A SEMINAR

ON

"CROP DIVERSIFICATION AND FOOD SECURITY"

Presented by:

Mr. Firoz Kumar Sahoo

Lecturer In Economics

Sri Sri Bayababa College

Mahakalapara

Kendrapara

On

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Organized by:

DEPARTMENT OF ECONOMICS

PATTAMUNDAI COLLEGE

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REPORT

A departmental seminar for the session 2018-29 was organized by Department of Economics, Pattamundai College, Pattamundai on dated 18-03-2019 on the topic "***CROP DIVERSICIFICATION AND FOOD SECURITY***". Mr. Firoz Kumar Sahoo, lecturer in Economics, S.S.B College, Mahakalapara, joined the seminar as the resource person.

The meeting was presided over by Mr. R.K. Senapati, senior lecturer of Sociology Department, Pattamundai College, Pattamundai. The meeting was commenced at 11.3 A.M. with the lighting of candel by our respected guest. Mr. Pradyumna Pradhan, Head Department of Economics gave a key note address of the topic and Mr. Subhasis Mishra, lecturer in Economics, Pattamundai College, welcomes and introduced guest of honour on this occasion.

The meeting was ended with vote of thanks by Baisakhi Dash, a student of +3 second year degree at 2.30 P.M.

❑ *Introduction*

- *crop diversification and sustainable agriculture are the budge words in agricultural scenario at the national and international levels. During the period of green revolution when there was a need of enhancing total food grain production, emphasis was given on increasing the cropping intensity and crop productivity but in long term, this approach digressed from the principles of crop production, where the basics of crop rotation and crop sequences played an important role.*
- *Under such situations, approach of diversification has been envisaged as a new strategy towards enhancing and stabilizing productivity, making Indian agriculture export competitive and increasing net farm income and economic security. Agriculture and crop diversification is now almost a normal feature of stable agriculture and progressive farm management in most of the extensive agricultural parts of the world (Joshi et al., 2004).*

MEANING OF CROP DIVERSIFICATION :

A change in cropping pattern or crop diversification implies a change in the proportion of area under different crops. The cropping pattern in an area depends mostly upon agro-climatic, technical and institutional factors (Vaidyanathan, 1992).

The process of diversification can be classified into horizontal and vertical diversification. Horizontal diversification can be referred to as that form of diversification wherein farmers diversify their agricultural activities in order to either stabilize or increase their income or both. It can either take the form of shift from subsistence farming to commercial farming or the shift from low value food crops to high value crops. Vertical Diversification refers to the farmers' access to non-farm income, i.e., the income from non agricultural sources (Haque.T, 1996).

Agricultural diversification can be described in terms of the shift from the regional dominance of one crop towards the production of a large number of crops to meet the increasing demand of those crops. It can also be described as the economic development of non agricultural activities (Start, 2001).

NEED OF CROP DIVERSIFICATION:

(*Sarbeswar Mohanty, Falguni Pattanaik and Rabi N Patra, September 2013*) **Sustainable growth of the agriculture depends considerably on the process of agricultural transformation, which in turn is well connected with shifts in production patterns i.e, on the extent of crop diversification.**

***Gunasena** (2012)* **identified several advantages of crop diversification; those are**

- **comparatively high net return from crops,**
- **higher net returns per unit of labour,**
- **optimization of resource use,**
- **higher land utilization efficiency, and**
- **increased job opportunities.**

***Winters et al.** (2006)* **have identified three key factors that derive farmers "demand" for crop diversity:**

I)managing risk,

ii) adapting to heterogeneous agro-ecological production conditions and

iii) meeting market demands and food security.

FACTORS INFLUENCING CROP DIVERSIFICATION

- (De, 2003) The studies revealed that development of irrigation, use of chemical fertilizer, availability of inputs, location of plots and technology of cultivation of crops play some role in the composition of food grains production and crop diversification in the long-run.

- (Pingali and Rosegrant, 1995). Several forces influence the nature and speed of agricultural diversification from staple food to high value commodities. Earlier evidence suggests that the process of diversification out of staple food production is triggered by rapid technological change in agricultural production, improved rural infrastructure, and diversification in food demand patterns These are broadly classified as demand and supply side forces. The demand side forces that have been hypothesized to influence the diversification include per capita income and urbanization. On supply side forces, the diversification is largely influenced by infrastructure (markets and roads), technology (relative profitability and risk in different commodities), resource endowments (water and labor), and socio-economic variables (pressure on land and literacy rate).

- Joshi et al. (2004) applied the Generalised Least Square (GLS) technique and found that relative profitability, irrigation, road, markets, rural literacy, the proportion of small holders, income from crop, urbanisation, rainfall and production year affected crop diversification in South Asia.

Meaning of Food security:

- Food security was defined in the *Proceedings of the 1974 World Food Summit as:* 'availability at all times of adequate world food supplies of basic foodstuffs . . to sustain a steady expansion of food consumption. . . and to offset fluctuations in production and prices' (UN 1975).

- In 1983 FAO expanded its concept to include a third prong: 'Ensuring that all people at all times have both physical and economic access to the basic food that they need.' (FAO, 1983).

- In an influential World Bank (1986) report, Poverty and Hunger, this concept of food security is further elaborated in terms of: 'access of all people at all times to enough food for an active, healthy life.'

- The 1996 World Food Summit in its Plan of Action adopted a still more complex definition:

'Food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.' (FAO, 1996a).

This definition is again refined in The State of Food Insecurity 2001:
'Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.' **(FAO, 2002)**.

The history of food security dates back to the Universal Declaration of Human Rights in 1948 in which the right to food was recognised as a core element of standard of living and also to the world food crisis of 1972–1974. The food security concept continued developing overtime and approximately 200 definitions and 450 indicators are now available in the literature.**[Munir Ahmad and Umar Farooq (Winter 2010)]**.

The term —food security refers the access to adequate amount of food for meeting dietary energy needs that implies for many as self-sufficiency as producing required food domestically **[Pinstrup-Andersen (2009)].**

The most comprehensive definition, however, comes from **FAO (2010)**.
According to which "food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern".

Dimensions of Food security:

According to Emergency Food Security Assessment of **WFP (2009)**, the analysis of food security is based on three pillars:

(i) food availability; (ii) food access; (iii) and food utilization.

Food availability is the physical presence of food in the area of concern through all forms of domestic production, commercial imports and food aid. Food availability is determined by:

- **Production**: food produced in the area;
- **Trade**: food brought into the area through market mechanisms;
- **Stocks**: food held by traders and in government reserves;
- **Transfers**: food supplied by the government and/or aid agencies.

Food access concerns a household's ability to acquire adequate amount of food, through one or a combination of own home production and stocks, purchases, barter, gifts, borrowing and food aid. The following are some examples:

- Own production – crops, livestock, etc.
- Hunting, fishing and gathering of wild foods;
- Purchase at markets, shops, etc;
- Barter – exchange of items for food;
- Gifts from friends/relatives, community, government, aid agencies, etc.

Food utilization refers to households' use of the food, to which they have access, and individuals' ability to absorb and metabolize the nutrients– the conversion efficiency of the body. Food utilization includes:

- The ways in which food is stored, processed and prepared, including the water and cooking fuel used, and hygiene conditions;
- Feeding practices, particularly for individuals with special nutrition needs, such as babies, young children, the elderly, sick people, and pregnant or lactating women;

According to the **World Health Organisation (2012)**, food security is built on three pillars which include
- Food availability: sufficient quantities of food available on a consistent basis.
- Food access: having sufficient resources to obtain appropriate foods for a nutritious diet.
- Food use: appropriate utilization of the available food based on knowledge of basic nutrition and care, as well as adequate water and sanitation.

The World Food Summit in 1996 encompasses five fundamental aspects: **availability, access, stability, nutritional status and preferences of food**. All of these components are influenced by physical, economic, political and other conditions within communities and even within households, and are often destabilised by shocks such as natural disasters and conflicts **[UK Parliament (2006)].**

Food availability refers to the physical existence of food, be it from own production or on the markets. On national level food availability is a function of the combination of domestic food stocks, commercial food imports, food aid, and domestic food production, **as well as the underlying determinants of each of these factors.** Use of the term availability is often confusing, since it can refer to food supplies available at both the household level and at a more aggregate (regional or national) level. However, the term is applied most commonly in reference to food supplies at the regional or national level (**Riely *et al.*, 1999**).

Having **access** requires that sufficient food is consistently available in the market. But, the availability of sufficient food at country/local level does not guarantee that all people are food secure, since low incomes, lack of roads and infrastructure could deny access to desired quantities of quality food **[UK Parliament (2006)].** Therefore, both availability and access parts of food security are inseparably inter-linked **[Pinstrup-Andersen (2009)].**

Measurement of Food security:

- The measurement of food security remains a debatable issue due to the selection and sequence of these questions **(McKeown, 2006)** (FAO, 2008 and Carletto et al, 2012). The selection of measurement method depends on the selection of food security definition **(Alinovi et al., 2009).** The information collected through Rapid Rural Appraisal (RRA) is useful to develop quantitative measures for food security status determination **(Wolfe, et al., 2000).** This approach is similar to participatory rural appraisal (PRA) but it is more action-oriented. It includes focus groups and in-depth interviews.

- **The method Food Insecurity Experience-based Measurement Scales (FIEMS)** is based on the perception or experience reported by the respondents. The extent of severity is based on a series of questions, a number of which rely on qualitative and subjective assessments **(Rose and Charlton, 2001).**

- **Dietary Intake Assessment (DIA)** is usually carried out using different techniques: the recall method (24-hour or 7 days or 30 days), food frequency questionnaires, and food records (individually or by an observer). These techniques are widely used for food security assessment studies **(Jenson and Miller, 2010).**

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5. **Crop Diversification in Punjab Agriculture: A Temporal Analysis Jaspal Singh, H.S. Yadav and Nirmal Singh** Department of Regional Planning and Economic Growth, Barkatullah University Bhopal, M. P., India.**Received: 7 February 2013; Revised: 26 February 2013; Accepted: 3 March 2013**

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18/03/19

Firoz Kumar Sahu

STUDENTS ATTENDANCE FOR THE SEMINAR ON THE TOPIC "CROP DIVERSIFICATION AND FOOD SECURITY" ON 18.03.2019

Sl. No	Roll no.	Signature
1	BA-16-131	Sadhana Subhadarshini Tarai
2	BA-16-013	Rekha Sethi
3	BA-16-059	Swagnarani Rout.
4	BA-18-195	Satabdi Tanaya Das.
5	BA-18-118	Archana Tripathy
6	BA-16-123	Rasanirewha Panda
7	BA-17-152	Sudharshanalini Mahapatra
8	BA-17-161	Sangita Behera.
9	BA-17-201	Baisakhi Dash
10	BA-17-154	Manisha Priyadarsini Rout
11	BA-17-046	Sasmita Rout
12	BA-17-130	Sanghamitra Khandai
13	BA-17-063	Bijayalaxmi Das
14	BA-17-010	Salini Parida
15	BA-17-252	Tapaswini Panda
16	BA-17-119	Nibedita Tarai
17	BA-17-061	Abhena Sundari Padhi
18	BA-17-104	Satya brata padhi
19	BA-16-138	Deepak Kumar Das
20	BA-16-096	Pravati Priyadarshani Jena
21	BA-16-231	Ranjita Patra
22	BA-16-224	Priyadarshini Sahoo
23	BA-16-267	Sakuntala Manjusa
24	BA-16-001	Pasmita Sarangi
25	BA-17-208	Aniya Das.
26	BA-16-050	Nirmala Rael.
27	BA-16-214	Sochitra kumar Panda.
28	BA-16-263	Asha Priyadarsini Das.
29	BA-18-009	Sangita Sarangi
30	BA-18-136	Pravat Ku Sethy.
31	BA-16-153	Kiran Bala Sethy
32	BA-18-195	Satabdi Tanaya Das
33	BA-18-031	Swarna manjari Mallik
34	BA-16-230	Surendrekha Biswal.

Sl. No	Roll no.	Signature
35	BA-16-233	Sushree Smita Nayak
36	BA-16-227	Arati Sahoo
37	BA16-269	Lopamudra Jena
38	BA-16-273	Rojalin Sahoo
39	BA-16-187	Himanshu bhusan mallik
40	BA-16-138	Deepak Kumar Das
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