



## CPR AND THE DYNAMICS OF INCOME GENERATION AMONG THE RURAL HOUSEHOLDS IN VILLUPURAM DISTRICT, TAMIL NADU.

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### ABSTRACT

*The CPR include community forests, common grazing grounds, tanks, and their beds, foreshores, threshing grounds, rivers, river beds, etc. Since the historical past, these resources have been contributing a lot to the village economies. In the study attempts to address the relevant processes involved in the use-pattern and the present status of Common Property Resources. particularly the weaker sections like landless labour, marginal farmer and small farmer in the backward, most backward and scheduled caste groups, in Villupuram district, rather than with management of Common Property Resources. The specific objectives are to explore the distribution of CPR income generation from various sources interms of land, products, grazing the livestock, irrigation and pass/beedi making among the occupational and the caste groups in the study area and to analyse the share of income from each CPR sources to the total CPR income among the occupational and the caste groups in the study area. Policy makers and planners to improve conservation of CPRs and there by improving the socio-economic conditions of weaker sections. There is a need to reduce the dependence on CPRs by providing vital inputs at subsidized rates to meet the indigenous fodder and fuel requirements. Common governance by the public and creation of awareness among the resource users through proper extension strategies will be highly useful.*

**Introduction**

The CPR (Common Property Resources) are the resources, which are collectively used by a group of people. These resources include community forests, common grazing grounds, tanks, and their beds, foreshores, threshing grounds, rivers, river beds, etc.' Since the historical past, these resources have been contributing a lot to the village economies. The rural poor, particularly, survive on these resources to a greater extent. Common Property Resources, apart from maintaining the ecological balance by way of checking soil erosion, deforestation and siltation, benefit the rural masses in terms of availability of fodder, fuel wood, small timber building materials, mulch and manure, fruits and medicinal herbs. Due to more than one reason, these resources have either detained or are in the state of degraded condition, as a result of which the rural economy particularly the economy of the rural poor is subject to severe stress. CPR play a crucial role in the economies of the rural poor, who have a very low access to remunerative income earning opportunities. As Rao has pointed out, given the peripheral position of the poor, it is the relation to the mainstream economy and their meagre access to remunerative income earning Opportunities, a reduction in the access to CPR would be a disaster for them.

Most of the micro level studies give an insight into the present status and the use of CPR within the local communities and a very few studies examine the locally evolved institutions on Common Property Resources. Still fewer studies deal with the current status and utilization of CPR across diverse resource use systems and the social organisation of production in an integrated manner. The studies which take a holistic view of communities that are exclusively dependent on CPR for their livelihood. A study of this nature acquires crucial role in understanding the intricacies of resource use patterns in different socio-economic occupational and caste groups as well as geo-physical regions, which in turns help to address the larger issues of economic development, alleviation of poverty and conservation of environment. The study attempts to address the relevant processes involved in the use-pattern and the present status of Common Property Resources. This assumes great significance in the context of declining community control of various forms and the lack of encouragement from the government at all levels. The present study deals with access to CPR by the rural poor in terms of encroachment of lands, asset generation, inputs to land cultivation, fuel consumption, various forms of products collected, consumption expenditure, generation of income in relation to agricultural and non-agricultural sources and the CPR that have reduced the poverty level of the occupational and caste groups, particularly the weaker sections like landless labour, marginal farmer and small farmer in the backward, most backward and scheduled caste groups, in Villupuram district, rather than with management of Common Property Resources.

Therefore, the present study has been concerned to fill in the gaps indicated above. The results of the study would be useful to experts and administrators to make specific policy recommendations, and to policy makers to make decisions on these recommendations. Though the investigation is limited only to Villupuram district, it is believed that the findings are a pointer to what is happening in general in the rest of the country.

**Objectives**

The specific objectives are:

1. to explore the distribution of CPR income generation from various sources interms of land, products, grazing the livestock, irrigation and pass/beedi making among the occupational and the caste groups in the study area.
2. to analyse the share of income from each CPR sources to the total CPR income among the occupational and the caste groups in the study area, and
3. to suggest suitable policy measures to improve the living conditions of the rural households through the generation of viable income form the CPR sources

## **Hypotheses**

1. There is a significant variations of share of income from each CPR sources to the total CPR income among the occupational and the caste groups in the study area.

## **Methodology and Sample Design**

The survey design of the study is based on three-stage sampling, incorporated at four different stages, so as to elicit adequate and accurate information by the field of enquiry in Villupuram district.

1. Selection of two blocks in the selected districts
3. Selection of five villages in each of the selected blocks, and
4. Selection of respondents among the villages identified in each of the selected blocks.

In the first stage, Villupuram district is selected in the State of Tamil Nadu on the basis of 'Total area under CPR to the total geographical area and 'The per capita availability of CPRs.' Moderate index on, by using the *non-probability sampling* method.

In the Second stage of the survey design, two blocks are selected in the selected district. Similarly, *kallakurichi block and Dindivanam block* are selected on the basis of the highest and the lowest average CPR "performance index," in villupuram district, by using purposive sampling method.

The next stage is to select 10 villages in each of the identified blocks in villupuram district by using simple random sampling method.

The crucial stage in the sampling process is the selection of respondents in the selected villages. About 200 respondents are interviewed for the present study by taking selected 20 villages in the district. In other words, 100 respondents are selected in the each of the blocks selected in the district, by using Non-proportionate Stratified Random Sampling method. The respondents are classified into five groups i.e., large farmers (40 farmers), medium farmers (40 farmers), small farmers (40 farmers), marginal farmers (40 farmers), and landless labourers (40 farmers). The households are stratified into three categories on the basis of caste classification, i.e., Backward caste, Most backward caste, and Scheduled caste / Scheduled tribe. Within each land size category, an element of purposeness is introduced by selecting households from all castes, to give proper representation to all communities since some communities like fishermen, tadday-tappers, basket weavers, potters, food gathering communities and so on, **user rights or traditional attachment to some types of CPR.** The primary data are collected from the 200 selected respondents through the structured schedule and questionnaire method. The reference period for estimation of cost and return in terms of physical and financial units of the respondents are covered for one agricultural year i.e., starting from July 2013 to June 2014.

## **Analytical Frame Work**

The simple average and percentage analysis are employed to measure the income generation from various CPR sources. Further to measure the variations of CPR income among the occupational and caste groups, ANOVA model the two way classification with interaction effect have been employed.

## **Results and Discussion**

One of the objectives of the present study is to examine the distribution of CPR income generated from various sources in terms of land, products, grazing the livestock, irrigation and pan/beedi-making etc. The CPR land indicates the income generated due to promboke lands and government gifted lands by the households. Similarly, the CPR items collected includes fodder and grass rope making, timber and building materials, fuel wood, fishing, dung-manure, etc. The share of income generated through livestock consists of grazing the cattle from CPR lands. The CPR irrigation income includes the differences in productivity between the irrigated and unirrigated sources, which implies that the households irrigated the lands, through CPR sources like wells, rivers, canals, lakes, ponds, etc. Some households are involved in the manufacturing of beedi and pan-making from the product collected from CPR. The objective of the present section indicates how the sources of income from CPR differ in terms of occupational holders as well as the caste groups in the study area. The results of the present analysis presented in table 1. are

The average CPR income generated for the entire sample households works out to be Rs. 30380/- Out of total CPR income generated, about 41.4 per cent is shared by CPR product collection, followed by CPR irrigation at 33.16 per cent, grazing the cattle at 10.6 per cent, pan and beedi making at 7.6 per cent and it is the least from promboke lands at 6.5 per cent.

When the results are compared among the occupational holders, it is the highest for large farmers at 36.6 per cent, followed by medium farmers at 30.2 per cent, small farmers at 19.1 per cent, marginal farmers at 8.9 per cent and it is the least for landless labourers at 5.0 per cent. It means that the large and medium farmers share a major benefit from CPR, as compared to small farmers, marginal farmers and landless labourers. It is obvious that the large and medium farmers have gained a major source of CPR income from CPR irrigation.

**Table 1: Comparison of 'F' ratios on each CPR products to the total CPR income according to occupational and caste groups**

Sources of Variation	Dependent variable 'F value '				
	Ratio of Fodder and grass rope to the total CPR income	Ratio of Dung manure to the total CPR income	Ratio of Fuel wood to the total CPR income	Ratio of timber and building materials to the total CPR income	Ratio of Fishing to the total CPR income
Variation due to castes	1.04*	0.72	0.93*	7.24*	9.99*
Variation due to occupation	105.24*	40.18*	27.37*	18.76*	10.27*
Combined effect of castes and occupational groups	4.05*	1.03	1.03*	2.82*	2.61*
'F' value	19.03*	18.03*	47.90*	8.90*	6.54*
R <sup>2</sup>	0.58	0.46	0.78	0.41	0.33

Source: Computed

\* - Significance of 'F' value at 5 per cent level

It indicates that the major sources of irrigation by medium farmers and large farmers are tube well, minor irrigation canals and rivers, which provide a higher productivity of the their irrigated lands. Further, the CPR product collection in the form of timber and building materials collection, which are generally rated with high value, besides concentration on dung manure.

On the other hand, the landless labourers have acquired a major share of CPR income from product collection in the form of fodder, fuel wood, fishing and dung. It is a fact to note that the low status occupational holders concentrate on CPR only for low valued items, but the high valued items are cornered by the medium and large farmers. This gives a major change in the income distribution between the occupational holders. Similar results could be observed when the results are compared among the different occupational holders, in each of the caste groups.

On the whole, it is interesting to note that the CPR products collection is the major advantage to the backward caste, scheduled caste and for the pooled respondents. The second category of benefit is achieved through irrigation, followed by livestock, pan and beedi making and the least is from grabbed lands.

Another important objective of the present study is to examine the share of income from each CPR to the total CPR by the rural households in the study area. The present analysis provides an idea about which type of farmers and caste groups are predominant in utilizing various types of CPR items and their income distribution. The results are shown in table 2.

The ratio of income generated from CPR land to the total CPR income occupies 0.04. It means that out of Rupee 1/- of CPR generated, about 4 paise is being shared from CPR lands by the households. When the results are compared among the occupational holders, it is the highest share for large farmers at 0.07, followed by medium farmers at 0.06, small farmers at 0.05 and it is the least for small farmers at 0.03. It is inferred from the results that the income generated from CPR grabbed land is the highest for large farmers, as compared to other occupational holders. It is true that the large farmers and medium farmers due to their political affiliation, economic position and social status' in the village society, have more influence in grabbing the promboke lands and hence the result.

Table 2: Distribution of income from each CPR sources according to occupational and caste groups

Caste	Occupational holder	Income from CPR land	Income from CPR product collection	Income from CPR livestock	Income from CPR - irrigation	Income from CPR-beddi and pan making	Total CPR Income (land, product, livestock, irrigation, pan making)
BC	Landless Labourer	0.00	7519.69	0.00	0.00	0.00	7519.69
	Marginal Farmer	633.33	6189.33	2336.66	3603.33	2050.66	14807.33
	Small Farmer	3563.63	17493.18	3486.36	6481.81	7363.63	38388.63
	Medium Farmer	3344.73	22092.10	4473.68	16947.36	5473.68	52331.57
	Large Farmer	4064.47	21842.10	3775.00	26026.31	5105.26	60813.15
	Overall	2460.71 (6.6)	15814.03 (42.1)	2988.63 (7.9)	12231.81 (32.8)	4061.81 (10.8)	
MBC	Landless Labourer	0.00	7312.14	821.42	0.00	0.00	8133.57
	Marginal Farmer	830.00	7053.33	2120.00	4799.33	500.20	15302.66
	Small Farmer	1370.45	10752.27	2419.31	7997.72	1113.63	23653.40
	Medium Farmer	2863.12	11257.89	10927.63	14163.15	947.36	40159.21
	Large Farmer	2978.12	15500.00	4235.93	21850.00	2500.00	47064.06
	Overall	1831.01 (6.2)	10828.29 (36.8)	4635.12 (15.7)	10970.12 (37.3)	1139.24 (3.9)	
SC	Landless Labourer	0.00	7457.50	135.00	0.00	0.00	7592.50
	Marginal Farmer	310.00	4068.00	1250.00	3335.00	0.00	8963.00
	Small Farmer	3785.71	14457.14	3321.42	7392.85	2857.14	31814.28
	Medium Farmer	4750.00	15000.00	2475.00	17250.00	0.00	39475.00
	Large Farmer	4500.00	24300.00	1900.00	23920.00	9000.00	63620.00
	Overall	1400.00 (7.2)	10057.50 (51.3)	1202.27 (6.1)	5436.36 (27.7)	1477.27 (7.5)	
Total	Landless Labourer	0.00	7452.27	211.25	0.00	0.00	7663.52 (5.0)
	Marginal Farmer	626.25	5980.75	1983.75	3984.75	956.50	13532.00 (8.9)
	Small Farmer	2396.25	13254.37	2870.62	7475.00	3137.50	29133.75 [19.1]
	Medium Farmer	3186.25	16591.25	7439.37	15640.00	3050.00	45906.87 [30.2]
	Large Farmer	3654.37	19612.50	3725.00	24092.50	4550.00	55664.37 [36.6]
	Overall	1978.62 (6.5)	12578.23 (41.4)	3246.00 (10.6)	10238.45 (33.6)	2338.69 (7.6)	30380.10

Source: Computed

Figures in parentheses indicate percentage to column total.

Figures in squares indicate percentage to row total (for overall)

**Table 3: Ratio of income from each CPR source to the total CPR income according to occupational and caste groups**

Source	Caste/ Occupation	Landless Labourer	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Total
Ratio of CPR land to total CPR income	BC	0.00	0.02	0.06	0.05	0.05	0.05
	MBC	0.00	0.04	0.05	0.07	0.04	0.05
	SC	0.00	0.02	0.11	0.10	0.04	0.03
	Overall	0.00	0.03	0.05	0.06	0.07	0.04
Ratio of CPR - irrigation to Total CPR income	BC	0.00	0.30	0.23	0.34	0.44	0.28
	MBC	0.00	0.34	0.42	0.41	0.49	0.38
	SC	0.00	0.40	0.28	0.44	0.38	0.20
	Overall	0.00	0.34	0.35	0.38	0.45	0.30
Ratio of CPR livestock to total CPR Income	BC	0.00	0.16	0.09	0.10	0.06	" 0.08
	MBC	0.07	0.15	0.11	0.18	0.09	0.13
	SC	0.01	0.12	0.12	0.05	0.04	0.06
	Overall	0.02	0.15	0.11	0.14	0.07	0.10
Ratio of CPR product to total CPR income	BC	1.00	0.41	0.45	0.42	0.37	0.51
	MBC	0.92	0.43	0.38	0.30	0.32	0.41
	SC	0.98	0.44	0.41	0.39	0.42	0.68
	Overall	0.97	0.43	0.40	0.36	0.36	0.50
Ratio of CPR Pan/ beedi-making income to total CPR income	BC	0.00	0.08	0.14	0.07	0.06	0.07
	MBC	0.00	0.01	0.02	0.01	0.02	0.03
	SC	0.00	0.00	0.06	0.00	0.10	0.02
	Overall	0.00	0.03	0.06	0.02	0.02	0.03

Source: Computed

Similarly, the backward caste and most backward caste groups have shared the major benefits from the CPR grabbed lands, as compared to scheduled caste group. It is also obvious that it is because of social status and their population strength in the society, particularly backward caste and most backward caste groups, have a higher command towards the grabbed CPR lands.

An analysis of ratio of CPR product collection to the total CPR income generated is analysed. It is interesting fact to note that about 50 per cent is contributed by this source. It implies that out of 100 per cent of CPR about a half of the income is shared by the households in the form of product collection from the CPR. Among the occupational holders, the landless labour share about 0.97 per cent, followed by marginal farmers at 0.43, small farmers at 0.40, medium farmers and large farmers each at 0.36. The result implies that about 97 per cent of CPR is shared by the landless labourers in the form of fodder, fuel wood, dung collection, fishing, etc. It is followed by the marginal farmers & small farmers. The results indicate that a lion's share of gain from CPR by the landless labourers are only from CPR product collection. The medium farmers and large farmers share CPR products collection in the form of fodder collection, timber and building materials, dung manure and so on.

When the results are compared among the caste groups, it is the highest for scheduled caste at 0.68, followed by backward caste at 0.51 and most backward caste at 0.41. It means that the scheduled caste group has a major advantage from the CPR products collection, since they are the lowest ring in the rural set up and hence their dependency is the maximum.

When the results on the ratio of CPR livestock income to the total CPR income is analysed, on an average the households share 10 per cent of the total CPR income. When the occupational holders are compared, it is the highest for marginal farmers at 15 per cent, small farmers at 11 per cent, medium farmers at 14 per cent and it is the least for landless labourers at 2 per cent. It implies that the income generated through fodder collection and grazing their cattle is the maximum for marginal farmers, small farmers as well as medium farmers. When the results are compared among the caste groups, it is the highest for the most backward caste at 13 per cent, followed by backward caste at 8 per cent and it is the least for scheduled caste at 6 per cent. It means that the maximum gainers through cattle feeding from the CPR are backward and the most backward caste as compared to scheduled caste group. It means that the caste groups, who are the highest ladder in the caste hierarchy and income are the major beneficiaries from the CPR.

The results on ratio of the CPR irrigation income to the total CPR income, on an average works out to be 0.30. It means that the average productivity and generation of income from the irrigated lands are relatively higher as compared to unirrigated lands. The share of this income to the total CPR income contributes about 30 per cent. Further, it is evident that the income from CPR irrigation is the highest for large farmers at 45 per cent, followed by 38 per cent for medium farmers, 35 per cent for small farmers and 34 per cent for marginal farmers. It implies that the large farmers have obtained the maximum productivity through perennial irrigation by raising crops for more than one season. Because of the large size land holdings and wealth, they could raise a higher productivity. Similarly, the backward caste and most backward caste groups have a major source of income from CPR irrigation, as compared to scheduled caste group. As indicated earlier, backward caste and the most backward caste basically possess a majority of large land holding class as well as wealth. Hence, they are in an advantageous position to raise a higher productivity, since the majority of their lands are irrigated by perennial sources.

The last source on income generation from CPR viz., pan & beedi making, are analysed in terms of occupational as well as the caste groups. It could be seen from the results that the small and marginal farmers have gained the share of this source to the total CPR income to the tune of 0.06 and 0.03, respectively. However, it is the least for medium and large size of land holders in each to the tune of 0.02. It implies that

the small and marginal farmers have a major advantage of income generation from pan and beedi making source. In terms of caste groups, the backward caste group, occupies the highest share at 0.07, followed by the most backward caste at 0.03 and the scheduled caste at 0.02. The result implies that the backward caste and most backward caste groups occupy a better *position in terms of sharing pan & beedi making* as compared to scheduled caste group. This work is generally been carried out during leisure time and by those who do not find regular employment. Besides, this work could be done at their residences itself. This is possible only for moderately high caste groups like backward and most backward castes.

It could be seen from the results that the ratio of each CPR income to the total CPR income is measured in terms of castes as well as occupational groups through ANOVA model. The results are shown in table 4.

**Table 4: Comparison of 'F\*' ratios on each CPR income to the total CPR income according to occupational and caste groups**

Sources of Variation	Ratio of CPR land to total CPR income	Ratio of CPR product to the total CPR income	Ratio of CPR livestock to the total CPR income	Ratio of CPR Irrigation to the total CPR income	Ratio of CPR pan/beedi-making to the total CPR income
Variation due to castes	0.24	3.67*	4.04*	4.60*	6.01*
Variation due to Occupational groups	4.51*	110.29*	7.92*	46.16*	2.88*
Variation due to castes and occupations	0.44	30.69*	1.02*	1.52*	1.13*
'F' value	1.63	43.78*	4.63*	19.14*	2.30*
R <sup>2</sup>	0.04	0.75	0.20	0.56	0.08

Source: Computed

\* Significance of 'F' value at 5 per cent level

It is seen from the results that the share of CPR product income to the total CPR in terms of co-efficient of multiple determination ( $R^2$ ) indicates 0.75. It means that out of 100 per cent of the total income of CPR, about 75 per cent is contributed by CPR products collection in the form of fodder, fuel wood, dung manure, etc. The balance indicates that the contribution is from "other items." The next source of the CPR income stands in terms of the adjusted co-efficient of distribution ( $R^2$ ) is irrigation at 0.56. It means that out of 100 per cent of variation in the total income of CPR, about 56 per cent of them are explained by the productivity variation between the irrigated and unirrigated lands. The third type of CPR income generated is through livestock, which contributes about 20 per cent, followed by pan and beedi making at 8 per cent and it is the least from the CPR lands at 4 per cent. However, 'F' values are found to be statistically significant for all the CPR of income, except in the case of income from CPR lands. The income generated through occupational groups alone is found to be statistically significant on land. It means that the medium and large farmers have a major income from the CPR lands as compared to marginal and small farmers. On the other hand, the caste groups have more or less the same level of income from CPR grabbed lands, since this 'F' ratio is found to be insignificant, whereas, the other CPR items to the total income of the CPR, are found to be statistically significant in terms of castes and occupational holders. On the whole, it is interesting to note that the share of CPR income is the highest for medium farmers and large farmers, particularly from the sources like grabbed lands (0.07) and irrigation (0.45); followed by marginal farmers and small farmers, particularly from the sources like livestock (0.15), products collection (0.43) and pan/beedi making (0.06) and similarly for landless labourer from the sources product collection (0.97).

Among the caste groups in terms of sharing CPR income sources, the backward caste group has a major advantage from the CPR grabbed lands (0.05) and pan/beedi making (0.07). Similarly, for the most backward caste groups have the highest benefit from the CPR grabbed lands (0.05), followed by irrigation (0.38) and livestock grazing (0.13). It is astonishing to note that the major sources of the CPR income for the scheduled caste is from products collection (0.68)

Therefore, one may safely conclude that the sources of income and concentration on CPR product collection vary according to different types of occupational as well as the caste groups, which are mainly decided by their social status, wealth their population in the rural environment and so on.

## Summary and Conclusion

### CPR and its income generation due to sources

The large and medium farmers share a major benefit from CPRs as compared to small farmers, marginal farmers and landless labourers. It is obvious that the large and medium farmers have gained a major source of CPR income from irrigation. It indicates that the major sources of irrigation by medium farmers and large farmers are tube well, minor irrigation, canals and rivers, which provide a higher productivity of their irrigated lands. Further, the CPR product collection in the form of timber and building materials collection which are generally rated with high value, besides in concentration of dung manure. On the other hand, the landless labourers have acquired a major share of CPR income from product collection in the form of fodder, fuel wood, fishing and dung. It is a fact to note that the low status occupational holders concentrate on CPRs only for low income items, but the high income items are cornered by the medium and large farmers. This gives a major change in the income distribution between the occupational holders. Similar results could be observed when the results are compared among the different occupational holders, in each of the caste groups.

The income generated from CPR lands is the highest for large farmers ,as compared to other occupational holders. It is true that the large farmers and medium farmers due to their political affiliation .economic position and social status in the village society, have more influence in grabbing the prombdke lands and hence the result.

The back ward caste and most backward caste groups have shared the major benefit from the CPR lands as compared to scheduled caste group. It is also obvious that it is because of social status and their strength in the society, particularly, backward caste and most backward caste groups have a higher command towards the grabbed CPR lands.

About 97 percent of CPR income is shared by the landless labourers in the form of fodder, fuel wood, dung collection,Fishing, etc. It is followed by the marginal farmers and small farmers. The result indicates that a lion's share of gain from CPRs by the landless labourers is only from CPR product collection. The medium farmers and large farmers share CPR product collection, timber and building materials, dung manure and so on.

The scheduled caste group has a major advantage from CPR product collection, since they are the in lowest ring in the rural set up and have their dependency to the maximum.

The maximum gainers through cattle feeding from the CPRs are backward caste and the most backward caste as compared to scheduled caste groups. It means that the caste groups, who are in the highest ladder in the caste hierarchy and income are the major beneficiaries from the CPRs.)

The small and marginal farmers have a major advantage of income generation from pan and making this source. The backward caste and most backward caste groups occupy a better position in terms of sharing pan & beedi making as compared to scheduled caste group. This work is generally been carried out during leisure time and by those who do not find regular employment. Besides, this work could be possible only for the moderately high caste groups like backward and most backward castes.

### **Policy implications**

The following suggestions will be of use to academic experts, policy makers and planners to improve conservation of CPRs and there by improving the socio-economic conditions of weaker sections.

1. There is a need to reduce the dependence on CPRs by providing vital inputs at subsidized rates to meet the indigenous fodder and fuel requirements.
2. Common governance by the public and creation of awareness among the resource users through proper extension strategies will be highly useful.

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