Structured Trade and Commodity Financing: Case of Corn

Ramon L. Clarete, Ph. D.

SEARCA Professorial Lecture

July 18, 2012

Background

Background

- Need for credit of small farmers typically met with government directed lending and cash advances by traders
- LBP lent about PhP 5 billion in 2009, half of which for crop production and nearly PhP 2 billion for marketing activities
- Inadequate facility to finance the movement of crops from farms to users

Background

- In case of yellow corn, about 4.8 mln tons were produced in 2011, the lowest quarterly production being in April-June at .8 mln tons.
- This requires about PhP 8.9 billion for one time purchase basis.
- Private traders provide the gap between government loans.
- Traders typically purchase at seasonally low prices.

Background

- Assuming that in a period of 3 months just before the next harvest the value of corn rises by PhP 7 per kilogram, about PhP 8.9 billion (roughly doubling the value at purchase) is added to the value of the grain stock.
- Farmers are unable to capture the incremental value.
  - At 30 % return to corn farming, farmers take only PhP 4.4 billion pesos per season, vs. what traders, feed milers, or end users collectively get, PhP 8.9 billion

Purpose of the Study

- Provide another option for financing the movement of corn through the supply chain in a way that provides added incentives to farmers.
- Structured trade and commodity financing

Meaning of structured trade and commodity financing

Structured Trade

- Involves the packaging of financing in a way that mitigates potential risks (structural and performance) or externalizes such risks to parties better able to bear them.
- Key element when structuring a deal is examining the role of the various parties in the funding and reimbursement chain, with a view to ascertaining how each can impact the transaction positively.
- Rules based trading of commodities

Need to balance interests

- Goal of SCTF is meeting the needs of the borrower (in terms of maturity, pledge requirements, repayment schedule, etc.) and of the credit provider (in terms of country risks limits, provisioning requirements, etc.).
- Challenging task in light of conflicting interests

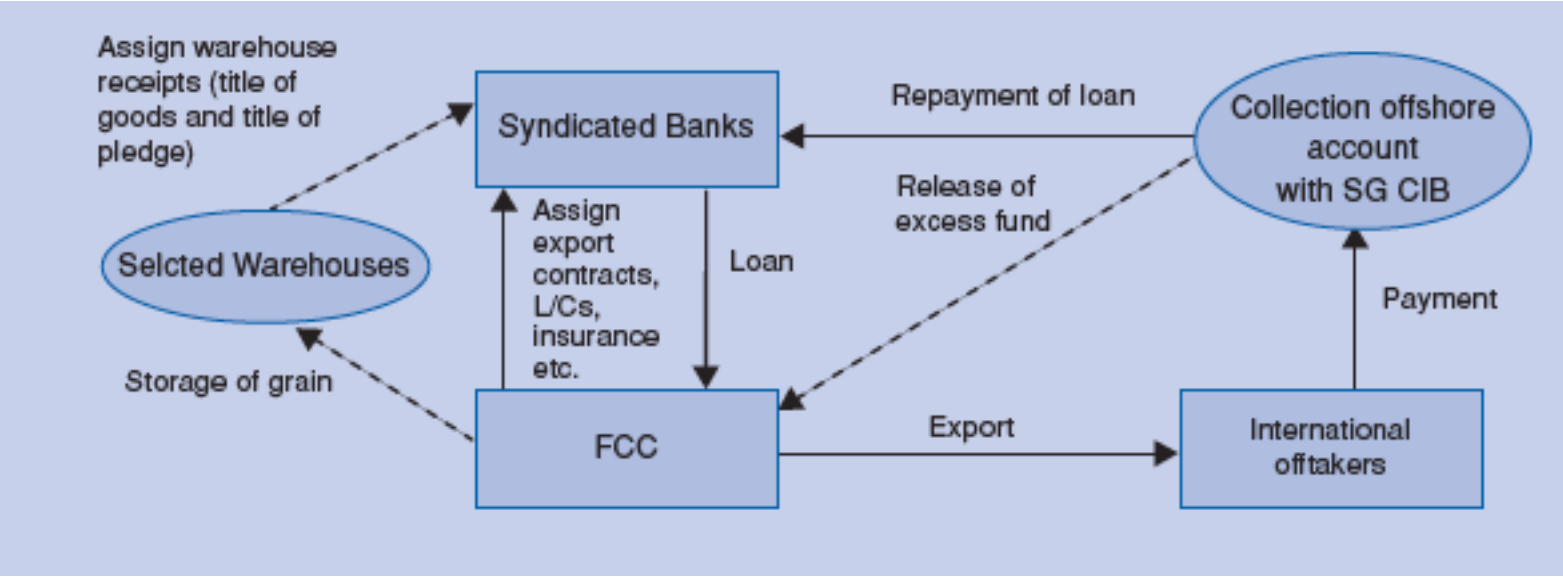
Three generic models

- export receivables-backed financing
- inventory/warehouse receipt financing, and
- pre-payment financing

1. Export-backed receivables

- Advance payment facility
- Banks
  - Taking security over the physical commodities in the form of a local-law pledge or similar security interest;
  - Assigning the receivables generated under the commodity export contracts;
  - Establishing an escrow account in a suitable location into which purchasers of the commodity are directed to pay the assigned export receivables, creating an automatic reimbursement procedure.

Case: Food Contract Corporation



Features

- Loan was secured by
  - Warehouse receipts
  - Escrow account where proceeds of the export transaction were to be deposited
- Fixed price forward contract to avoid price risks
- Insurance and guarantees to ensure the value of the stocks stored in warehouses

2. Warehouse receipts financing

- Entails the use of securely stored goods as loan collateral
- The receipt issued by the warehouse operator is accepted by the bank as a fallback guarantee that can be called upon in case of non-payment.

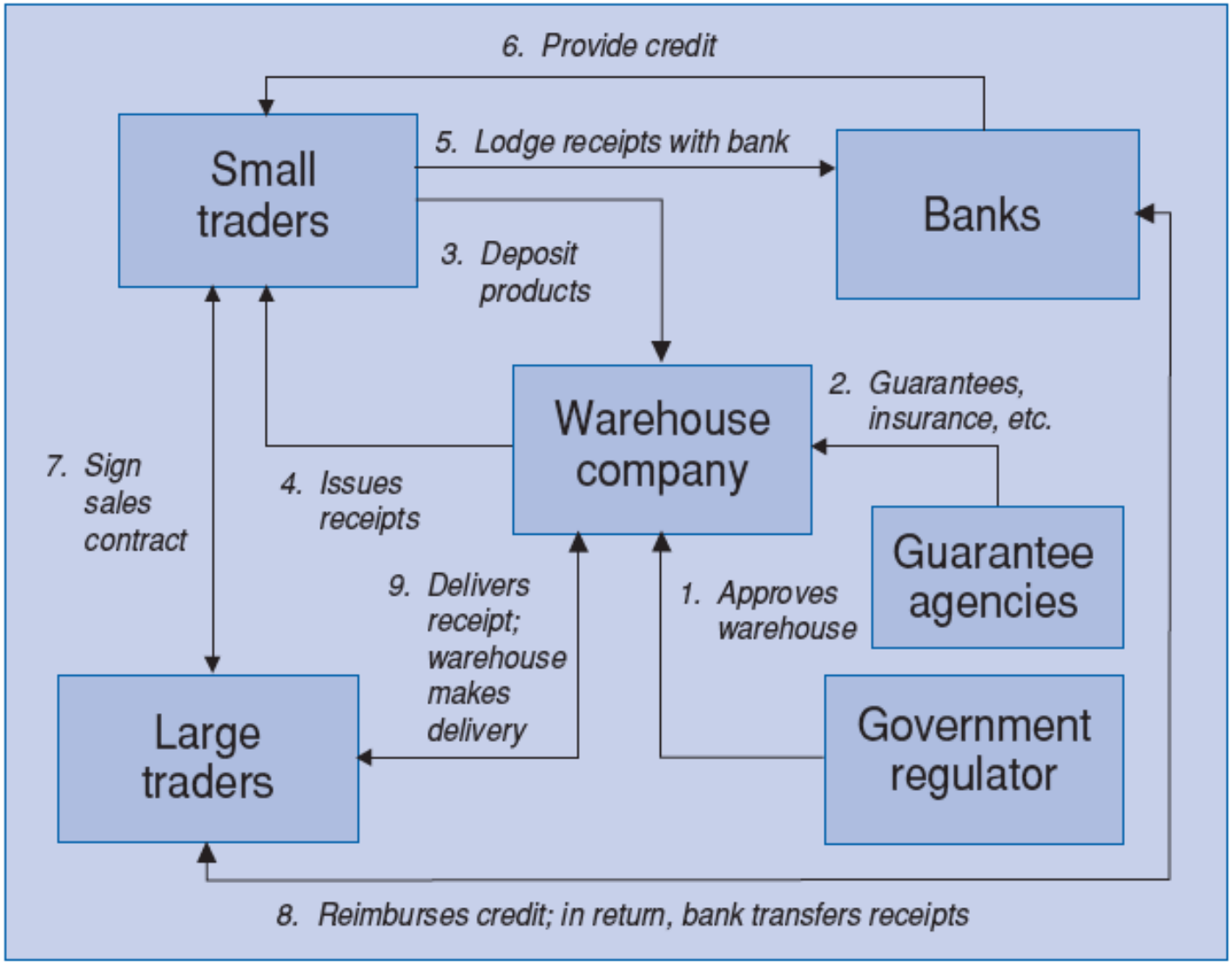
Types of warehouse receipts

- Non-negotiable receipt. Issued to a particular person, who has the sole authority to release the commodity from the warehouse.
- It can be transferred to the bank, as in if receipts are used as collateral for the loan
- Negotiable receipt. Issued to the bearer

Types of warehouses

- Private. Those owned by the company which is engaged as a user of the commodity, e.g. feed miller's warehouse.
- Public. Those owned and operated by a third party. In business for storing commodities.
  - Terminal, usually located in ports or strategic places near transport centers
  - Field, those located near the depositor of the commodity

Warehouse receipts system



Importance of regulation of warehouses

- Experience of Quedancor
- Legislation is required, and warehouses are to be accredited by regulator
- Operators may post a bond or issue some pledge of security
- Repos (as a substitute) in case pledges are not offered by warehouse operators, assuming certain financial instruments are available to hedge the risk

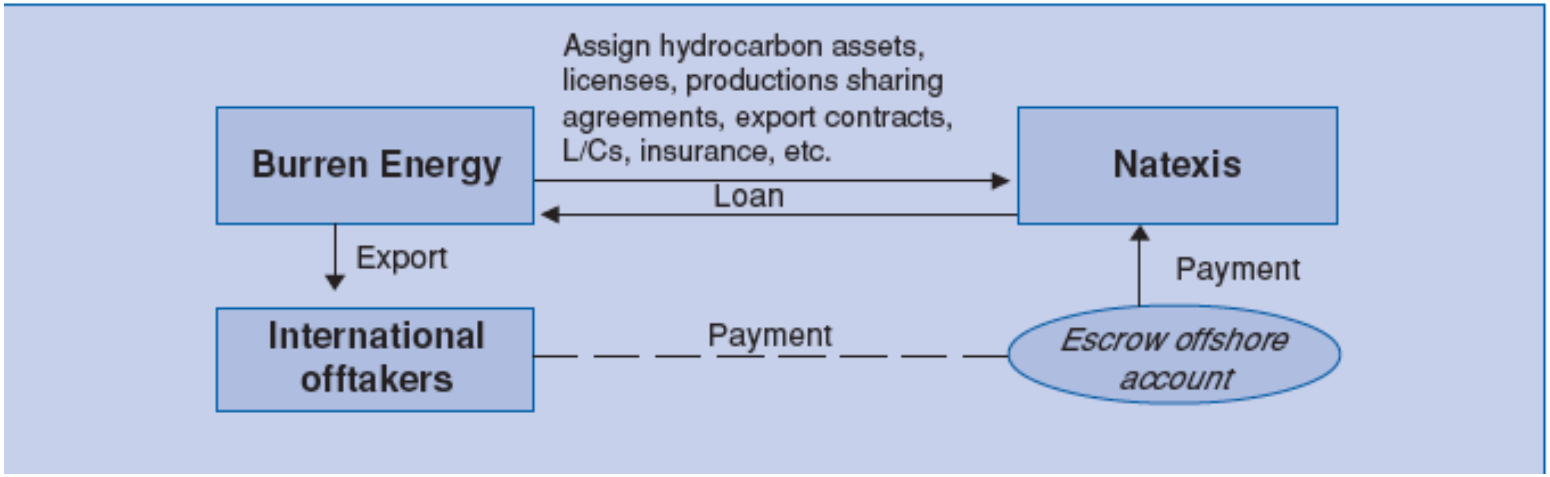
3. Prepayment financing

- Designed as a purchase of goods, with payment made in advance.
- Buyer makes a loan from a bank and uses it to effect pre-payment for the producer/exporter.
- Limited recourse. Buyer/debtor has obligations only if the supplier meets the specifications of the purchase.
- Performance risk of supplier needs to be carefully assessed.

Prepayment financing

- Buyer assumes the title over the goods in consideration of the pre-payment.
- Buyer assigns the title to the bank in consideration of the loan.
- The goods are in transit or at the warehouse already, and meet the specification, to mitigate the risk of non-performance.
- Both banks and buyer share in the risk of non-performance on the part of the producer.
- Having title to the goods help in reducing the risk.

Pre-payment financing



- Example of reserve based lending, particularly for exploration

Rules based trade

- Importance of clearly defining the rules governing the transaction to mitigate risks
- Generally defining the rights and obligations of all parties to the trade with features to minimize its risks and strengthen enforcement of the contract provisions
  - Producers understanding the product specifications, time and volume of delivery; consequence of not meeting these standards

Recent developments in the corn industry and Issues

Importance of corn

- Corn is used both as food and for feeds.
- White corn is second most important food crop in the Philippines
  - At least 12 million Filipinos prefer white corn to rice
- 70% of feeds for hogs, broilers and layers is yellow corn.
- Corn and livestock industries contribute about 16% of the gross value added of the country's agriculture sector.
- Hogs, broilers and layers contributed about PhP 600 billion in value added
- 600,000 farm households depend primarily on corn for their livelihood.

Trends in corn production

- Corn farms take up roughly 26% of the country's 4.858 million hectares of arable lands.
- Allocated roughly equally between yellow (1.294 mln has) and white corn (1.367 mln. has)
- Increasing conversion of white to yellow corn farms
- Yellow corn output now is two-thirds of the total corn production, up from 54% in 1990s.
- Increasing conversion of white to yellow corn farms
- Yellow corn output is presently 2/3 of the total corn production, up from 54% in 1990s.
- Average farm yield of white corn (1 mt/ha) is far below that of yellow (3.61 mt/ha).

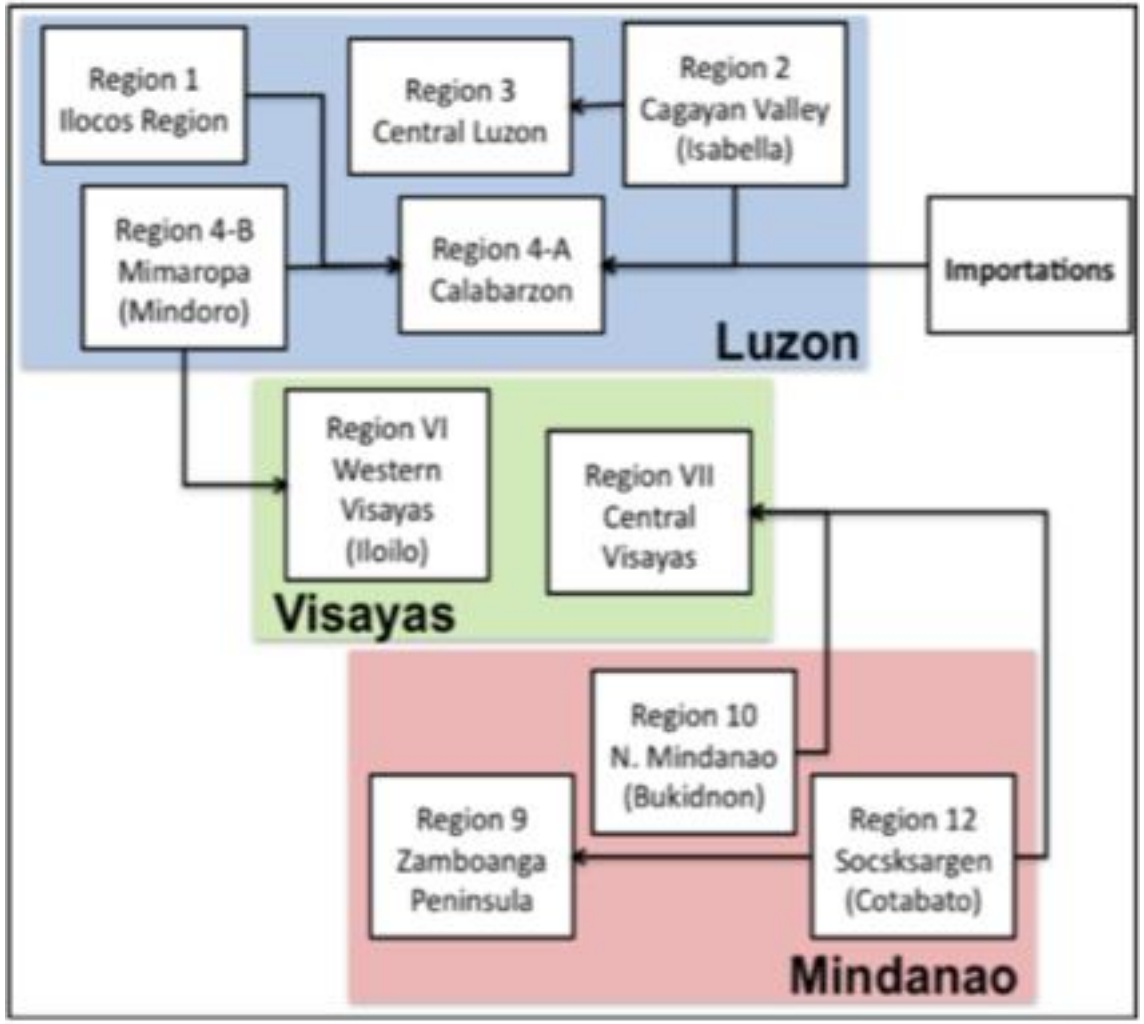
Where corn is grown

- Yellow corn grown in Mindanao, Visayas, and Luzon, in this order.
- In 2011, total corn output at 6,971,221 tons
- Of this amount, 4,820,999 tons were yellow corn, while the remaining 2,150,222 tons were white.
- About 69.16% of all corn output in 2011 was yellow.
- Nearly 70 % of it was harvested in four regions.
  - Cagayan Valley (22.98%), Northern Mindanao (17.39%), SOCSKSARGEN (16.79%) and the Autonomous Region of Muslim Mindanao (11.43%).
- Cagayan Valley has the largest concentration of yellow corn.
- The ARMM is the largest regional producer of white corn.

How corn is used

- White corn produced is locally consumed, as food.
- Yellow corn is used as animal feeds.
- 70% of all corn is used as feeds by Feed millers
- 697 registered feed mills in the country.
- Types of feed millers
  - Integrators (236)
  - Commercial feed millers (140)
  - Home mixers (321)

Geographic movement of yellow corn



Highlights of the supply-use balance for yellow corn

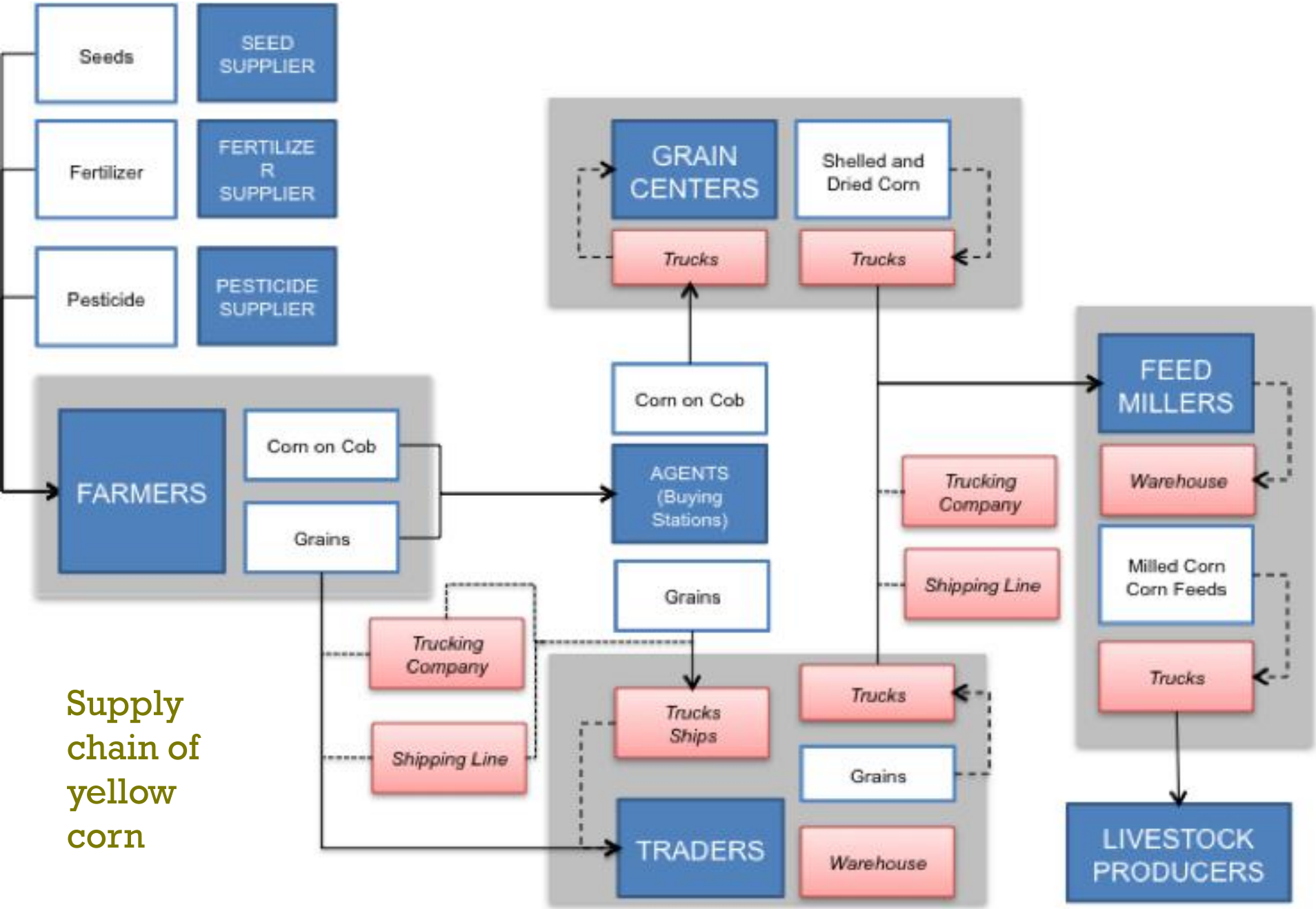
- Mindanao has the largest surplus of yellow corn
- Visayas has the largest deficit.
- Majority of the corn from Mindanao goes to Western and Central Visayas.
- Luzon is nearly self-sufficient, but requires additional inflow of corn to meet the demand of the livestock and poultry sector for yellow corn particularly in Central Luzon.
- It is noted that yellow corn has to be moved from the Cagayan Valley (the largest producing region of yellow corn) to Central and Southern Luzon, where the majority of the feed millers and livestock raisers are.
- The Philippines has a net deficit of yellow corn which need to be met with yellow corn imports or its equivalent in feed wheat.
- In 2009, the country imported a total of 1,438,434 metric tons, most of which are in the form of feed wheat. The amount is 26% of the total use of yellow corn in the country in that year. Figure 3 illustrates the flow.

Corn imports/exports

- Country a net importer of yellow corn for feeds.
  - Relatively small exports of corn as ingredient in beer making
- Off and on importer of corn from the world market.
- Increasingly yellow corn is substituted out with imported feed wheat.
- Feed wheat can be 100% substitute for corn for pig feeds.
- it is 90 % corn substitute in broiler and layer feeds.
- It does not have a consistent source of imported yellow corn.

Supply chain of yellow corn

- Input suppliers (particularly fertilizer, seeds, and pesticides)
- Corn farmers. (small scale farming, dependent on middlemen for credit needs tying corn output to trader/creditors for credit access
- Corn traders (small, medium and large; engage in lending as well to secure supply)
- Corn processing centers
- Feedmillers (integrators, commercial, home mixers)
- Livestock producers



Supply chain of yellow corn

Farmer Sector (1)

- Corn farming is largely traditional, including for yellow corn,, despite farmers' access to the best seed technology, GMO yellow corn.
- Yellow corn farms are family-owned, small (less than 3 has.)
- Farm mechanization services, incl. land preparation, available
- Hardly any incidence of corporate farming nor any effort to consolidate their management to standardize the application of the technology.

Farmer Sector (2)

- Undertake manual post harvest operation with average 15% post harvest loss
- Involves harvesting, de-husking, shelling and sun-drying the corn grains
- Poor quality of corn grains
- No access to grain storage facilities
- Corn output, pledged to trader/creditor
- Generally poor and in debt.

Traders

- Large, medium and small
- Large and medium tend to advance cash (e.g. credit) to secure grains.
- Large and medium traders
  - have capacity to store corn grains. They do store, speculate on the price, and unload stocks for a profit.
  - Tend to have a network of buying stations in corn growing areas
  - Operate their own respective logistics services (warehouses, transportation)
- Compete with corn grain centers.
- Small traders tend to have back to back, buy and sell operations.

Recent development: Corn grain centers

- Post harvest technology involves corn on the cob procurement
- Drying then shelling, then drying to recommended moisture level of 14%, using corn cobs for drying the grains
- Potential of reducing post-harvest losses and produce good quality corn
- Have storage facilities
- To effectively compete with traders, private grain centers likewise offer credit.
- Government corn grain centers, smaller, and less successful due to **lack of money for procurement.**

Feedmillers

- Feedmilling, process of mixing feed ingredients, yellow corn and other feed ingredients, following the feed formulation that is suitable for a given livestock and purpose of the feed.
- Feedmills are relatively close to where the livestock farms are.
- Large integrators tend to use using latest technology to produce the feeds required by their livestock operation.
  - Other integrators may not have the most up to date equipment.
- Commercial feedmills sell animal feeds to livestock producers,
- Small-scale feed millers have the most difficulty in procuring raw materials.
  - Are backyard livestock producers that mix their own feeds.
- Feedcosts are generally high and that is due to the high cost of corn.

Livestock producers (1)

- Three types
  - Pig producers
  - Broiler producers
  - Layers
- Hog industry accounts for 80 percent of the total livestock production in the country.
  - small-scale backyard hog farm operators; the medium scale semi-commercial operators; the large-scale commercial hog operators; and the large scale integrated hog operators
  - Backyard operators losing market share to commercial players/integrators
- 60% of the industry is in Central Luzon, Calabarzon and Visayas regions.

Livestock producers (2)

- Chicken industry, made up of native chicken (49%), broilers (35%), and layer (16%)
- Layer industry growth, 169 percent mark from 1994-2008,; broiler with about 81 percent; native chicken industry growth, 40 percent.
- Central Luzon and the Calabarzon dominated the chicken meat and egg industries., accounting for more than half of the country's output of chicken meat and eggs.
- Big corporations that are fully integrated have been found to dominate the industry.
- Small players with a moderate number of medium-sized farms and a few large farms make up the country's chicken egg industry.

Selected Issues in the supply chain of corn

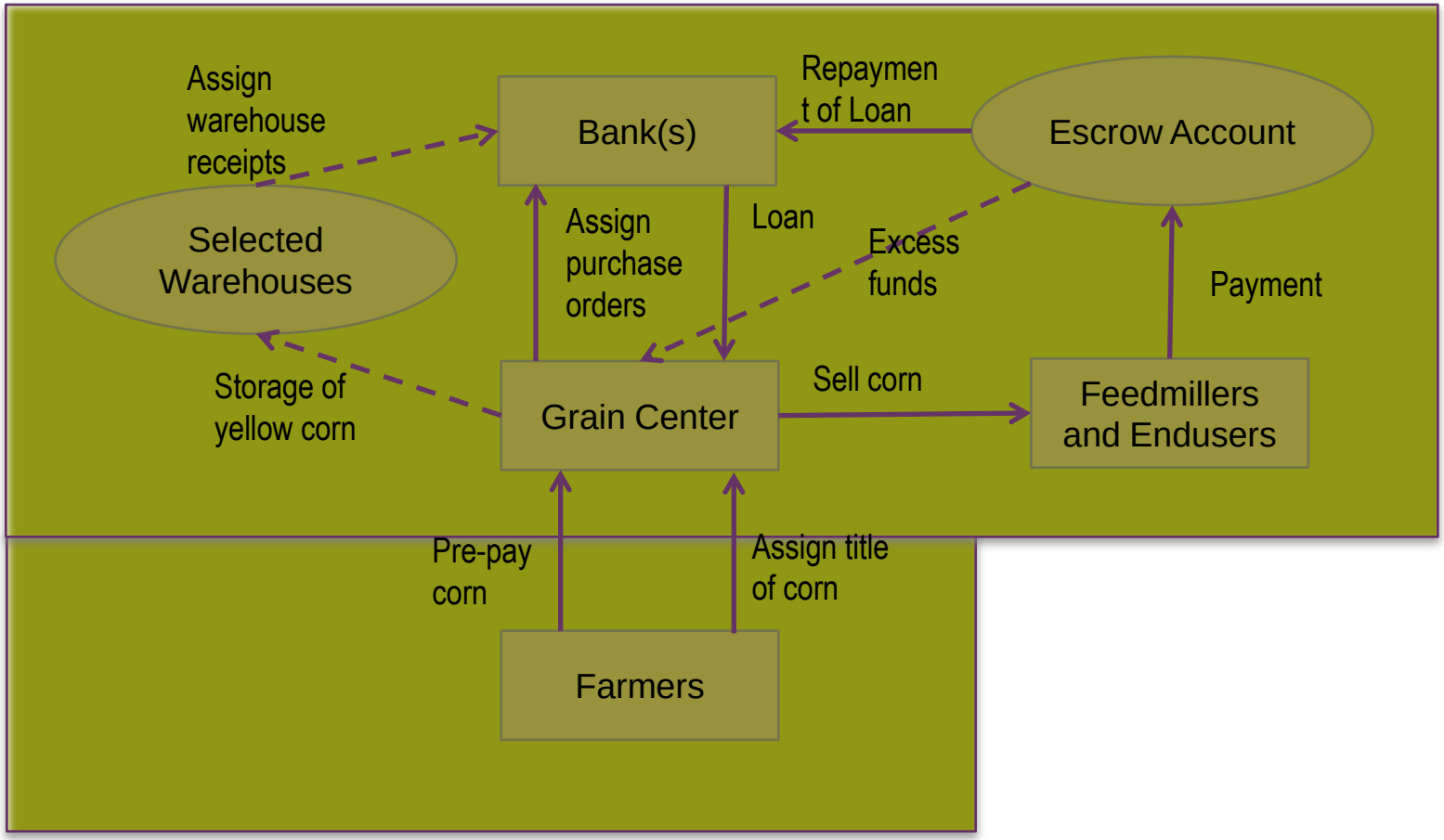
- High post harvest losses, 15 % and poor quality of corn.
- Seasonal price fluctuations not encouraging farm investments in corn.
- Poor access of corn farmers to formal credit markets drive them to informal lenders and reduce their marketing options.
- Lack of corn grain storage.

Recent developments

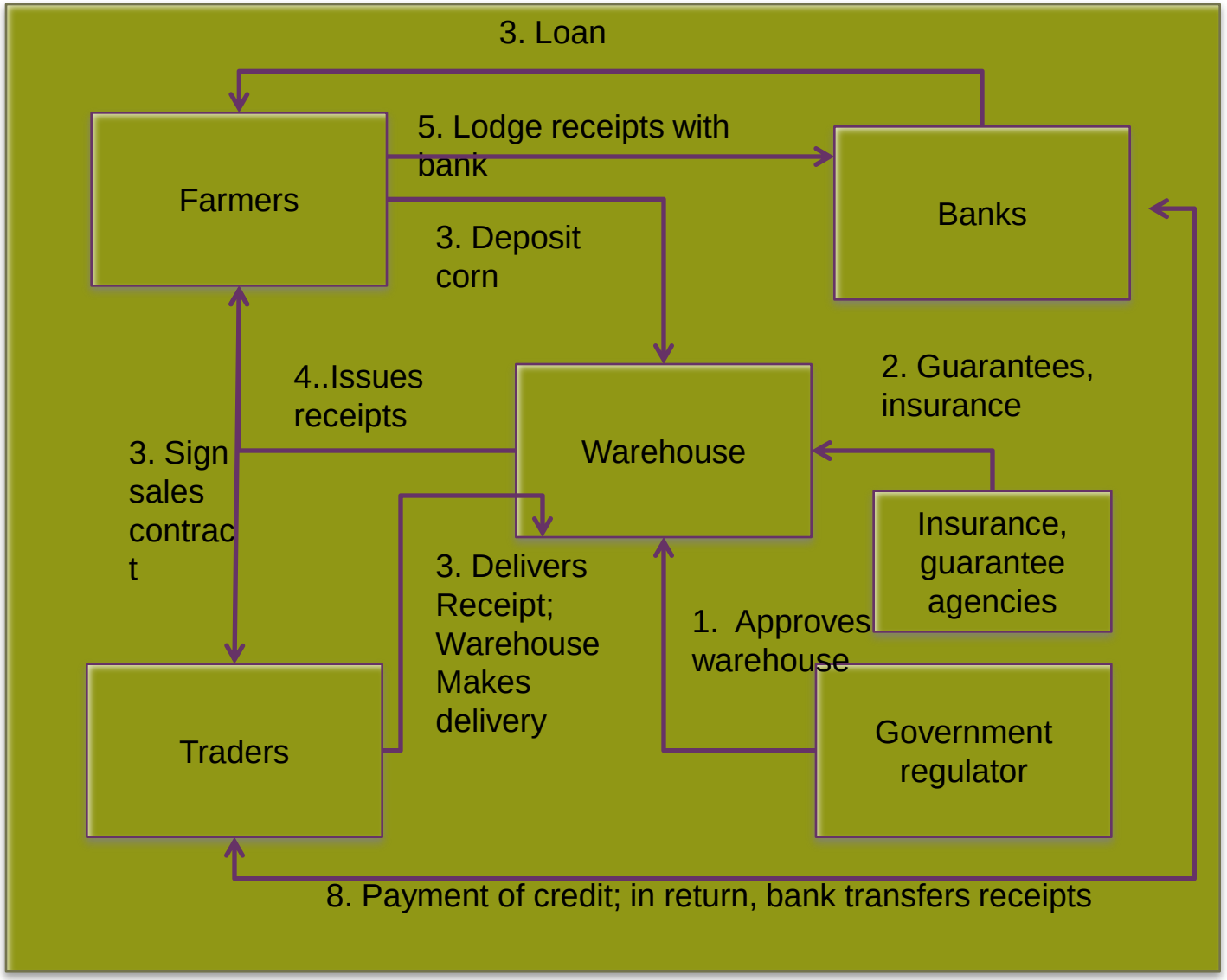
- The establishment of corn processing centers by the private sector and NABCOR.
- NFA's electronic matching of forward demands and supplies of corn

Structuring Trade in Yellow Corn

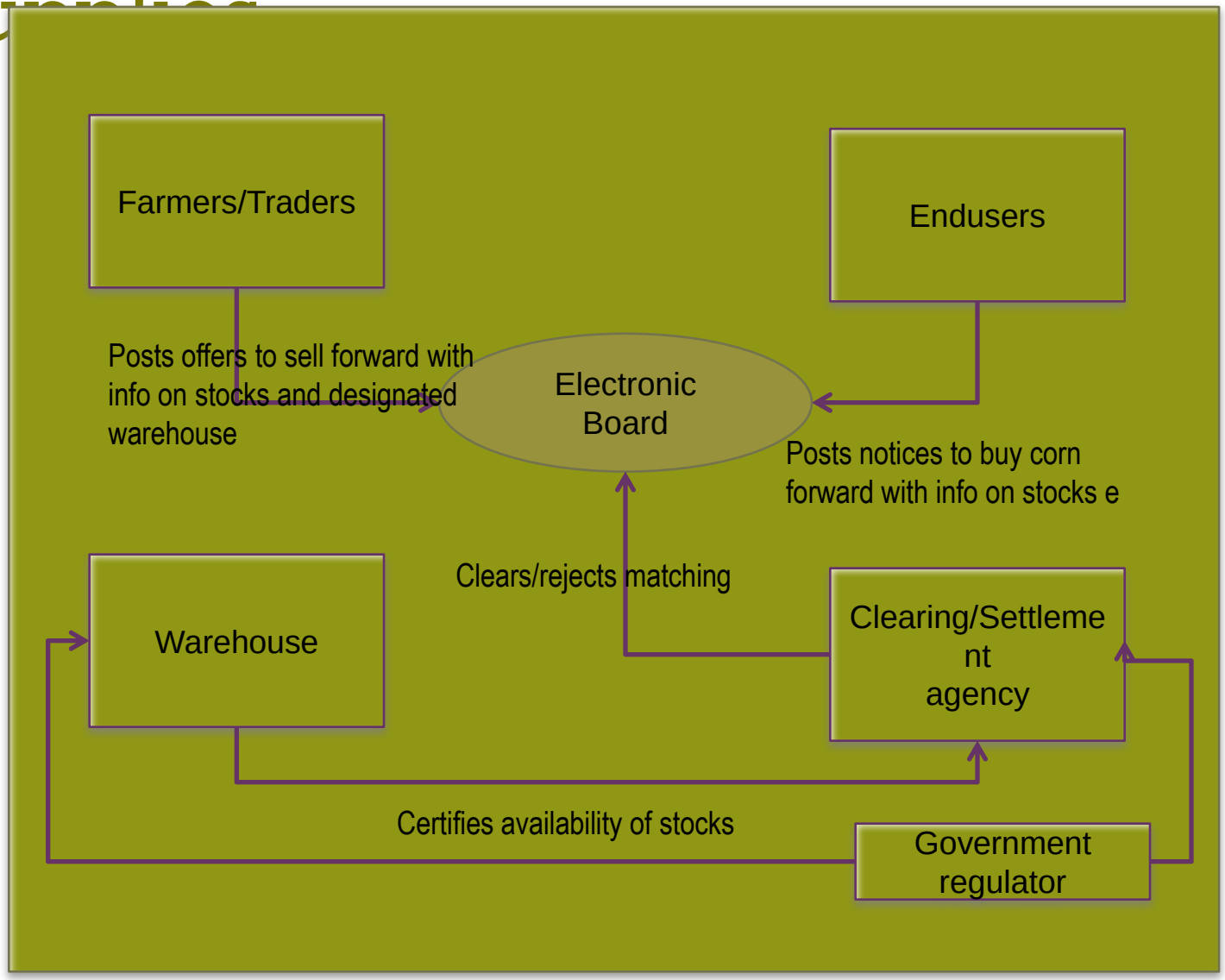
Purchase order backed financing with pre-payment scheme to producers



Warehouse receipts system



Electronic matching of orders and supplies



More processing centers

- Problems addressed: high post harvest loss and poor quality of corn; less competition for corn storage; sharp seasonal fluctuations of corn prices; and lack of warehouse facilities
- Intervention: facilitate investments by private sector, i.e. assistance in feasibility studies, and access to financing
- Outcomes: a) improved quality of corn; (b) higher prices of corn farmers during harvest; (c) lower prices of corn users during lean season
- Development impact:) higher income of farmers; (b) more, sustained investments in hog and chicken industries; (c) higher economic growth.
- Stakeholders: For: a) corn farmers associations (PhilMaize); (b) livestock producers; (c) feedmillers.
- Possible resistance:
  - Traders however may resist this as the centers are a threat to the status quo.
  - Individual corn farmers are locked in debt with traders; may be vulnerable to price illusion due to higher prices of corn grains than corn on the cobs.

Electronic forward trading and warehouse receipts system (1)

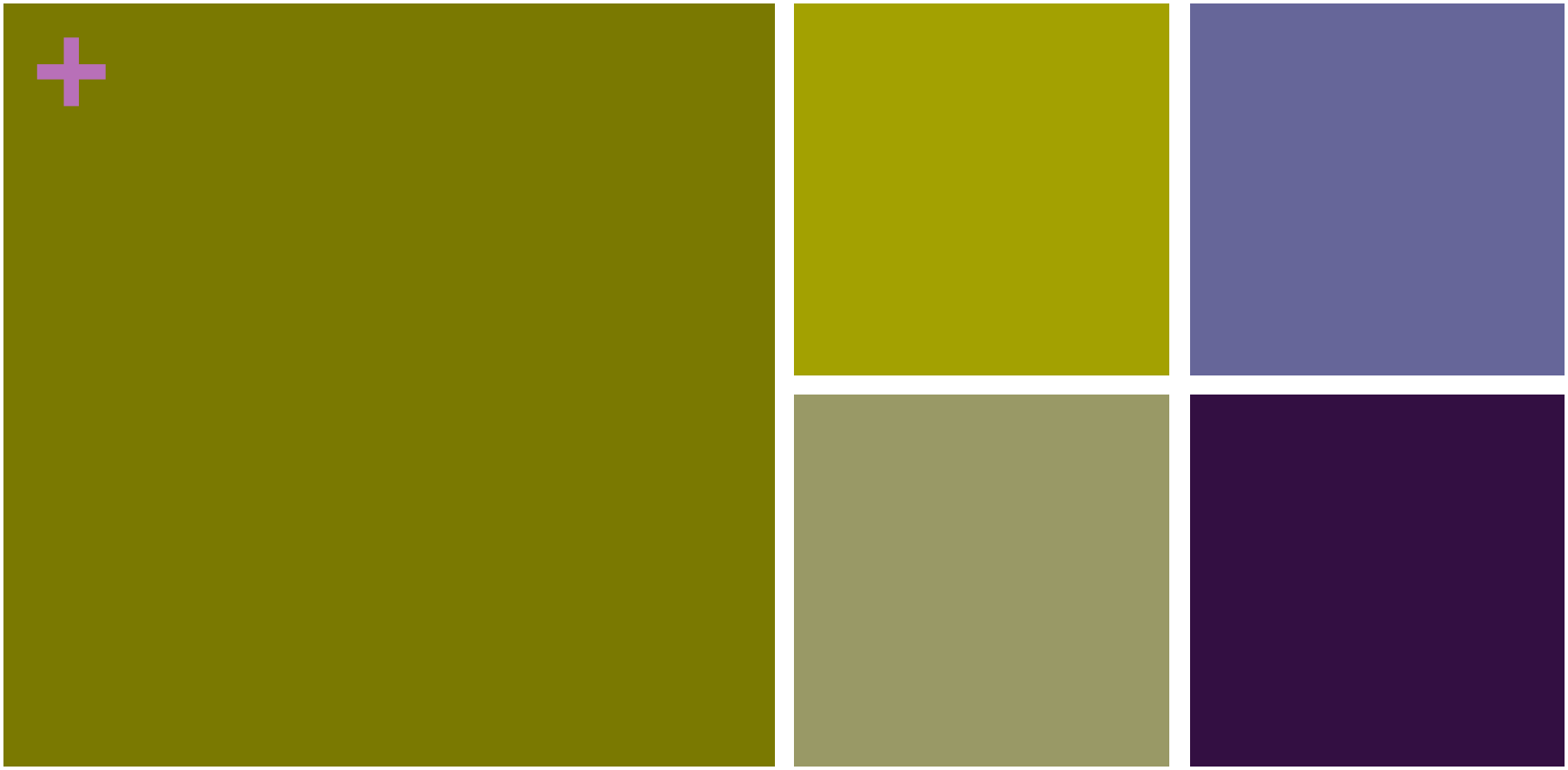
- Problems addressed: 1) price and supply uncertainty on the part of users; (2) low quality of corn as good quality corn not priced properly; (d) sharp seasonal fluctuations of corn prices; and (5) lack of warehouse facilities and 3% stock depreciation; and (6) lack of securitization of corn grains

- Intervention: 1) Capacity developed to regulate the trading and operation of warehouse receipts (including their securization) and electronic trading of forwards; (2) financing support for private investors in electronic trading, investment in warehouses; (3) development of contract templates for electronic trading and warehouse receipts; (4) application developed for the electronic trading.

- Outcomes: a) improved and more homogeneous in quality of corn; (b) higher prices of corn farmers during harvest and lower prices of corn users during lean season; (d) users more assured of supply and price; farmers get more access to financing with warehouse receipts

Electronic forward trading and warehouse receipts system (2)

- Development impact: a) higher income of farmers; (b) more, sustained investments in hog and chicken industries; (c) higher economic growth
- Stakeholders: (a) corn farmers associations (PhilMaize); (b) livestock producers; (c) feedmillers. Traders however may resist this as the centers are a threat to the status quo.
- Requires more detailed study such as (a) experience of the country in warehouse receipts before; (b) SEC regulation on electronic trading and warehouse receipts; (c) feasibility study of electronic trading; (d) information campaign about the e-trading and warehouse receipts system.



Thank you.