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Empirical study of post-graduate students of college of agriculture, Raipur towards entrepreneurship

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Abstract
The present study is an attempt to assess the empirical study of post-graduate students of college of agriculture, Raipur towards entrepreneurship. To assess the disposition a five point likert scale questions used, namely Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), and Strongly Disagree (SDA).Out of the total respondents, 43.2% were female and 56.8% were male, 65.0% belonged to the nuclear family and 35.0% to the joint family. 13.5% of respondents were from a big family (> 7 members), 21.4% from a small family (up to 4 members) and 65.0% from a medium family (5 to 7). About 74.1% belonged to the rural background, while 25.9% of them had an urban background .Personal entrepreneurship capacity shows that 34.21% of the respondents were strongly agreed that they knew the methods for finding out what the market requirements and 33.46% of respondents agreed to comprehend the kinds of issuers that meet an entrepreneur when it came to marketing an idea, while 39.47% of respondents agreed heavily that they could create an idea.

Keywords: mean, mode, median, spearman's rank correlation, multiple regressions

Introduction

India, predominantly agriculture based country with 67% population living in more than 5 lakh villages. It has enormous potential for a huge leap into agri-business.

Around 11,900 graduates are produced annually by the country's agricultural universities, including affiliated colleges of state agricultural universities, out of which only 2000 are able to take advantage of job opportunities in various public and private sector agencies. The remaining manpower remains either underutilized or unutilized. So, there is a lack of employment opportunities for an agricultural professional in the public sector. Increasing unemployment among agricultural graduates and market forces unleashed by the globalization phenomenon and the opening up of the world economy has meant that agricultural graduates should not be mere graduates, but should be professionals who can assess employment problems and concerns (Katyal 2004).

Indira Gandhi Krishi Vishwavidyalaya, situated at Raipur (C.G), is the state's only agricultural university in charge of agricultural education, research and technology expansion. Because of the lack of field extension staff, the state faces issues. Currently, the focus is on agriculture, horticulture and agricultural engineering at 31 universities with a capacity of 1395. It is a matter of concern that only 5000 graduates have been generated in the state for 25 years due to limited intake capacity In the State Agricultural Policy, it is envisaged that having one Agri Professional over 1000 farm families is essential if farmers are to be properly backed up.

Several studies have been conducted in India and abroad on the entrepreneurial behavior of the youth. However, no study has yet been undertaken in Indira Gandhi Krishi Vishwavidyalaya, Raipur. Therefore, it was decided to undertake a study on the entrepreneurial behavior of the under-Postgraduate's students in agriculture to take a feedback of the youth getting attracted towards more lucrative entrepreneurial options.
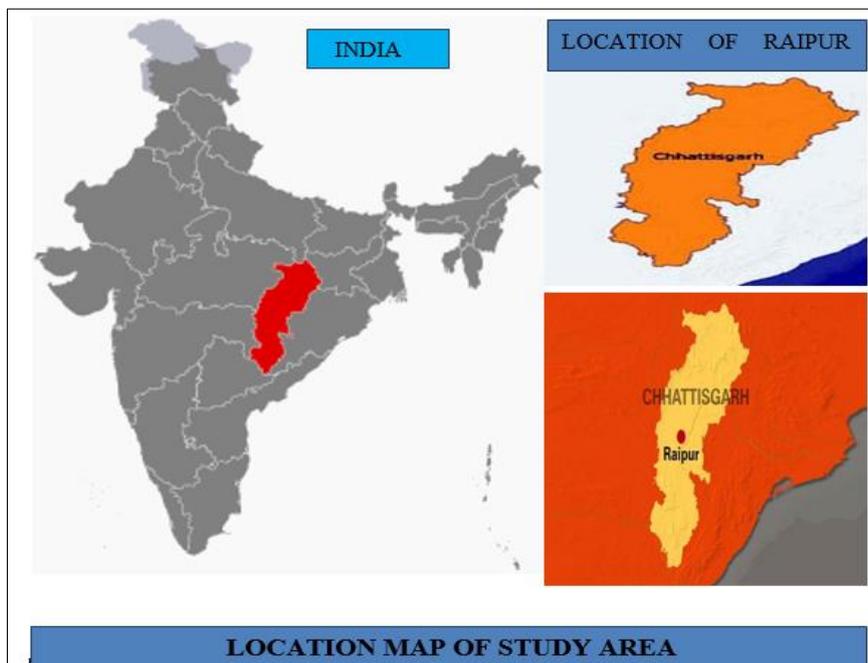
Location of the study area

The study conducted in College of Agriculture, Raipur Chhattisgarh. Raipur is the capital of Chhattisgarh located in central India. The state gained statehood on November 1, 2000, with the division of "Madhya Pradesh. With a geographical area of 135,195sq km., it is the 10th largest state of India by area. The state lies between 80'15" to 84'20" longitude and between 17'46"N to 24'5"N latitude. This is possible owing to the unique geography of Chhattisgarh.

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Location map of study area

Materials and Method
The M.Sc. (Previous) and M.Sc. (Final) students were selected as respondents for the research work. Out of 520 students, only 266 students were taken empirically for the study because the remaining students either went to different research stations for their research work or unavailable for another reason.

Description of the model
The data collected during the course of study were tabulated into the coding sheet and then appropriate analysis of data made according to objectives as suggested by Cochran and Cox (1968)."The statistics were applied in the form of a percentage, frequency, mean, standard deviation, spearman's rank correlation, multiple regressions *etc*. The R version 4.3.2 was used for analysis purpose.

Agricultural Entrepreneurship Index (AI) = Mean ($\bar{X}$) $\pm$ S.D. (Standard Deviation)

Sl. No.	Category	Score
1.	Unfavorable attitude	($<\bar{X}$- S.D.)
2.	Favorable attitude	(In between $\bar{X} \pm$S.D.)
3.	Highly favorable attitude	($>\bar{X}$+ S.D.)

Types of data
The data pertaining to selected characteristics about socio-personal, socio-economic of PG agriculture students of college of agriculture, Raipur were collected as per objectives of the study as primary data.

Data processing and statistical framework used for analysis
The data collected during the course of study were tabulated into the coding sheet and then appropriate analysis of data made according to objectives as suggested by Cochran and Cox (1968)."The statistics were applied in the form of a percentage, frequency, mean, standard deviation, spearman's rank correlation, multiple regressions *etc*. The R version 4.3.2 was used for analysis purpose.

Statistical Tools Used
To convert the results into findings few statistical tests were also used as given below for analyzing the data
1. Frequency and Percentage
2. Mean and Standard Deviation
3. Spearman's Rank Correlation (ρ)

Frequency, Percentage and Multi-dimensional scaling
Percentages were used for standardization of sample size by calculating the number of an individual that would be under the given category if the total number of individuals were 100.
In multi-dimensional scaling, the respondents were asked to indicate on a five-point scale whether they strongly agreed (5 points), agreed (4), and were neutral (3), disagreed (2) or strongly disagreed (1) with the statements about various aspects of entrepreneurship.

Mean and Standard Deviation
Mean
It is defined as the sum of all the individual observations divided by the total number of observations. Mean of the sample was calculated by using the following formula:

$$\bar{X} = \frac{\sum X}{n}$$

Where,
$\bar{X}$ = Mean of the variable
$\sum X$ = Sum of the scores (observations) of variable
n = Total number of respondents

Standard Deviation
It is defined as the positive square root of the arithmetic mean of the square of the deviations of the given observation from their arithmetic mean. The standard deviation denoted by σ (sigma).
Standard Deviation was calculated by using the following formula:

$$\text{S.D. } (\sigma) = \sqrt{\frac{\sum(x_i - \bar{X})^2}{n}}$$

Where,
S.D. = Standard Deviation
x_i = Observations
$\bar{X}$ = Arithmetic mean
n = Number of observations

Spearman's Rank Correlation
Spearman's rank correlation, usually denoted by (Rho) is given by the equation

$$\rho = 1 - \frac{6 \sum di^2}{n(n^2 - 1)}$$

Where,
ρ = Spearman's rank correlation
$d_i = (x_i - y_i)$ = difference between the pair of ranks of the same individual in the two characteristics and
n = number of pairs of pairs of observations.

The calculated 'r' value was verified for it's by using 't' table value for 5 percent and 1 per cent level of significance at n –2 degrees of freedom.

Results and Discussion
Variables under study
The following are the variables *viz.* Gender, family type, family size, family back ground, social participation, academic performance, size of land holding family annual income and Agricultural entrepreneurship index.

Gender of the respondents
The data given in Table 1 show the distribution of respondents, according to their socio personal characteristics. Out of the total respondents, 56.8% of the respondents were male and 43.2% were female (Fig.1). The above result depicts that the male students are more interested than the female students towards entrepreneurship. This may be due to the reason that boys want to excel more and establish an identity of their own. The findings were in line with Satyan (2008) and Prakash (2010)."

Table 1: Distribution of the respondents according to their gender

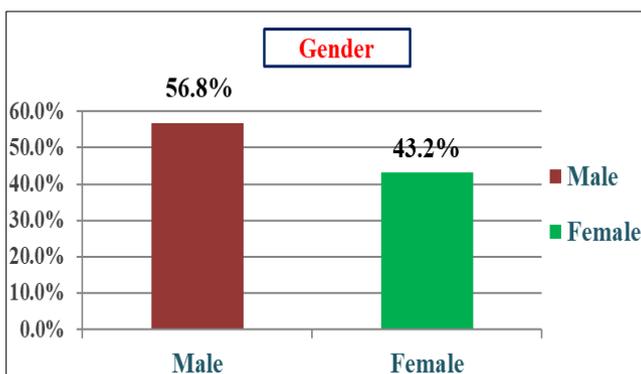| Sl. No.	Gender	Frequency	Percentage
1	Male	151	56.8%
2	Female	115	43.2%
	Total	266	100.0%

Fig 1: Distribution of the respondents according to their Gender

Type of family of the respondents
The type of family in which an individual lives, influences his/her socio-psychological behaviour and it is believed that it might also have an impact on the entrepreneurial behaviour of the respondents. Out of the total respondents, 65.0% belonged to nuclear family and 35.0% joint family (Fig.2). The probable reason for having more respondents from the nuclear family might be because of the transition of family type from joint to nuclear family system.

Table 2: Distribution of the respondents according to their family type.

Sl. No.	Family Type	Frequency	Percentage
1	Joint	93	35.0%
2	Nuclear	173	65.0%
	Total	266	100.0%

Due to employment and getting good educational facilities most of the rural people are migrated to the urban areas. So the nuclear family type is better adapted by the most of the respondents. The finding was in line with Parida (2010) and Gaikwad (2011).
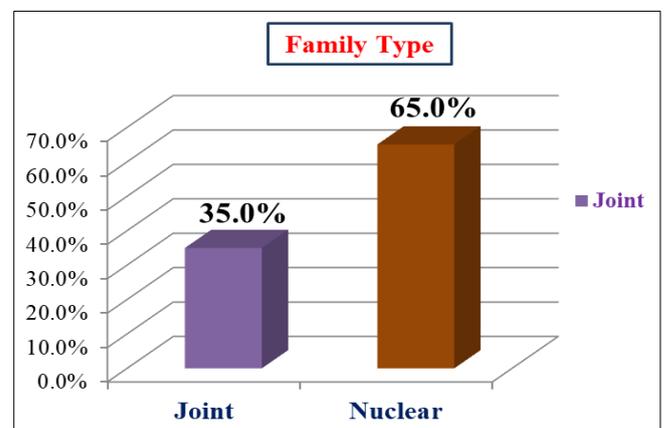

Fig 2: Distribution of the respondents according to family type

Size of family of the respondents
Regarding size of family of the respondents, it was found that 13.5% of the respondents were from big family (>7 members), 21.4% from small family (up to 4 members) and 65.0% from medium family (5 to 7) (Fig.3).The reason attributed to this finding can be because of the changing lifestyle and the cost of living increasing day by day. Majority of respondents they belong to nuclear type of family.

Table 3: Distribution of the respondents according to their family size

Sl. No.	Family Size	Frequency	Percentage
1	Small (up to 4 members)	57	21.4%
2	Medium (5 to 7 members)	173	65.0%
3	Big (above 7 members)	36	13.5%
	Total	266	100.0%

In spite of the fact that majority of the respondents were from rural areas, but the rural families might have found beneficial to have medium families to lead a better and comfortable life. Niketha *et al*. (2014) found that the majority of the respondents were from small sized family whereas respondents form big size families were minimum. The present study also akin to the Niketha *et al*. (2014) in respect of the respondents from big size family.
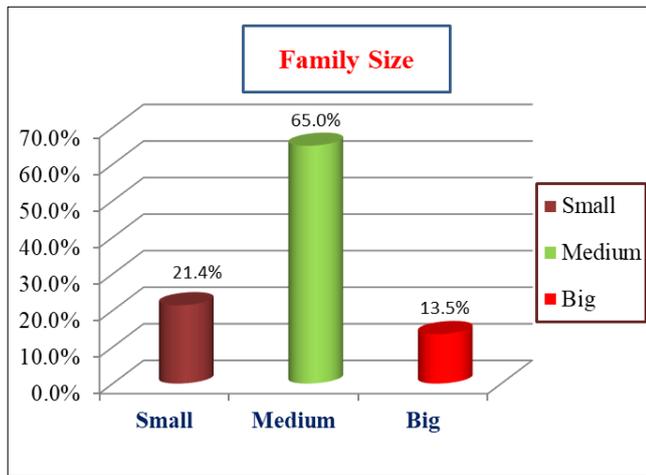
Fig 3: Distribution of the respondents according to their family size

Family Background of the respondents
The majority of respondents 74.1% belonged to rural back ground, while 25.9% of them had urban background (Fig. 4).The reason might be due to the fact that as the primary occupation in rural area is agriculture and this might have pushed the students from rural background to pursue agriculture education.

Table 4: Distribution of the respondents according to their family background.

Sl. No.	Family Background	Frequency	Percentage
1	Urban	69	25.9%
2	Rural	197	74.1%
	Total	266	100.0%

The rural students need to be encouraged to study in agricultural universities as they constitute the potential substantive candidate to stand over the ragged environment of the rural side." Similar findings were quoted by Satyan (2008), Prakash (2010), Deshmukh and Kadam (2012).
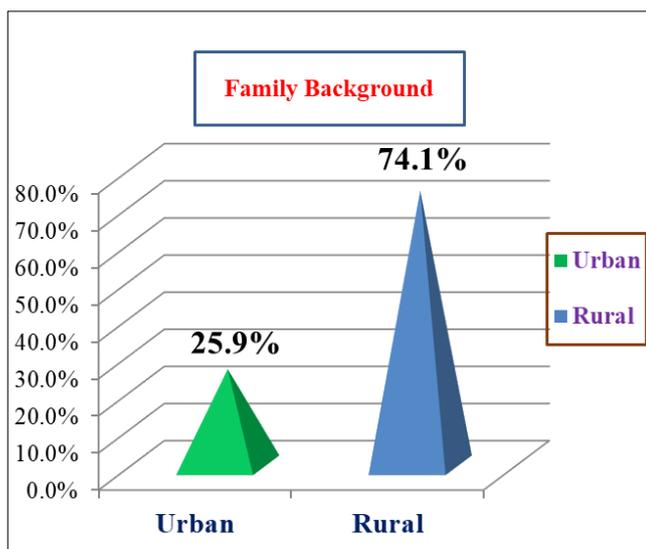

Fig 4: Distribution of the respondents according to their family background

Academic Performance (CGPA)
Academic achievement of the post graduate students is the marks in terms of O.G.P.A obtained in the B.Sc. (Agri.) examination. According to academic rules of the university,

the post graduate students were categorized into four groups *viz*. (1) Pass class (5.00 to 5.99), (2) Second class (6.00 to 6.99), (3) First class (7.00 to 7.99) and (4) Distinction (8.00 and above). Information regarding this is presented in the Table 5 and illustrated in Fig. 5.

Table 5: Distribution of post graduate students according to their academic achievement

Sl. No.	Academic Achievement	Number	Percent
1	Pass Class (5.00 to 5.99)	66	24.8%
2	Second Class (6.00 to 6.99)	43	16.2%
3	First Class (7.00 to 7.99)	81	30.5%
4	Distinction (8.00 and above)	76	28.6%
	Total	266	100.0%

Thus, from the above result it can be concluded that the respondents had good academic performance and fairly satisfactory level of knowledge about entrepreneurship since education helps in broadening the outlook of the individual and to develop own competence. The findings of the study were in line with Wattamwar, Deshmukh (2005), Bothikar (2008) and Deshmukh and Kadam (2012).
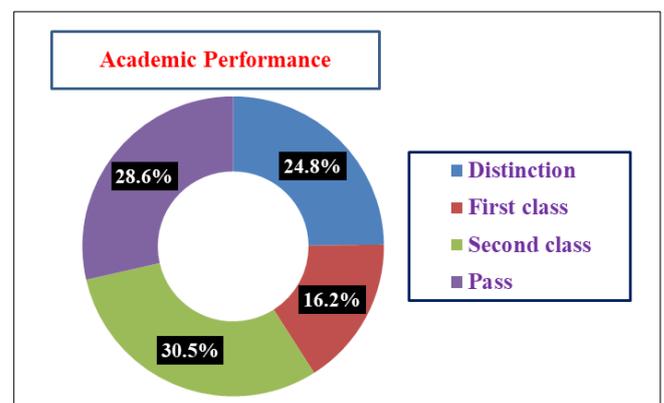

Fig 5: Distribution of the respondents according to their academic performance

"A look into Table 5 indicates that the postgraduate students (30.5%) were in first class category whereas post graduate students in second class, pass class and distinction class were 16.2%, 24.8% and 28.6% respectively."

Social Participation
Maximum number of respondents (60.5%) had medium level social participation, while 33.5% and 6.0% respondents had low and high social participation, respectively (Fig.6).

Table 6: Distribution of the respondents according to their social participation

Sl. No.	Social Participation	Frequency	Percentage
1	Low (up to 2)	89	33.5%
2	Medium (3 to 5)	161	60.5%
3	High (6 and above)	16	6.0%
	Total	266	100.0%

The probable reason might be that the respondents are always engaged in academic activities and get little leisure time to participate in different formal and informal social organizations.
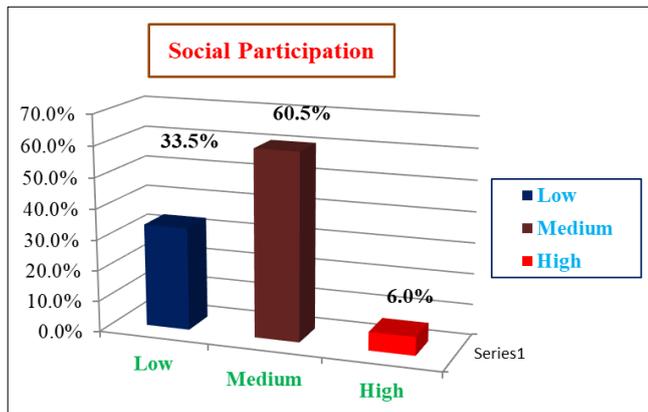
Fig 6: Distribution of the respondents according to their social participation

Family Annual Income of the respondents
The data given in the Table 7 show that out of the total respondents, most (19.2%) of them had annual family income up to <50,000/-, followed by 15.8% had annual family income between50,000-1,00,000, 21.1 per cent had annual family income between 1,00,000-1,50,000/- and 16.9% had family annual income between1, 50,000-2,00,000/- and 27.1% had family annual income above >2,00,000/- (Fig.7).

Table 7: Distribution of the respondents according to their annual family income

Sl. No.	Annual Family Income	Frequency	Percentage
1	<50,000	51	19.2%
2	50,000-1,00,000	42	15.8%
3	1,00,000-1,50,000	56	21.1%
4	1,50,000-2,00,000	45	16.9%
5	>2,00,000	72	27.1%
	Total	266	100.0%

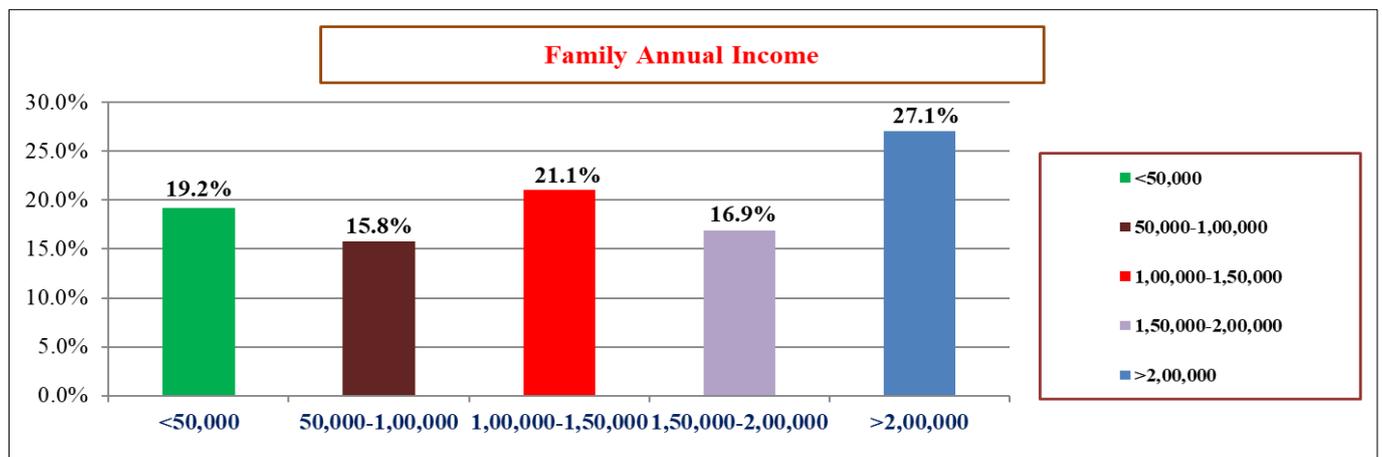This might be due to that most of the respondent parents could have good sources of income.

Fig 7: Distribution of the respondents according to their family annual income

Size of land holding of the respondents
The data given in Table 8 demonstrates the distribution of respondents according to their parents land holding.

Table 8: Distribution of the respondents according to their parent's land holding

Sl. No.	Category	Frequency	Percentage
1	Land Less (0)	31	11.7%
2	Marginal (01 ha.)	50	18.8%
3	Small (1.01 to 02ha.)	47	17.7%
4	Semi-medium (2.01 to 04ha.)	51	19.2%
5	Medium (4.01 to 06ha.)	60	22.6%
6	Big (above 06ha.)	27	10.2%
	Total	266	100.0%

Out of the total respondent's parents 18.8% of them had marginal size of land holding (up to 1 ha), followed by 17.7% small size of land holding (1.01 to 02ha.), 19.2% semi-medium size of land holding(2.01 to 04ha.), 22.6% medium size of land holding (4.01 to 06ha) and 22.6% had big size of land holding (above 6.1 ha).
However, 11.7% of the respondent's parents had no land (Fig. 8). The probable reason might be that the land holding is reducing day by day due fragmentation of land which in turn is due to division of family. Size of land holding is shrinking due to pressure of increasing population over the land; it thus proved that partition might be the reason for the medium land holding." The finding was in line with Deshmukh and Kadam (2012).
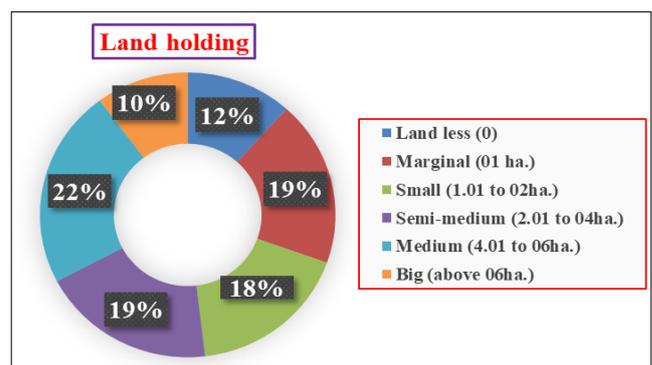

Fig 8: Distribution of the respondents according to their land holding

Agricultural entrepreneurship index (AI)
The data presented in the regarding overall level of empirical study of entrepreneurship of the respondents reveal that 45.1% of the respondents had favour towards agriculture entrepreneurship, followed by 34.1% had unfavour towards agriculture entrepreneurship, while only 20.8% of the respondents had highly favour towards agriculture entrepreneurship.

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