typically associated with agricultural production systems.



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## 10 References

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### 10.1 List of publications produced by project

1. Davenport, S., Chadha, R. and Gale, R. (2009), Competition Policy Reform in Agriculture: A Comparison of the BRICs Countries, 53<sup>rd</sup> Annual Conference of the Australian Agricultural Economics Society, Brisbane, Australia.
2. Chadha, R. and Davenport, S. (2011), Agricultural Policy Reform in the BRICs Countries: National Council of Applied Economic Research, Paper for Discussion, February.
3. Mid Term Workshop papers and presentations:  
[www.ncaer.org/popuppages/EventDetails/E24Nov2009/aci-ar-ncaer-conf2009.htm](http://www.ncaer.org/popuppages/EventDetails/E24Nov2009/aci-ar-ncaer-conf2009.htm)
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5. Final Project Report '*Facilitating Efficient Agricultural Markets in India: An Assessment of Competition and Regulatory reform Requirements - Summary and Recommendations for Discussion and Consideration*' - International Workshop February 2011, New Delhi).
6. McCorrison, S., MacLaren, D., Chadha, R., Davenport, S. and Jayasuriya, S. (2011), Indian Food-Grain Policy: Are There Better Alternatives? Economic and Political Weekly (recently submitted)