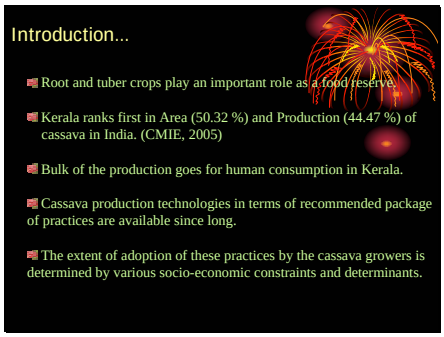
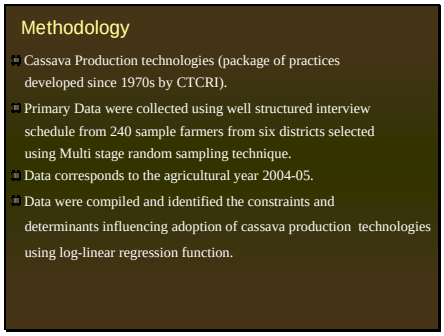
Slide 1

Slide 2




Slide 3



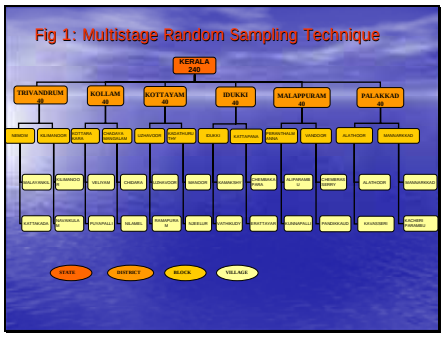
Slide 4

## Methodology

Cassava production technologies Considered

| Name of the Technology |
|---|
| Variety |
| Land Preparation |
| Sett making |
| Sett length |
| Planting method |
| Spacing |
| Retaining two shoots per plant |
| Application of Organic manures |
| Application of N fertilizers |
| Application of $P_2O_5$ fertilizers |
| Application of $K_2O$ fertilizers |
| CMD Management |
| Storage of planting material |

Slide 5

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## Methodology

**Measurement of Adoption Quotient: Chattopadhyay (1963)**

$$\text{Adoption Quotient (AQ)} = \{\sum_{i=1}^{N} (e_i w_i / P_i) / \sum_{i=1}^{N} w_i\} 100$$

Where $e_i$ = Extent of correct adoption of $i^{th}$ practice.

$P_i$ = Potential area for adoption of $i^{th}$ practice.

$w_i$ = Weightage given to $i^{th}$ practice

N = Number of improved practices under consideration.

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## Methodology

Double Log-linear regression function for identifying constraints

$$\text{Log } Y = \log X_1 + \log X_2 + \log X_3$$

Where $X_1$ = Technological constraints

$X_2$ = Economic and marketing constraints

$X_3$= Infrastructural constraints

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## Methodology

Technological Constraints

- Better performance of local cassava varieties than high yielding varieties under low management conditions.
- Lack of good cooking quality for high yielding variety of cassava
- The high yielding variety of cassava do not have good taste as M-4
- Lack of inclination for high yielding variety of cassava due to difficulty in storing the raw tubers as such.
- Lack of sufficient good quality planting materials
- Inadequate information about improved cassava cultivation.

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## Methodology

Economic and marketing constraints

- High cost of cultivation
- Lack of proper marketing system for cassava
- Exploitation by middlemen
- Sufficient labour availability during various farm operations
- Lack of credit facilities

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## Methodology

Infrastructure constraints

- Lack of special programmes for cassava improvement
- Lack of knowledge on cultivation of high yielding variety
- Lack of irrigation facilities
- Availability of pucca roads
- Transport facility from farm to industry/market

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## Methodology

Double Log-linear regression function for identifying Determinants of adoption

$$\text{Log } Y = \text{Log } X_1 + \text{Log } X_2 + \text{Log} X_3 + \ldots\ldots\ldots + \text{Log } X_9$$

Where
$X_1$ = Mass media participation
$X_2$ = Adequate infrastructure
$X_3$ = Contact with Extension agency
$X_4$ = Knowledge of Extension agency
$X_5$ = Scientific orientation
$X_6$ = Risk preference
$X_7$ = Age of the farmer
$X_8$ = Educational Qualification
$X_9$ = Area under cassava

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**Table 2: Adoption quotient of cassava farmers in selected Kerala districts**

| District | Adoption Quotient (%) |
|---|---|
| Thiruvananthapuram | 61.73 |
| Kollam | 60.40 |
| Kottayam | 59.04 |
| Idukki | 56.25 |
| Malappuram | 54.99 |
| Palakkad | 45.63 |
| **Kerala** | **56.34** |

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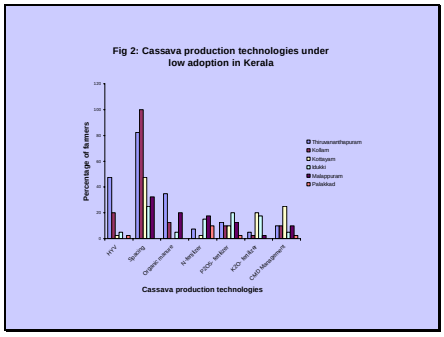


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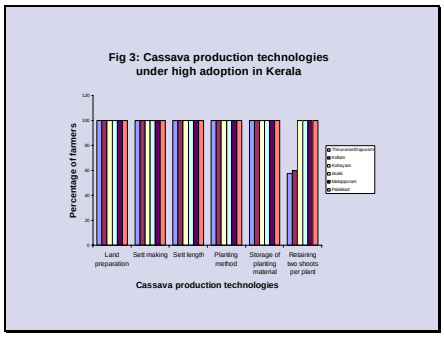


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**Constraints in adoption of cassava production technologies**

| Constraints | Trivandrum (1) | Kollam (2) | Kottayam (3) | Idukki (4) | Malapp-uram (5) | Palakk-ad (6) | Total |
|---|---|---|---|---|---|---|---|
| Technological constraints | -0.0397 | 0.0033 | -0.0577 | 0.0040 | -0.0234 | 0.0032 | 0.0319*** |
| Economic and marketing constraints | 0.0004 | -0.0104** | -0.070 | 0.1866* | 0.0055 | -0.0105*** | -0.0062** |
| Infrastructural constraints | 0.0460 | 0.0762 | 0.1072 | -0.0368 | 0.1282 | -0.0331 | -0.0218 |

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**Determinants in adoption of cassava production technologies**

| Determinant | Trivandrum (1) | Kollam (2) | Kottayam (3) | Idukki (4) | Malappuram (5) | Palakkad (6) | Total (7) |
|---|---|---|---|---|---|---|---|
| Mass media participation | -0.0010 | 0.0153 | -0.1331 | 0.0271*** | 0.013*** | -0.0072 | 0.0036 |
| Adequate infrastructure | -0.2614 | -0.0666 | 3.0270 | 0.2253 | 0.3147 | 0.1508 | 0.1502*** |
| Contact with Extn. Agency | -0.0004 | 0.0035 | -0.0085 | -0.0013 | 0.0078 | 0.0059 | -0.0020 |
| Knowledge of Extn. Agency | 0.0003 | -0.0486** | -0.0254 | 0.2227*** | 0.0103 | -0.0037 | -0.0174 |
| Scientific orientation | 0.1163 | 0.5330** | 0.0051 | 0.3356*** | -0.0427 | 0.1337 | 0.0578* |
| Risk Preference | -0.0184 | 0.0271 | -0.1205 | 0.0066 | -0.1243 | 0.0012 | 0.0695 |
| Age | 0.0332 | -0.0354 | -0.0312 | -0.1515 | 0.0707 | 0.0925 | 0.0262 |
| Educational level of farmer | -0.0556 | 0.0142 | 0.2119*** | 0.1217 | 0.1429 | 0.0410 | 0.0873** |
| Cassava Area | -0.0064 | 0.0722 | 0.0307 | 0.0180 | -0.1530 | -0.0129 | -0.0208 |

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## Conclusions

- The adoption level of improved cassava production technologies in Kerala is **good**. Thiruvananthapuram (61.73%) has the highest Adoption Quotient and Palakkad (45.63%) has the lowest Adoption Quotient in Kerala.
- **Adoption level was high for technologies like land preparation, sett making, sett length, method of planting, storage of planting material and retaining two shoots per plant.**
- **Adoption level was low for technologies like high yielding varieties, application of recommended dose of organic manures and N, P, K fertilizers and CMD management practices.**

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## Conclusions

- **Technological constraints are influencing positively and significantly while economic and marketing constraints are influencing negatively and significantly the adoption of cassava production technologies in Kerala.**
- **Adequate infrastructure, scientific orientation and education level of the farmer are the important determinants in the adoption of cassava production technologies in Kerala.**

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