Provision of Public and Private Goods

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Introduction

The theory of public goods provides a rationale for the allocation function of budget policy. It is of central importance to the economics of budget policy. We are well aware of the fact that public goods are non-rival and non-excludable in nature; the characteristics which are responsible for free-rider's problem and market failure in case of public goods. On the other hand market for private goods function only in a situation where the exclusion principle applies. The consumer who pays the price consumes the commodity while those who don't pay the price are excluded from consuming the commodity. Thus, benefits from private goods are internalized and their consumption is rival in nature.

Provision for Social Goods

The non-rival nature of social goods consumption has important bearing on two important segments:

i)   What constitutes efficient allocation of resources

ii)   The procedure by which their provision (choice and payment process) is to be achieved

In order to understand the efficient allocation of public goods let us first analyse the allocation of private goods. Familiar demand and supply diagram is used to analyse the allocation of private goods.

The figure 1 below shows market for private goods. D_A and D_B are A's and B's demand curves based on given distribution of income and prices for other goods. The aggregate demand curve D_{A+B} is obtained by horizontal summation of D_A and D_B, adding the quantities which A and B purchase at any given price. SS is the supply schedule, and equilibrium is determined at point E,

at the intersection of market demand and supply. Equilibrium price is determined at OC level and output at OH level. Quantity of private good purchased by consumer A is OF and that purchased by consumer B is OG such that OF + OG = OH.
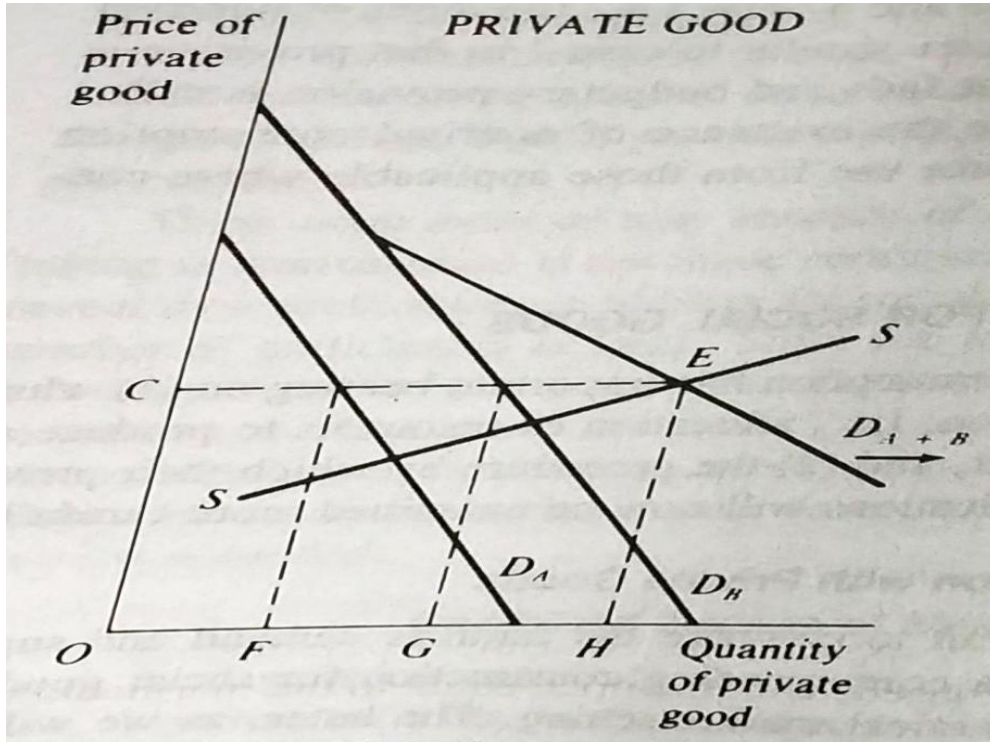

Fig 1: Demand for private goods

The figure 2 below shows a corresponding pattern for social good. It is assumed here that consumers are willing to reveal their marginal evaluations of the social good. As before, D_A and D_B are A's and B's respective demand curve subject to the same conditions of given income and prices for other goods. It should be noted here that since it is unrealistic to assume that consumers volunteer their preferences such curves have been referred to as 'pseudo-demand curves". In case of social goods market demand curve D_{A+B} is obtained by vertical addition of individual demand curve shown by D_A and D_B. D_{A+B} also show the sum of prices which A and B are willing to pay for any given amount. This occurs because are offered the same amount of social good and it is also assumed that each consumer is offered a price equal to his or her true evaluation of the marginal unit. The price available to cover the cost of cost of the service equals the sum of prices paid by each consumer. SS shows the supply curve, showing marginal cost

(chargeable to A and B combined) for various outputs of social good. The equilibrium level of output equals ON which is the quantity consumed by both consumer A and B. The combined equilibrium price equals OK. The price paid by consumer A is OM and that paid by B is OL such that OM + OL = OK.
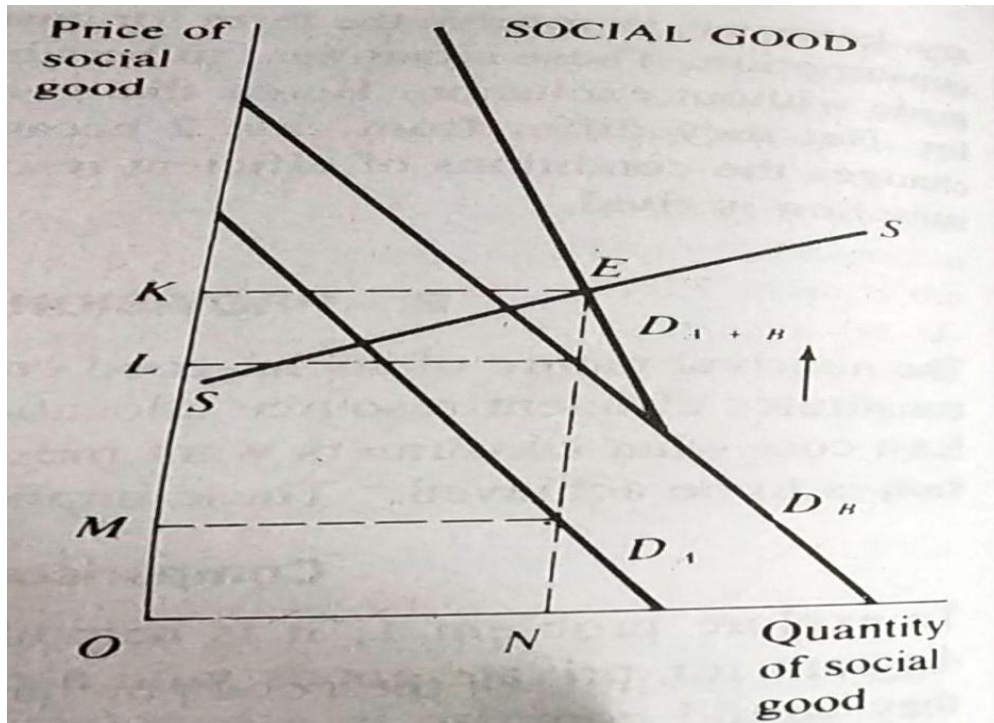

Fig 2: Demand for social goods

Comparison of the two cases

If we compare the case of equilibrium of public goods with that of the private good, we found that in case of private good, the vertical distance under each individual's demand curve reflects the marginal benefit which is derived from its consumption. At the equilibrium point the marginal benefit (OF + OG) derived by both consumers equals marginal cost (HE). This is an efficient solution. If output falls short of OH then marginal benefit exceeds marginal cost such that individuals will be willing to pay more than is needed to cover cost. Net benefits will be gained by expanding output and again net benefits will be maximised by producing OH units.

Further in case of social goods, the vertical distance under each individual's demand curve here also reflects the marginal benefits obtained. In this case the marginal benefit is obtained by vertical addition. At equilibrium the sum of marginal benefit equals marginal cost of production of social goods. If output falls short of ON amount again it will be advantageous to expand output such that net benefits can be maximised.

Thus the two cases are analogous but with an important difference that for private goods, efficiency requires equality of marginal benefit derived by each individual with marginal cost, whereas in the case of public good, the marginal benefits derived by the two consumers differ and it is the sum of the marginal benefits that equals marginal cost.