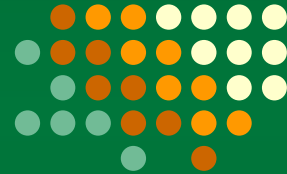


**1st International
One Health Congress
Melbourne, Australia, Feb 14 - 16, 2011**



Evian Influenza and Backyard Poultry System in Cambodia

Khieu Borin

Introduction

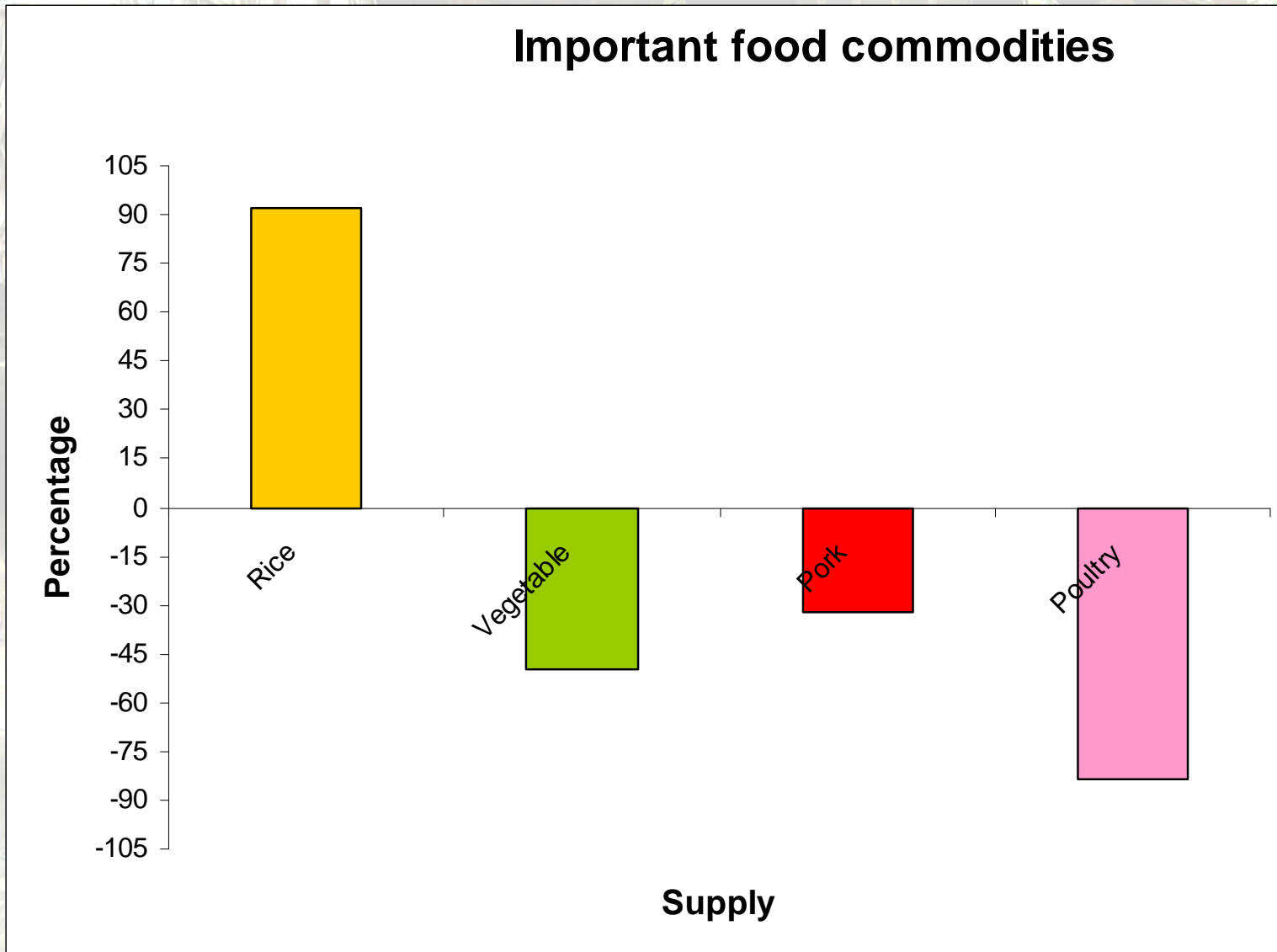
- Poultry provides protein and income for more than 1 million farmers in Cambodia.
- Poultry population in Cambodia is about 21.7 million chickens, ducks and geese.
- Since 2004, about 30 outbreaks were reported of which 11 human cases confirmed H5N1 positive and 9 reported dead.



26/11/2004



Important food commodities



Methodologies



This presentation is based on several studies conducted by CelAgrid in Cambodia

- Characteristics and dynamic of BYP raising systems**
- Poultry market study**
- Economic impact of HPAI on poultry households**

26 10:38AM

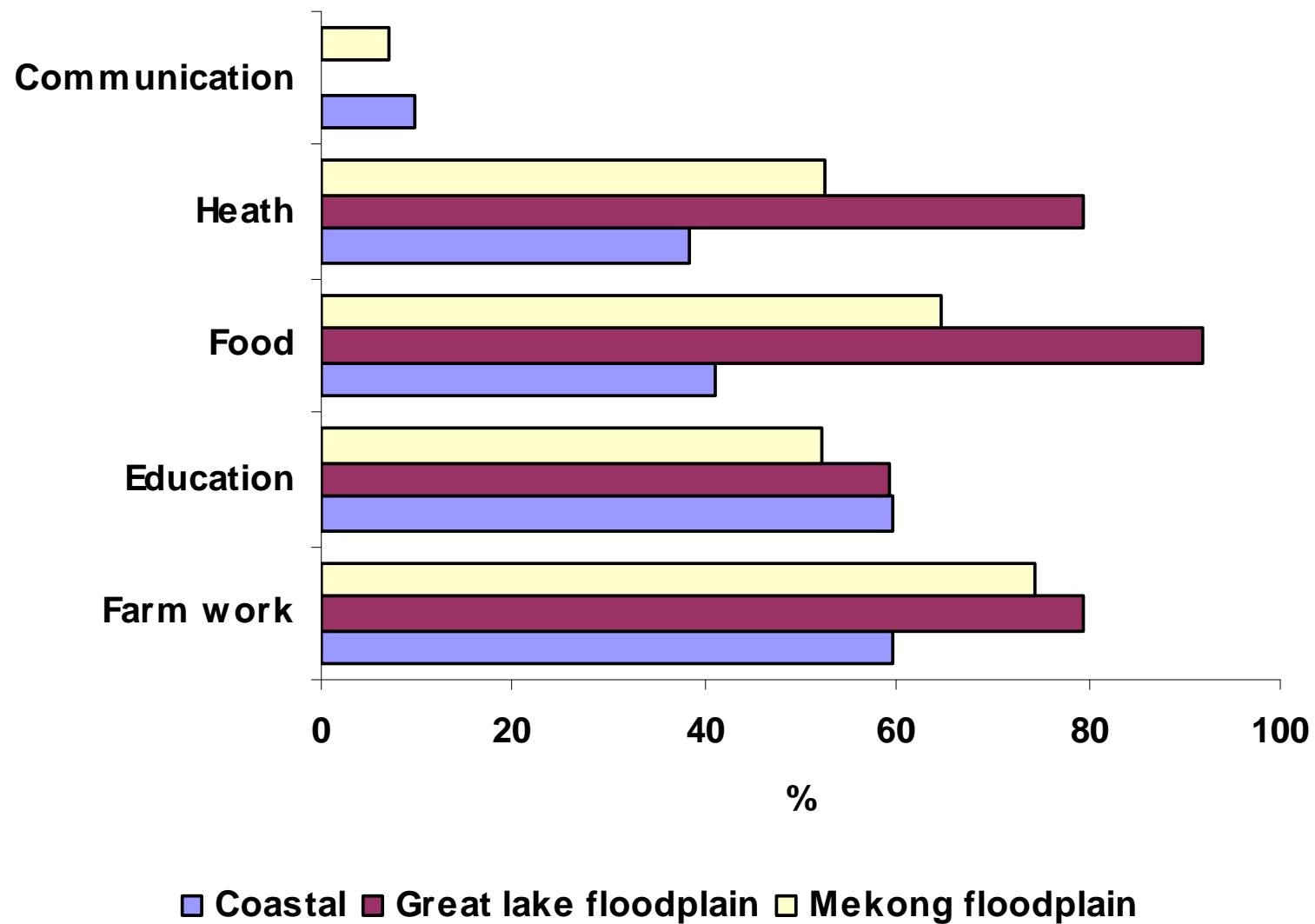
Income sources, riel per family

1US\$=4050 riel

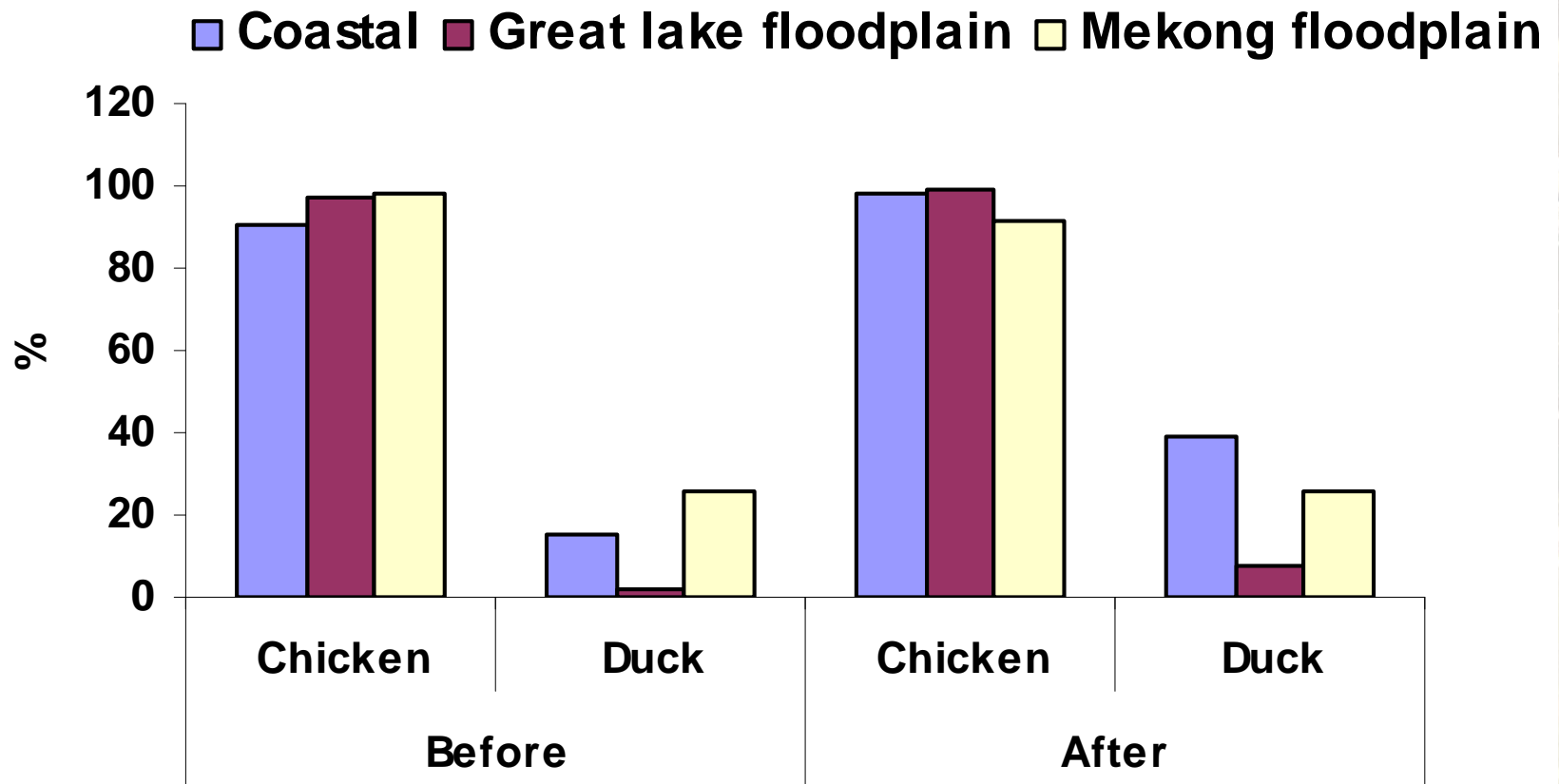


| Income | Coastal (n=156) | Great lake floodplain (n=137) | Mekong floodplain (n=263) |
|-----------------|------------------------------|-------------------------------------|---------------------------------|
| Rice | 10,000-1,500,000 (n=9) | 60,000-1,750,000 (n=93) | 18,000-15,000,000 (n=164) |
| Chickens | 20,000-2,000,000 (n=92) | 20,000-500,000 (n=113) | 20,000-960,000 (n=173) |
| Ducks | 25,000-600,000 (n=15) | - | 20,000-4,000,000 (n=22) |
| Pigs | 140,000-12,300,000 (n=36) | 50,000-4,200,000 (n=51) | 100,000-4,800,000 (n=74) |
| Cattle/buffalos | 300,000-7,460,000 (n=25) | 200,000-2,500,000 (n=18) | 200,000-5,800,000 (n=50) |
| Sale of labours | 30,000-2,880,000 (n=95) | 18,000-4,800,000 (n=45) | 50,000-2,460,000 (n=100) |
| Others | 40,000-3,600,000 (n=101) | 18,000-4,920,000 (n=2) | 100,000-1,825,000 (n=73) |

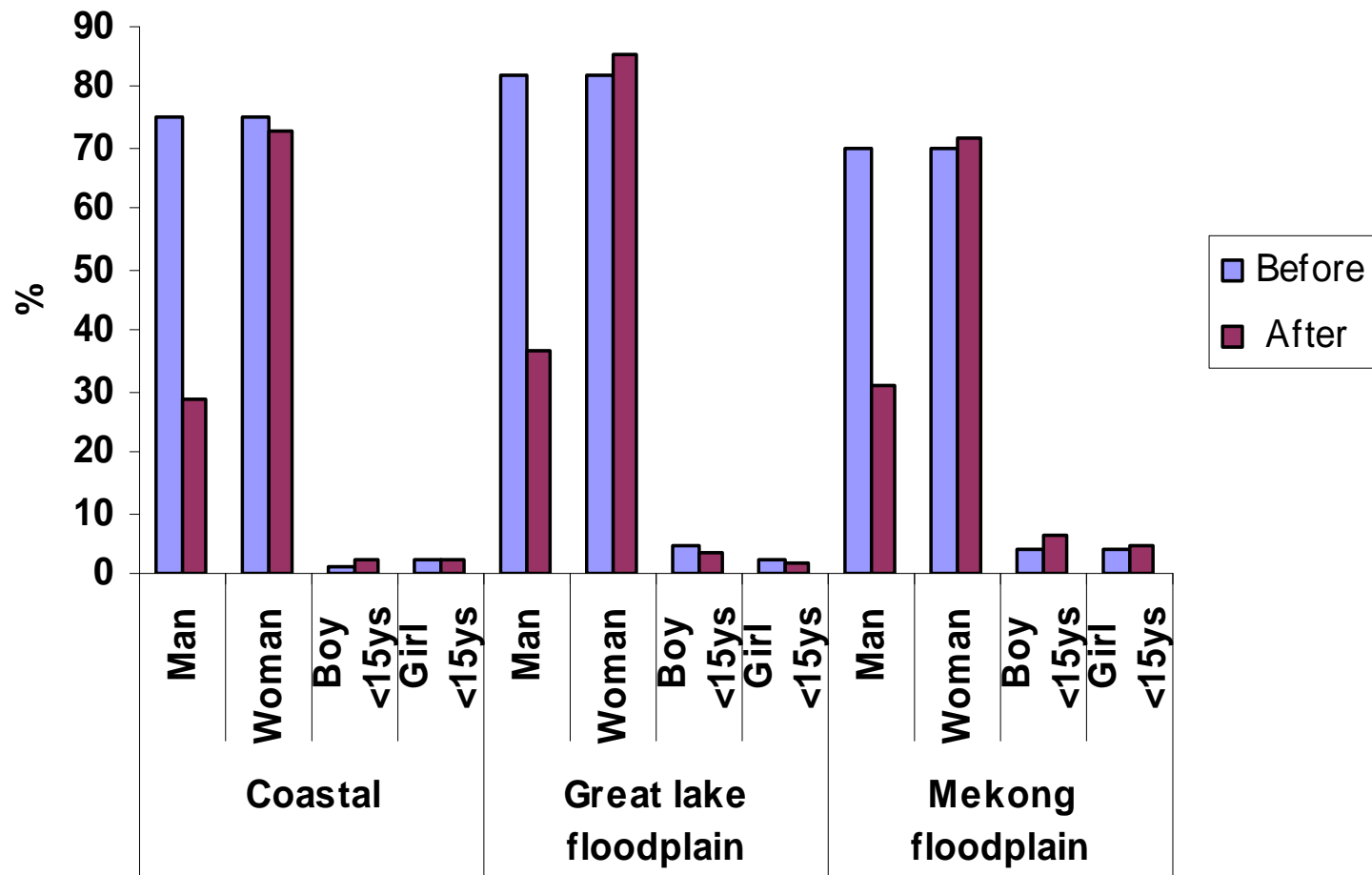
Importance of family expenses



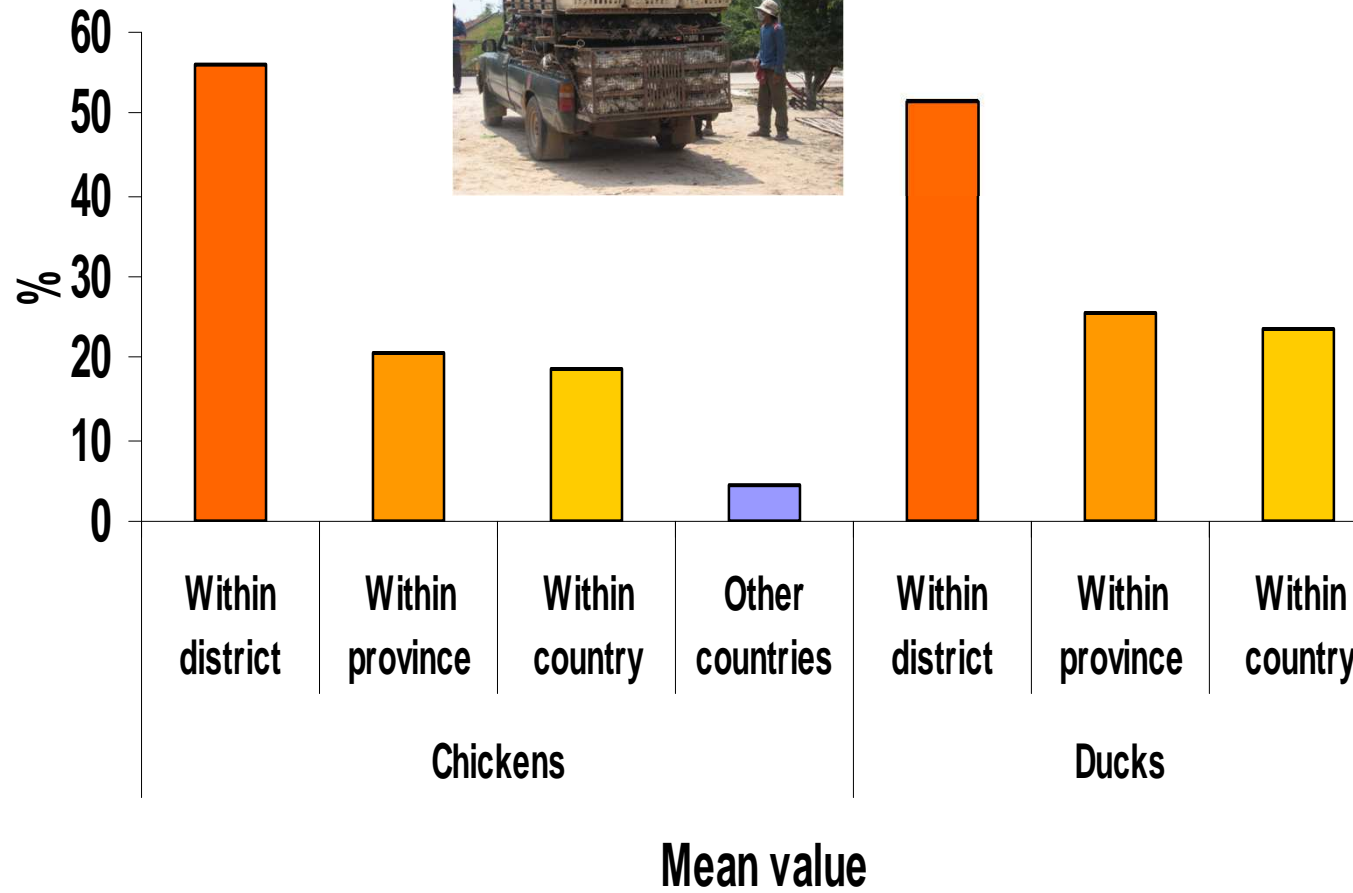
Poultry keepers before and after AI outbreaks



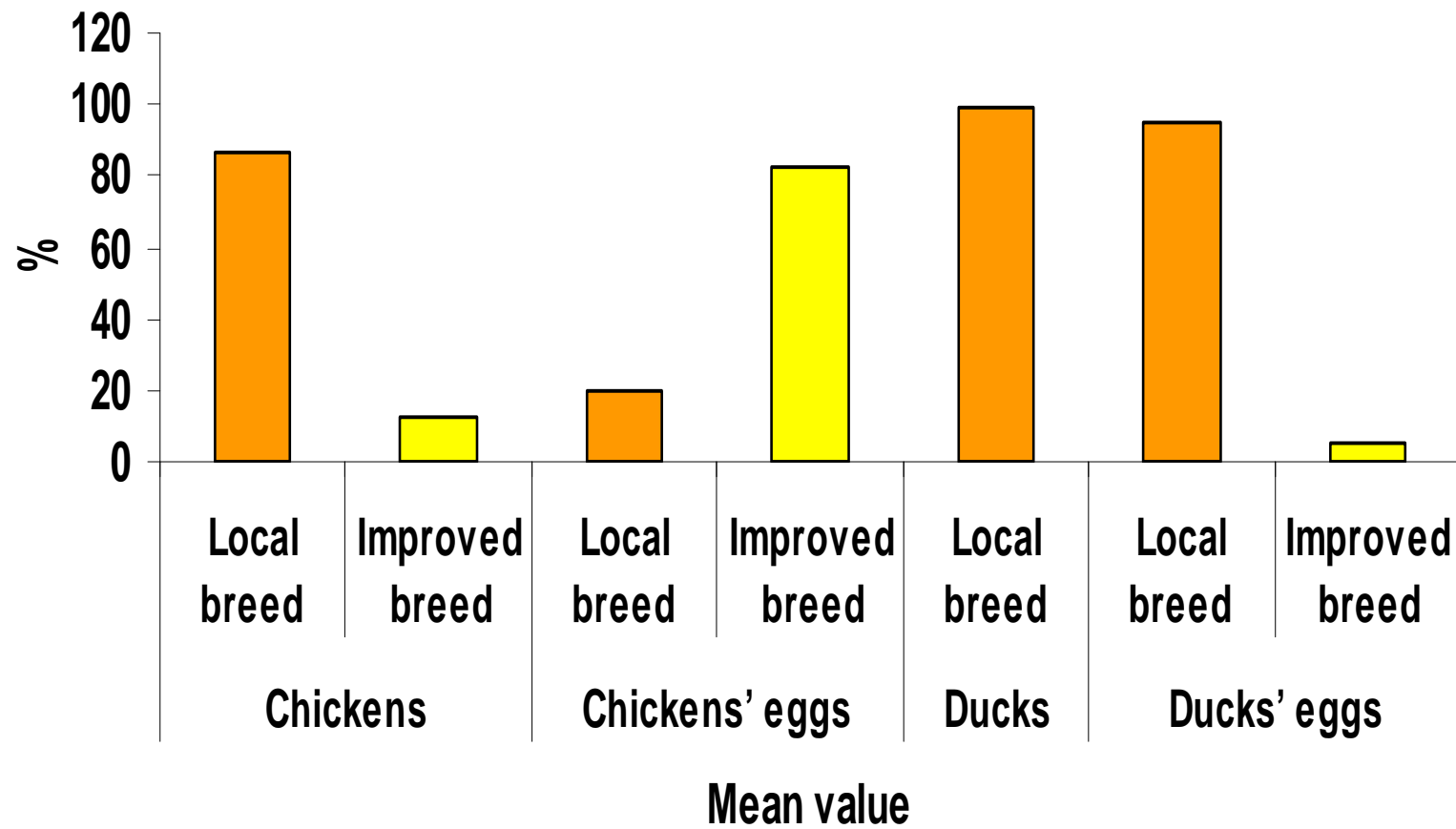
Family members responsibility in poultry works



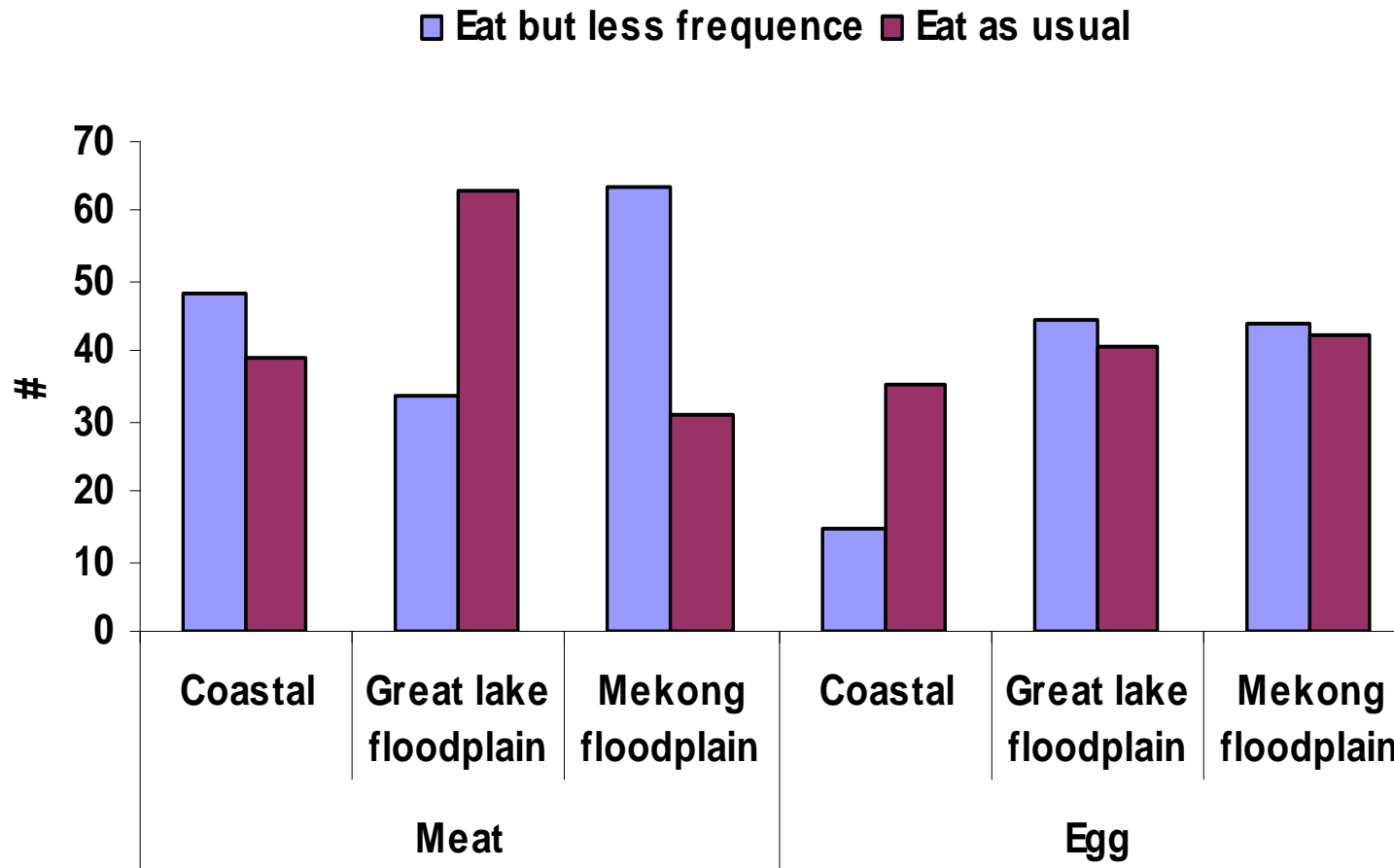
Origin of poultry supplied to the markets



Poultry meat and eggs by breeds sold in markets



Consumption behavior on poultry and its products



Coastal – n=156, Great floodplain - n=137, Mekong floodplain – n=263.

Impact of post HPAI outbreak

- **Selling of poultry 60-65% below regular price during the outbreak.**
- **Reduce protein consumption.**
- **Expensive for re-stocking.**
- **Unable to return loan to microfinance.**



26 10:38AM

Who's at risk

- **Women – farmers and sellers.**
- **Men and women work at slaughterhouses.**
- **Consumers of poultry on roadside of unknown source.**



26 10:38AM

How could disease risk be reduced in backyard poultry context?

- **Knowing their constraints – high mortality, slow growth of poultry, knowledge on poultry production, etc.**
- **Understanding their needs and opportunities – demand of backyard poultry, land and labors farming and money to pay for health, education, food, etc**



Bio-security

- Improve management of poultry flock,
 - Build pen and fence 15-20 m far from the house,
 - Produce local feed,
 - Train interested farmers and
 - Vaccination against common poultry diseases.
- o **Aims: to improve survival rate of chickens and reduce diseases risk to human**

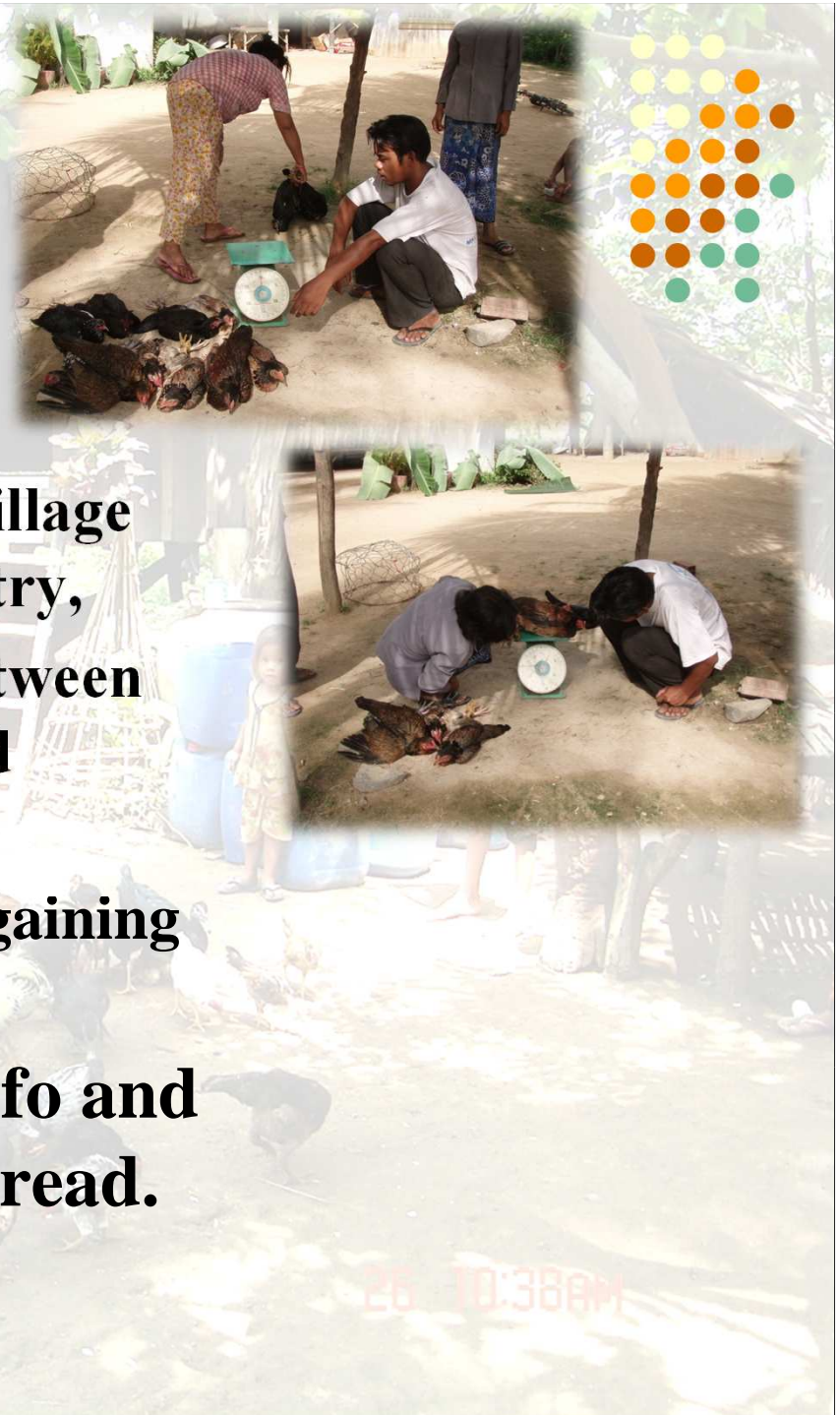


26-10-38 AM

Village Trade Corner

- Organize a place in the village for meeting and sell poultry,
- Establish relationship between farmers and VAHWs and traders, and
- Share price info and bargaining power.

Aims: increase access to info and reduce risk of disease spread.



26 10:38AM

Conclusions

- **Sources of farmers' livelihood are complex and diversified – poultry is mainly for home consumption.**
- **Complexity of poultry value chain but middlemen, traders, collectors and farmers play important role in moving poultry from farm to table.**



26 10:38AM

Conclusions

- **Farmers most important expenses are on health, food, farming, and education.**
- **Women and men play important role in poultry keeping but men involvement reduced after AI outbreaks.**
- **No significant changes in numbers of poultry keepers before and after AI but # ducks changed in Mekong floodplain.**



26 10:38AM

Conclusions

- **Farmers with large # poultry tend to adopt bio-security production system.**
- **Making clear between village trade corner operator and middlemen/traders with the participation of local authority and people are important.**



26 10:38AM