Is Knowledge Power?
The role of access to price information in agricultural markets

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Why is information valuable?

• Useful when we have the ability to take action based on the information.
• Information can help us to make better decisions.
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- Economic Growth
- Income Gains
- Effective Markets
- Information for Economic Decisions
- Information Technology
Why is price information valuable for farmers?

- Where to sell?
- When to sell?
- Which crops to produce?
- How much to produce?
- What price to accept from trader?
Why is price information valuable for traders?

• Where to sell?
• When to sell?
• Which crops to buy and sell?
• What price to offer farmers?
• What price to accept?
Jensen (2007)

Collected data on fishing industry in Kerala in 1997: employs over 1 million people

While at sea, fishermen unable to observe prices in markets along shore

Can only visit one market because of high transportation costs

Fisherman sell catch in local market

No storage and little arbitrage on land because of poor roads
Beginning in 1997, mobile phone service gradually introduced throughout Kerala

- Introduced gradually throughout state
- Service available 20-25 km from shore
- By 2001, 60% of fishing boats and most wholesalers and retailers using mobile phones
- Collected weekly surveys of 300 sardine fishing units in three districts from Sep. 3^{rd} 1996 to May 29^{th}, 2001
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FIGURE II
Spread of Mobile Phone Coverage in Kasaragod, Kannur, and Kozhikode Districts
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Figure III
Mobile Phone Adoption by Fishermen
Data from the Kerala Fisherman Survey conducted by the author.
Price Distribution

**REGION I**

Price (Rs./Kg)

Survey Week

**REGION II**

Price (Rs./Kg)

Survey Week

**REGION III**

Price (Rs./Kg)

Survey Week

**FIGURE IV**

Prices and Mobile Phone Service in Kerala
Mean coefficient of variation of price across markets declined from 60-70% to 15% or less.

Eliminated waste (was 5-8% of daily catch before mobiles).

Fishermen’s profits increased on average by 8%.

Consumer price declined by 4%.
Information from markets near and far

• Aker (2010)
• Grain markets in Niger.
• Introduced mobile phone coverage between 2001 and 2006.
• Data on prices, transport costs, rainfall, grain production, trader behaviour.
• Looks at effect on traders, not farmers. In this market, farmers sell to traders and traders sell to the market.
Information from markets near and far

- Mobile phones reduce grain price dispersion across markets by a minimum of 6.4% and reduce intra-annual price variation by 10%.
- Greater impact on market pairs which are further apart or with lower road quality.
- Effect becomes larger as higher percentage of markets have mobile phone coverage.
Information and farm-gate prices

• It’s not clear that access to market price information will lead to an increase in farm-gate prices and different studies have found different results

  • Svensson and Yanagizawa (2008):
    – Radio market info program lead to 15% increase in farm-gate prices in Uganda

  • Fafchamps and Minten (2011):
    – SMS-based information service in India
    – No effect on farm-gate prices

  • Aker and Fafchamps (2011):
    – No effect on average price received but reduction in variability of prices in Niger
Information and farm-gate prices

• It’s not clear that access to market price information will lead to an increase in farm-gate prices and different studies have found different results

• Muto and Yamano (2009):
  – Find effect varies by crop in Uganda
  – Price increase for bananas
  – No effect on maize prices

• Goyal (2010):
  – e-Choupal in India: price information and alternative buyer
  – Increase in market price and production of soybean
Benefit of information depends on ability to use information

• Market access
  – Roads
  – Know-how
  – Licensing
  – Economies of scale in accessing market

• Outside option
  – Competition between traders
  – Storage
One of the ways that we use information is to protect ourselves from traders who might try to mislead us, e.g. used car sales.

Why do we ever believe anyone who is trying to sell us something?

– Because some people are honest.
“[With a mobile phone], no dishonest trader can cheat me when I buy and sell.”
– Aker and Fafchamps (2011)

“Although trust may develop over multiple transactions, the paucity of information continues to handicap the farmer since he cannot independently assess the integrity of the dealer, or the reasonableness of the price he offers”
Lab experiment: 150 farmers and 150 traders in Gujarat, India.

Played a trading game where the amount of information the farmers had and the degree of competition between traders was varied.

Carried out tests at the beginning to assess the preferences and attitudes towards fairness of the participants.
• IDEA:
  – If the cost of ending your relationship with the trader is very high, it doesn’t matter whether or not you are informed because you will never switch traders anyway.
  – If the cost of ending your relationship with the trader is very low, it also doesn’t matter whether or not you are informed because you will always switch traders if you suspect one of being dishonest.
  – For an intermediate cost of switching, you will switch if you know for sure that the trader is dishonest but will not switch if you are not certain: price information matters because it forces the trader to behave in an honest way.
Different types of Traders
Results:

- Farmers receive higher prices when they are informed.
- The benefit to the farmers of being informed varies with the cost of switching.
- ‘Unfair’ types of traders make lower offers to the farmers when they are uninformed.
- These types increase their offers substantially when the farmer is informed.
• Conclusion:
  – Price information may benefit farmers but the size of this effect will depend on market conditions.
  – Information and competition can act as substitutes in the market.
  – Mobile phones can provide farmers with very useful information but they are not a silver bullet: other market failures still need to be addressed.