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Identification of agricultural practices related to indigenous grains in dharni block of Maharashtra

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Indigenous Technical knowledge (ITK) is local specific knowledge and set of practices in agriculture, natural resource management, health and educational development generated and preserved by people and farmers and confirm for its stability over centuries. According to Michelle Warren (1993), indigenous knowledge is "Local Knowledge" that is unique to a given culture or society. It is information base facilitating communication among people coming from different backgrounds. Search knowledge is passed on from generation to generation in many societies by word of mouth. It is the acquired by local people through accumulation of experience, informal experiments and intimate understanding of environment in a given culture (Anonymous 1994).

The largest concentration of tribal is found in African continent. India accounts for nearly 2 to 4 % of the world's population. There are 314 tribal communities in India known as different names such as Adivasi (the original inhabitants.), Vannya Jati (caste of forest) , Adim jati (primitive people) etc. Total population of tribal in India, according to census 2011 which 7.59 crores and their proportion with total population of India was 8.01 per cent out of which 9.27 per cent of the tribal were in Maharashtra state. The eastern part of Vidharbha(Gondwana Region) inhibitates the major tribal population in the state. The area known as Melghat is comprises of mainly two tehsil of Amaravati district namely 1)Dharni tahsil 2) Chikhaldara.

Total geographical area of Dharni is 3054sq.k.m the whole form North South Dharni area is about 100 kms from east-west the area situated on boundary of satpura range to the south of Tapi river is known as Gavilgarh Hills of Melghat. Gavilgarh being the name of an old fort of Melghat being the name of khapra and Tapi rivers in the North .

Indigenous knowledge would help us to understand the concept the element of sustainability in integrated with the modern information system the efficient resource management. It can be used for the benefit of the community to provide information offer

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solution to common problem within the community. As it is seen that tribal, who's from sizable proportion of the farming population and the agriculture businesses on which they are mainly dependent for food on farming and forest. Efforts are being made worldwide to identify the Indigenous Technological knowledge. The indigenous agriculture practice is influence the current farming practice. The study would be helpful the planners and policy makers in Planning and implementing some scheme for the tribal farmer to improve upon their farming Status. It May divert the attention of decision maker and policy maker to the role that small scale agriculture producer can play significantly in achieving of national food self suffciency.

Sr. No.	Indigenous Practices	Reasons for adoption of indigenous and agricultural practices.	Scientific reason
1.	Collecting and burning crop residues and farm waste the field crop	I .kill the microorganism harmful to the crop ii. destroy the weed seeds iii.ash acts as the good fertilizer	Farm waste is the source of various pest and diseases. Burning the farm waste destroy the harmful organism in the soil. Ash also contains potassium (K) and nitrogen (N) which improves the yield of crop. It is important organic manure supplement.
2.	Following the Rab method while raising the seedlings of paddy in nursery.	i. It adds more organic matter in the soil ii.It improves the soil fertility, productivity and water holding capacity	Dung of animals and farm waste is the source of egg. Pupae of insect pests. Burning the farm waste and dung kill the insect pest and ads more organic matter in the soil. It improves the quality and quantity of crop.
3.	For control of aphids and jassids in the paddy field ash is used i.e. for controlling one acre area 15 to 20 kg of ash is	i. It is cheaply available ii. ash is having certain characters which prevents the pests to cause damage	Ash acts as contact poison if used at heavy rate it controls the aphids/jassids

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	dusted		
4.	Spraying mechanically the leaves extract of castor and mahua flower on paddy crop.	it is controlling aphids and jassids due to alcoholic extract	Mahua flowers contain alcohol which killed aphids and jassids, castor seeds contained ricine, a toxic alkaloid , which may kill aphids and jassids
5.	Beating drum in the standing crop of paddy for scaring birds	Prevents the birds to cause damage due to noise	
6.	Pelting stone with the help of gophan (A device made up of coir string for pelting the stone pieces with speed for scaring birds)	Birds are driven out from the fields and hence damage to crop is prevents	
7.	Fixing effigy in the centre of field for scaring animals	Prevents birds from causing damage	
8.	Making typical noise with the help of bamboo stick for scaring birds	This is traditional and having low cost practice	
9.	Harvesting matured crop and threshing by bullock cart	Keep the paddy fodder in good quality	
10.	Winnowing the threshold produce in morning or evening by facing north-south direction	Wind blows fast at morning and evening	Wind blows east to west of direction

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11.	Storing paddy seeds in dholi or dhindwa and placing ash and neem leaves in the bin	i. it save the germination percentage of seed as such ii. ash is having certain characters which prevents the pest to cause damage iii. Neem extract is better in taste and also poisonous so that pest is prevented	A grain cellar i.e. dholi or dhindwa are the non cash structure available for the farmers which don not required repairs and give satisfactory storage of grain for longer length of time hence they are use. Ash cause physical injury to insect.

Major Indigenous crops

1. Jagni

Jagni is one of the most indigenous grains of tribal people.its rich in fibre also jagni oil has its own medicinal important value**.**

Sowing: Jagni is sown in mid of August to first week of September

-Method of sowing is by throwing with hands.

Maturity: - After sowing flower comes in one month.

Then after 15-20 days from flowering plant is harvested.

Uses

Uses were reported by the tribal farmers are listed below:

- Nourishment of child jagni oil is used
- Decreased cholesterol level
- Rich is fibre.
- 2-3 drops are used is eyes to removal of dust.
- Oil is used in nose and ear drops.
- Oil is used for cooking purpose.
- After crushing that grain material remains (bhukti) in that bhukti by adding salt + chill + coriander chutney is prepared, which is nutritious.

Yield:

In 1 acre 7.8 quintal is obtained. One kg oil is obtained from four kg of oil seeds.

Price:

Price of oil is 150 per litre and cost of grain is 200-250 Rs kg.

Storage:

Stored is kothi which is made up of soil.

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2. Kutki

Kutki is use as staple food by many tribals. This grain has important value in ritual. Useful for pregnant woman

Sowing: sowing is done in last or ending of rainy season.

- Midnight of august to first week of September
- Sowing is done by broadcasting method.

Harvesting:

Harvesting is done by sickle manually. After cutting plant they are allowed to crush in Dawan (assembly in which ox is tied and grain is crushed under the legs of ox.) after harvesting the small grain they are taken into dalan kendra for removing of outer cover of grain.

Maturity: crop matures in 3 month after showing and ready to harvest. Height of plant is 1 to 2 feet.

Use:

Kutaki has its different used as stated below:

- Use as staple food like rice. This tribal consider as hot food hence Use to cure cold and cough. So people are avoiding eating it.
- Pej is given to pregnant women. Use to cure cold and cough.
- Kutki have its own ritual important value in ritual programmes especially in nawas the sweet porriage is prepared and offer as scarifies to God.

Yield:

In One acre four-five quintal grain is obtained.

Price:

Price is 20 to 25 Rs/kg.

Storage:

Stored is kothi which is made up of soil or in dholi.

3. SAWA

Sawa is one of best useful grain among all indigenous grains. Helps in digestion and it has important role in curing of cough, cold.

Sowing: Sown in august and first week of September.

Harvesting: Done by dawan method. Crop matured in 3 months. Harvesting is done manually by sickle with Labour.

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Maturity: After sowing crop matured in 90 days. Maturity sometimes requires more water.

Use:

- Given to patients suffer from stomach problems.
- Used against digestion problem.
- Use to cure cough.

Yield:

In one acre four-five quintal grain is obtained.

Storage:

After harvesting grain is stored in field and covered it with grass to prevent it from rain. Then stored in kothi.

4. Kodo

Kodo is nutritious in value and one of the best use ot kodo is used for making chapatti. Useful as a source of multivitamins.

Sowing: sown in august and mid of September after sufficient rainfall.

Harvesting:

Done manually by labours. After fully maturity it seems like wheat.

Use:

- The grain is used for multipurpose in having high nutritious value given below:
- Hard to digest.
- For making nutritious chapatti, rich in iron, healthy to eating for all age groups.
- Do not give to patients suffering from diseases like loose motion, constipation, and dysentery

Yield:

From one acre ten quintal grain is obtained under best practices.

Storage:

- Stored in kothi.
- In farm optimum moisture content at storage should be 10 to 12 per cent.
- To prevent from rain garai structure is made.

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Fig. 1. Grains storage structure (Dholi)

Fig. 2. Grains storage structure (Dhindwa)

Different reasons for adoption of indigenous agricultural practices were found above. The important reason behind adoption of indigenous practices Were mainly traditional and experienced based. The experiences transmitted from generation to generation have made the respondents to adopt indigenous agriculture practices. The Other reasons were are mainly low cost or no cost of the practices and it's easy availability in surrounding area.

The study suggests that the systematic effort on the path of extension agency are required to promote indigenous agricultural practices by imparting knowledge to them in the area under the guidance of subject matter specialists. This may be accomplished by organisation campus and field visits to the farmers demonstration plot and field trials. The valuable indigenous knowledge may be provided through publication of department of Agriculture and University.