

Bhagwandas Vs. Mohd. Arif

Bhagwandas Vs. Mohd. Arif

SooperKanoon Citation : sooperkanoon.com/433335

Court : Andhra Pradesh

Decided On : Jul-20-1987

Reported in : AIR1988AP99

Judge : Jagannadha Rao, J.

Acts : [Motor Vehicles Act, 1939](#) - Sections 110B

Appeal No. : A.A.O. No. 552 of 1980

Appellant : Bhagwandas

Respondent : Mohd. Arif

Advocate for Def. : L.S. Seshavatharam, Adv.

Advocate for Pet/Ap. : C. Padmanabha Reddy, Adv.

Judgement :

ORDER

Jagannadha Rao, J.

1. Several important questions relating to the computation of the present value of future earnings or losses arise in this appeal. The principles of law that I propose to discuss will be useful not only for computing damages in claims by the injured but also in claims by dependants of deceased persons. The object to evolve a

simple and easy method which, at the same time, is scientifically valid.

2. The Tribunal under the Motor Vehicles Act was dealing, in this case, with the claim of a person injured in an accident on July 30th 1978 consequent to which the claimant's right leg below the knee was amputated. At that time, the claimant-respondent was aged 35 years and was working as a technician in the Merchant Navy. In a claim for Rs. two lakhs, the Tribunal awarded Rs. one lakh. The owner of the motor vehicle which was responsible for the injury to the respondent, the appellant before me. Sri C. Sadasiva Reddi, the learned counsel for the appellant has mainly contended that the award of Rs. 97,000/- towards present loss of future earnings is grossly excessive. On the other hand, Sri V.L.N.G.K. Murthy, for the respondent, has contended that the Tribunal could have passed a higher award if it had only taken into account the other allowances payable to the respondent. He also contends that that award of Rs. 3,000/- only towards pain and suffering etc. is grossly inadequate. Of course, there is no cross-appeal by the injured. Some argument was faintly raised by the appellant's counsel on the question of negligence but on account of the large volume of evidence in support of the finding of the tribunal, that question does not require any fresh examination. The argument relating to present value of future earnings, however, deserves detailed consideration.

3. In my judgment in *K. Sapan v. Appa Rao*, C.M.A. No. 258 of 1980 : (reported in (1987) 2 Andhra LT 349), I am referring to the various sub-heads relating to Pecuniary and Non-Pecuniary Losses. Again in *P. Satyanarayana v. Babu Rajendra Prasad*, C..M.A. No. 664 of 1981 : (reported in (1987) 2 Andh LT 328), I am discussing the mode of assessment of non-pecuniary damages. In this judgment of mine, I shall deal with estimation of the quantum of future losses or income.

4. Pecuniary damages have to be evaluated on the basis of 'full-compensation'. That concept was first stated by Lord Blackburn in *Livingstone v. Rawyards Coal Co.*, (1880) 5 AC 25 at P. 39. It is true that perfect compensation is hardly possible and money cannot renew a physical frame-that has been battered and shattered as stated by Lord Morris in *West v. Shephard*, 1964 AC 326 at p. 346, but a

person injured is entitled to full compensation for the 'financial loss' suffered. Mc Gregor on Damages (13th Ed. P. 738), Kemp & Kemp on Damages (1982 para 1.002) state that this today is a clear principle of law. The Pearson Commission (1978 Vol. 1, para 330) has also endorsed this view when it said 'pecuniary loss should be compensated in full'.

Full Compensation - Is It To Be Based On

Accident Span Of Life

5. This deals with the question of 'Lost Years' - the years of expectation of life lost due to the injury. Unfortunately, in *Oliver v. Ashman*, (1962) 2 QB 210 (C.A.), the Court of Appeal took the view that the loss of future earnings of an injured person should be computed on the basis of the post-accident span of life. In so doing, it thought that that was the view of Lord Simon L.C. in *Benham v. Gambling*, 1941 AC 157. The 'wages in heaven' were not to be included. Thus, if a person who has forty years of expected life has his expectancy cut short to (say) two years, the loss of earnings for him or to his heirs are to be computed only for two years, according to *Oliver's* case.

6. As this was obviously unjust, the Australian High Court in *Skelton v. Collins*, (1966) 115 CLR 94 by a majority dissented from *Oliver v. Ashman* and said that *Benham v. Gambling* was wrongly interpreted by the Court of Appeal in England. It is the pre-accident expectation that is the criterion, the Court held. The Canadian Supreme Court too refused to follow *Oliver v. Ashman* and followed the Australian view in the trilogy of Canadian cases in *Andrews v. Grand & Toy Alberta Ltd.*, 1978 (2) SCR 229; *Thornton v. School Dist. No. 57*, 1978 (2) SCR 267; *Arnold v. Teno*, 1978 (2) SCR 287. In *Andrew's* case, (1978 (2) SCR 229) Dickson, J. referred to *Skelton v. Collins*, (1966 (115) CLR 94) and dissented from *Oliver v. Ashman*, (1962 (2) QB 210).

7. The House of Lords has recently reconsidered the matter in *Pickett v. British Rail Engineering Ltd.*, 1980 AC 136 and Lord Wilberforce approved of the conclusion arrived at by the Australian High Court in *Skelton v. Collins*. One of the reasons given was that after the victim's death, his dependants will be precluded

by the plaintiff's successful action (if decreed on basis of post- accident span of life) from making a fresh claim for the period covered by the 'lost years'. This judgment has therefore restored justice to the plaintiffs.

8. It is here necessary to note another important principle that for the 'lost years' too, the 'living expenses' of the victim have to be deducted on the hypothesis that he would have lived in the 'lost years'. If the 'wages in heaven' were recoverable according to Pickett's case, the 'living expenses' for the lost years have to be deducted even if the victim is 'not incurring those expenses there'. This is the view in Australia, Canada and England. (See Damages for Personal Injury, Rhetoric, Reality and Reform, an Australian Perspective by Prof. Harold Luntz of the Melbourne University, 1985 Current Legal Problems P. 29 at 39). In Canada, what are deducted for the 'lost years' are only the basic necessities of food, clothing and shelter while in England, the broader concept of 'living expenses' is applied i.e., what the victim would have generally spent on himself (see - What Price Disability, A perspective on the Law of Damages for Personal Injury by Prof. Beverley M. McLachlin, Vancouver (1981) Vol. 59 Can. Bar. Rev. p. 1 at p. 43). The deductions include not only what he spends on himself but what he spends for his enjoyment in the lost years. *Harris v. Empress Motors Ltd.*, (1983) 3 All ER 561 (C.A.). The English method is, in my opinion, more reasonable.

Loss of past earnings up to date of trial :

9. These are computed up to date of trial. The Gujarat High Court has said that the date of 'trial' means the date on which the evidence for the victim commences. There is no element of estimation in assessing these losses. The evidence of past loss can be exact in terms of money. According to recent judgments of the Supreme Court, interest is payable at 12% P.A. on damages from date of petition. This will adequately take care of inflation between date of petition to date of award

Prospective loss of earnings :

10. In the entire gamut of the law of tort damages, this is the most difficult problem. However, over the years, the Courts have, with the aid of modern techniques in the field of Demography, Statistics and the Mathematical Theory of Probability and

Actuaries, developed systems which are today very near perfect.

11. First, the present value of future loss of earnings for the earning period is to be computed on a total disability basis. But, if there is only partial disability, the said figure has to be reduced proportionately, to get at the percentage of net loss of earnings.

12. There are at least three methods of computing loss of future earnings: (A) Interest Method; (B) Lump sum Method; and (C) Multiplier Method. The first and the second are now replaced by the third.

13. (A) Interest Method: This method comprises in awarding a capital sum the annual interest (at current rates of Bank interest) upon which sum will be equivalent to the future annual loss. A similar method is applied in fatal cases to compute loss to the dependents.

14. This interest method has been rejected by almost all the Courts. It is sufficient to refer to the judgment of the Full Bench (of five learned Judges) of the Punjab and Haryana High Court in Lachhman Singh v. Gurmit Kaur, and to United India F. & G.I. Co. v. Pallanparthi Indiramma, : AIR 1982 AP267 decided by Chennakesav Reddy, J. (as he then was) and S. M. Rao, J. The Delhi High Court in D.T.C. v. Sharda Vasudeo, 1986 Acc CJ 424; the Rajasthan High Court in Rajasthan S.R.T.C. v. Pista Aggarwal, 1986 Acc CJ 23 and the Madhya Pradesh High Court in Sumanbai v. State of M.P., : AIR 1982 MP62 have also rejected the interest theory. It is not necessary to multiply authorities.

15. (B) The Lump sum Method : The lump sum method is an alternative method of computing future loss of earnings. Here, there are two views again. One view is that the actual loss for all the future years of expected life is to be added up but then a fixed fraction of 1/3 or so is to be deducted to off-set the two factors of (i) mortality or uncertainties of life, and (ii) conversion of future annual figures to present value. The other view which is canvassed by the respondent's counsel representing the injured is that the actual losses for all the expected future years have to be added up and that no deduction is to be made either for the future uncertainties of life or for the accelerated payment. This last method of not making

any deduction is called the Alaskan method. In answer to this it is argued for the appellant, owner of the vehicle, that a deduction is necessary and that when the Full Bench in *A.P.S.R.T.C. v. Narsavva*, : AIR 1987 AP127 had, in principle, accepted the Actuary's multiplier table method (comprising a methodology in which the actuary takes into account both the (i) mortality rate and (ii) the conversion to present value), it is required to apply the selfsame two deductions even when the future earnings for all the future expected years are computed. Otherwise, if deductions which are implicit in the Actuary's Multiplier are not provided for in the lump sum arrived at by multiplying the annual earning with the entire length of future expected life there will be a basic inconsistency between the two approaches. It is secondly argued for the appellant that though the Supreme Court in *Manjusri Raha v. B. L. Gupta*, : [1977]2SCR944 , did not, as a fact, make any deduction from the lump sum for future uncertainties or for conversion to present values still, at the same time, they have not laid down any positive principle of law against such deduction. It is argued for the appellant that while that judgment was rendered on 9-2-1977, there was a later judgment in *M.P.S.R.T.C. v. Sudhakar*, AIR 1977 SC 1189, delivered on 15-4-1977 wherein it was positively laid down by the Supreme Court that the High Court of Madhya Pradesh clearly erred in not making a deduction from the lump sum for future uncertainties and for accelerated payment. It is pointed out that the majority of the Full Bench have not referred to *M.P.S.R.T.C. v. Sudhakar* and mistakenly, thought that *Manjusri's* case was the latter case and also that it decided a positive principle. There is, it is argued, an inconsistency in applying the lump sum method without deductions and in accepting, at the same time, the multiplier method where mortality and acceleration of payment are impliedly deducted for.

16. As I am not basing my judgment on the lump sum method to total earnings method (without deductions), but am basing my judgment on the principle of the multiplier, I need not go into the various questions raised by the appellant's counsel. I am following the multiplier method which has been accepted not only by the Full Bench but also by the Supreme Court in the latter case in 1977 in *M.P.S.R.T.C. v. Sudhakar* and in the further latter cases in 1979, 1985 in *Bishan Devi v. Sirbaksh Singh*, : [1980]1SCR300 and in *N. Sivammal v. Managing Director*, : AIR 1985 SC106 . I may also refer to a recent case in 1987 in *O. P.*

Bhandari v. I.T.D.C., : (1986)11LLJ509SC (a service case) wherein while computing wages for eight years, a 3.33 year's purchase was adopted by the Supreme Court and not the full wages for all the eight years. I shall now proceed to deal with the Multiplier method.

(C) The Multiplier Method :

(a) The traditional multiplier

(b) The Actuary's Multiplier.

17. (a) The Traditional Multiplier : (Three Stages)

(i) Before the actuaries prepared multiplier tables, Judges were basing their selection of the multiplier on their intuition and experience. They proceeded on the basis that roughly 18 would be the highest multiplier for the youngest person aged (say) 20 years. This was obviously based on the premise that 100 divided by 5 1/2 (applying a rate of discount of 5 1/2% for reducing future payments to present value) would roughly yield a maximum of 18 as multiplier. If the victim's age was higher, the multiplier was being reduced. But the Judges, as pointed by Winfield and Jolowicz on Tort (12th Ed. 1984, p. 633) did not 'usually reveal the mathematical process (if such it be) by which they arrived at the appropriate multiplier'. Likewise, Munkman in his Damages (7th Ed. 1985 at p. 59) says that Judges have been selecting the multiplier 'without saying where they got it from'. In Mitchell v. Mulholand (1972) 1 QB 65 the Court of Appeal stated that the 'experience' of Judges and practitioners was the guide for picking up the traditional multiplier. Again in Taylor v. O'Connor (1971) AC 115 Lord Reid said 'Judges and Counsel have a wealth of experience' which is the guide for selecting the multiplier.

18. The above discussion would incidentally explain the point raised by the majority in A.P.S.R.T.C. v. Narsavva : AIR 1987 AP127 (FB) to the effect that the Division Bench which decided 'Chairman, A.P.S.R.T.C. v. Shafiya Khatoon, : AIR 1985 AP83 did not spell out how the Judge's multiplier is picked out. From the above rulings and opinions of Jurists, it is clear that the 'Judge's traditional

multiplier based on pure experience and practice.

(ii) The next stage was reached when in 1967, actuarial multipliers were prepared and published (see Kemp and Kemp, 1967 tables prepared by Mr. J. H. Prevett, Actuary) and when the Judges proceeded to cross-check their judicial or intuitive 'year's purchase' by referring to the multiplier from the Actuary's Tables. This Prof. McLachlin has called the 'cross-check' state. (see 1981, Vol. 59 Can. Bar. Rev. p. 1 at p. 20). Hawley refers to this 'cross-check' and states : 'Generally, an award is made objectively and checked subjectively (1975 (13) Alta. L. Rev. 430). Kemp and Kemp (Vol. 1, Law and Practice. 1984. p. 53) have also referred to this stage elaborately as one used by Judges for 'cross-checking' the years' purchase method with the multiplier given in the Actuary's Tables.

(iii) To-day, fortunately, the third stage is practically reached when tables of Actuarial Multipliers have come to stay in several countries. The British Law Commission was the first to commend the actuary's tables in 1970-71 (see Working Paper 27). In 1984, the British Government's Actuary Department has published Multiplier Tables (see Munkman, App III, p. 224). The Privy Council has also recently in 1984 commended the use of the actuarial tables in *Lai Wee Lian v. Singapore Bus Service* (1984) 3 WLR 63 (PC). They, however, pointed out that while the Tables in England reflected both (i) mortality rates and (ii) conversion of future earnings to present value, the Singapore Tables were defective as they omitted to take into account at least one of these two exercises. The Canadian Supreme Court has also accepted actuarial calculations in 1978. Dickson, J. said in *Andrew's case* (1978 (2) SCR 229). 'So long as we are tied up to lump sum awards (i.e., as opposed to periodic-review awards), however, we are tied to actuarial calculations as the best available means of determining amounts.' (Italics supplied).

Prof. McLachlin states (in the article already referred to) that the the 'adoption of mathematical calculations founded on admissible and relevant evidence including economic evidence, is the best alternative both in theory and practice. Judicial instinct and convention are instruments too blunt to accomplish the task. III the latest edition of Kemp and Kemp (Vol. 1, Law and Practice, 1984 part 1) there is a

chapter entitled 'Actuarial Evidence and Related Calculations'(Chap. VIII), the authors conclude :

'it seems to us that it is illogical to criticise the use of actuarial evidence'. Thus, today, actuarial tables have finally replaced the 'traditional' multiplier of the Judge.

(b) The Actuary's Multiplier :

18A. What is the basis for the actuary's multiplier, what are the factors it takes into account, is the next question. In the judgment in *A.P.S.R.T.C. v. Shafiya Khatoon* : AIR 1985 AP83 the mathematical and actuarial background was, perhaps for the first time, explained at considerable length. The net future losses from date of trial for the remaining expected period of life (in accident cases) and the net future losses from date of death of the person (in fatal cases) have to be estimated. This involves two exercises :

(I) Firstly, the mortality rates for the future years have to be ascertained year by year to off-set the future uncertainties of life. The annual loss for each future year is to be multiplied by the chance of living up to the end of the year. If the chance of an injured person living from 20 to 21st year is 0.99 (from mortality tables), and the actual loss is Rs. 12,000/-, the real loss is Rs. 12,000/- x 0.99. For the next year, if the probability of Living up to 22nd year is (say) 0.90, the real loss would be Rs. 12,000 x 0.90. Like this, the real losses for all the future years, say up to 58 or 60 years (in the case of those in service) or up to 70 years or so (in the case of non-salarised persons) have to be computed, the future annual probabilities of living decreasing. The sum total is not, therefore, the gross sum arrived at by adding the Rs. 12000/- for all the future years, but a gross sum arrived at by multiplying each future Rs. 12,000/- by the probability of the victim living in each of the future years as taken from the mortality rates published by the Government.

(II) The next exercise consists of taking each of the figures for the future years i.e., Rs. 12,000 x 0.99., Rs. 12,000 x 0.90; and so on and converting them to their present value or discounting them for accelerated payment. The simple, mathematical formula were for purpose is the reverse of the compound interest formula. (See Munkman 1985, page 57) $P_o = P_n / (1+r)^n / 100$ where P_n is the

future annual figures, r is the rate of interest n is the number of years (between the date of trial and date relating to the year for which the income is being converted into present value; in fatal accident cases it will be the date of death and the relevant future year whose income is being converted). Like that, the income for each future year, is reduced to present value. Then these sums for each of the future years are added up.

19. These two exercises give the present value of future loss of earnings. In the Tables, instead of taking Rs. 12,000/- as done in the example, the actuary takes the annual loss as Rs. 1/- and works out these two exercises for various age factors and that gives the multipliers. The same table can be used for injury cases as well as fatal cases. The only difference being that (as already stated) in an injury case, the age at trial is to be taken for choosing the multiplier while in a fatal case, the age at the time of death is to be taken for selection of the multiplier. This is because, in an injury case, the evidence as to loss of earnings up to the date of trial can be exactly computed. A detailed explanation of the actuarial background of the algebraic formula is set out in Kemp and Kemp (Vol. 1, Law and practice, 1984, p. 72 under the head (algebraic approach). It is similar to the formula found in the Mathematical basis of Life Insurance' (Published by the Federation of Insurance Institutes, Bombay 1 (Chapter X - Annuities Present values at P. 240, relating to Life annuities). I shall refer to them towards the end when I come to the actual multiplier table.

20. Demographic Tables showing mortality rates and the expectation of life are published by the Governments in all countries. It is from these tables that the actuary gets the mortality rates of persons of different ages - for males, females or for mixed populations. So far as reduction of future annual values to present values is concerned, the actuary uses, as already stated, the compound interest formula in the reverse direction $P_o = P_n / (1+r)^n / 100$. Incidentally, I may mention that this formula has been referred to by Khalid, J. and Subramanian Poti, J. (as they then were) in the Kerala High Court in an interesting discussion in Vasanthi Kamath v. Kerala S.R.T.C., 1981 Acc CJ 353. Again the Archer's Loan Repayment and Compound Interest Tables were referred to by G. P. Singh, J. (as he then was) and Malik, J. of the M.P. High Court in Manoharlal Sobharam v. M. P. Elec.

Board, : AIR 1976 MP38). Both judgments are based on the reverse of the compound interest formula. The only defect in the approaches of the Kerala and Madhya Pradesh High Courts is that those methods had only taken into account the deduction for accelerated payment (i.e. conversion to present value) but not the future uncertainties (i.e. the mortality rates). The advantage of the Actuary's Tables, is however, that both these factors are taken into account. (As I shall presently show, a third factor, namely, 'future inflation' is also taken into account by the multiplier and is implicitly protected). Kemp & Kemp say in (Vol. 1, Law and Practice, 1984, p. 56) as follows:-

'it should be emphasized that the sums obtained from the tables should not be discounted either for immediate payment or for possibility of death.'

That is the great advantage of the Multiplier Tables. They evolve a very simple method of computing the present value of future loss of earnings.

21. In fact, today, this part of the question does not really present much difficulty. One can simply look to these multiplier tables of the actuary for clear guidance. The real debate today, is regarding the Rate of Interest for conversion of future earnings to present value and the connected question of Future Inflation. I shall not refer to these questions.

Rates of Interest (for Conversion) and Future Inflation.

(Recent Developments)

22. This is the important and difficult terrain which calls for a detailed study. I have already stated that so far as (i) the mortality rates are concerned, they are drawn by the Actuary from the Demographic Tables published by the Registrar General, New Delhi and that so far as (ii) the discounting or conversion to present value is concerned, the compound interest formula in the reverse direction i.e., $P_o = P_n / (1+r)^n / 100$ is applied by the Actuary, P_n being the future annual earning in the n th year, P_o is the present value, and r is the rate of interest to be applied for conversion to present value.

23. It is important to note that in the above formula the interest rate 'r' falls in the denominator and, therefore, the higher the rate of interest applied, the lower will be the present value (Po). In other words, an injured person (or the dependant of the deceased in a fatal case) gets higher compensation if a lower rate of interest is used for conversion to present value. If, on the other hand, a higher rate of interest - (such as 10% or 11% as the current rates of Bank interest) is used for conversion to present value, the compensation gets tremendously reduced.

24. Claimants for compensation have, therefore, clamoured for applying low rates of interest for conversion of future losses to present value, so that they may get higher compensation. They also pointed out that if the current high inflationary rates of interest are applied for discounting or conversion of future sums to present value, it will result in exceedingly low sums of compensation.

25. This claim of the claimants for use of a low rate of interest for conversion of future earnings to present value as being a benevolent method, was first accepted by Lord Diplock in his famous judgment in *Mallett v. Mc Monagle* (1970) AC 166 a case followed by the Supreme Court in *MPSRTC v. Sudhakar* (AIR 1977 SC 1189) and was explained in later cases in England. This theory of low interest rate is known as the 'Diplock Formula'. The Australian and American Courts have also accepted this benevolent formula of applying a low rate interest which is called the 'Real Rate' interest. The Canadian method is also the same in principle, though the discount rate is computed by a slightly different method. While thus the multiplier method is accepted in principle in all countries including our Supreme Court and the Full Bench of our Court' there are differences as to what rate of interest is to be applied for conversion of future earnings to present value. The agreed range is between 5% to 3%.

Multiplier from Diplock Formula.

Real rate of Interest - Future Inflation - Methodology.

(Views of Courts, Jurists and Economists).

26. I shall now refer to the various views of (A) Courts, (B) Jurists and of (C) Economists only to show that all of them confirm to the Diplock formula and agree that it adequately combats future inflation also, apart from taking into account future uncertainties of life and the conversion of future payments to their present values.

(A) Courts :

27. (a) ENGLAND: The correct trend regarding a 'real rate' of interest was, as already stated, set by Lord Diplock seventeen years ago in Mallett's case (1970 AC 166). He laid down that the low rates of interest of the non-inflationary periods if used, would yield higher compensation and would off-set the effects of future inflation. He referred to a basic principle of Economics (now called the Fisher's Effect) that the difference between the rate of increase of future inflation and the rate of return on investments remains generally constant. For example, if current rates of interest on investments is 10% and the rate of inflation is (say) 6% the 'real' rate of interest would be 4%. As and when the return from investment goes to (say) 11%, the inflation rate would have gone to (approximately) 7%, so that the same difference of 4% is maintained. If the said differential rate of 4% is applied, the present value paid for a future earnings will be higher and sufficient to off-set future inflation. Further, the particular advantage of this method is that, the 'real rate' applied for conversion being almost constant, it will generally be valid for the future also obviating the need for taking expert evidence in each case to estimate the future rise in inflation and the future rise in return from investments, and also, each time, to deduct the former from the latter. In a passage, in Mallett's case (1970 AC 166) which has become a classic, Lord Diplock declared :

'In my view, the only practical course for Courts to adopt in assessing damages is to leave out of account the risk of further inflation on the one hand and the high interest rates which reflect the fear of it and capital appreciation of profit and equities which are the consequences of it on the other hand. In for estimating the loss, money should be treated as retaining its value at the date of the judgment and in calculating the present value of annual payments which would have been received in future years, interest rates appropriate to times of stable currency such

as 4 per cent to 5 per cent should be adopted.'

In *Taylor v. O'Connor* (1971) AC 115, Lord Pearson, more or less, reiterated the same view. This principle was reiterated by Lord Diplock again in *Cookson v. Knowles* (1979) AC 556 and all the other judges agreed with him. He pointed out that the criticism that prudent investment may not off-set future inflation is not correct because, whatever may be said about investment in equities and stocks, current rates of interest on securities (and real property) has kept pace with inflation. The Actuary's Multiplier need not be increased to off-set future inflation. In another significant passage. Lord Diplock said : 'Inflation is taken care of in a rough and ready manner' by the multiplier method. The topic finally fell for consideration in 1980 before the House of Lords in the famous case in *Lim Po Choo v. Camden and Islington Area Health Authority* (1980) AC 174. Lord Scarman, with whom all his brethren agreed, said that the Diplock method has now become 'well-settled'. It was however pointed out that there is extra incidence of income-tax, the multiplier picked up from the Actuary's Tables can be slightly increased. The Diplock formula as pointed by several Jurists, does not in reality ignore inflation, but has an 'in built' protection against inflation in that the discount rate applied is a low almost constant rate - being the difference between current rates of return and the rate of future inflation. Multiplier obtained by using such a real rate, need not further be increased to off-set future inflation.

28. (b) AUSTRALIA : The question was fully thrashed out by seven Judges in a very exhaustive judgment (running to eighty pages) of the Australian High Court in *Todorovic v. Waller* (1981) 150 CLR 402. By a majority of five to two, the Diplock method of applying a fixed low rate of interest suitable for a non-inflationary period current or future inflationary periods was fully endorsed. There was no need to adduce economic evidence in each case, it was held. The Australian Court, however, thought that the real for discount should be lower than the English rate of 4% or 5%, and that it should be 3%.

29. (c) CANADA : The Canadian Courts have accepted that the interest rate for conversion should be the difference between the current rates of interest and the future rate of inflation as stated by Lord Diplock. But, instead of taking a constant

rate of interest and preparing Multiplier Tables on that basis, they believe in receiving evidence of experts regarding future rates of inflation in every case and in deducting the same from the current rates of interest. (vide Dickson J. in Andrew's case (1978 (2) SCR 229). There, an interest rate of 10% was selected and a projected rate of 3% inflation was deducted, resulting in a discounting rate of 7%. This rate was very much against the interests of plaintiffs. However, Dickson, J. observed that the rate in future cases would depend upon the evidence adduced in those cases. In fact, in latter cases, evidence therein has led to the acceptance of lower interest rates up to 3% as in *Lan v. Wu*, 1979 (2) WWR 122 and 4% in *Malat v. Bjorson* No. (2), 1979 (2) WWR 673. The Canadian method of taking evidence in each case has been criticised by several jurists as cumbersome and expensive. In the later case, *Lan v. Wu* the Appellate Divisional Court advocated the use of a fixed low rate of interest as in the Diplock method instead of permitting expert evidence in each case.

30. (d) U.S.A. : As long ago as 1916, it was decided by the American Supreme Court in *Chesapeake and Ohio Rly. v. Kelly* (1916) 241 US 485 that future earnings must be aduced to present value by applying a proper rate of discount. Recently in 1975, in *Feldman v. Allegheny Airlines Inc.* (1975) 524 F 2d 384 2nd Circuit), the Second Circuit Court held as permissible as 'inflation - adjusted' discount rate and followed in the British method. That was the case of an air-cash in which Nancy Feldman, a passenger, died. District Judge Blumenfeld awarded damages of \$ 444,056 largely comprising of loss of future earnings. As per Connecticut Law 25% income-tax was deductible. In determining the discount factor, the Court first considered past yields on investments that would be risk-free and substracted the average inflation rate over the same period, resulting in a net discount rate. The Second Circuit approved this method speaking trough Judge Lasker :

'Feldom approved the use of a historical differential between interest and inflation rates as the appropriate method for reducing lost future earnings to present value. This aproach voids individual predictions of either inflation or interest rates and instead, recognises a historical average differential between the two, and provides a sound basis for Prediction.' ((1977) (Vol. 62 Cornell law review 803 at

814 by John R. McQueen : Recent Development (Feldman) -- Consideration of Inflation in Calculating lost future earnings). There, 'Real interest rate' was defined (see P. 815) as the 'money interest rate' minus 'the Percentage price rise'. The other extreme rule is the one in *Beaulieu v. Elliot* (1967) 434 P 2d 665 (Alaska) called the 'Alaskan' rule where the Court held that the entire future earnings could be paid as damages, without any deduction. This was on the basis that the rate of inflation off-sets the discount factor also. The Alaskan method is no doubt simple, but is described as based on a wrong principle as it ignores the 'real rate' of interest and because (it is said) 'it over-compensates the plaintiff' (Mc Queen, p. 815). On the other hand, the Feldman approach is similar to Lord Diplock's and is accepted by John Mc Queen (supra) as well as by Prof. John Fleming (1977) (26 *Americ. Jour. of Comparative Law* at P. 51 at 68-69). Both the Jurists reject the Alaskan method of not making any deduction out of the lump sum as being based on a wrong principle.

31. (e) SWITZERLAND AND NETHER LANDS : In Switzerland, a standard rate of 3.5% has been consistently applied since 1947 while in Netherlands, a rate up to 4.5% is used for discounting (see SZOLLOSY quoted by Prof. Fleming).

32. (f) INDIA :- In India, the lump sum method and the multiplier method are both in vogue. So far as the real rate of interest is concerned, no decision of the Supreme Court or of any 'High Court has gone into that question so far. That the principles enunciated in *Mallett v. Mc Monagle* (1970 AC 166) by Lord Diplock can be applied in India has now been emphatically laid down by the Supreme Court in *M.P.S.R.T.C. v. Sudhakar* (AIR 1977 SC 1189). It was laid down by the Supreme Court positively :

'Allowance must be made for the uncertainties and the total figure scaled down accordingly Thus the amount has to be reduced taking into account these imponderable factors

A method of assessing damages usually followed in England, as appears from *Mallett v. Mc Monagle* (1970 AC 166) is to calculate the net pecuniary loss upon an annual basis and 'to arrive at the total award by multiplying the figure assessed as the amount of annual 'dependency' by a number of 'year's purchase', that is the

number the year's the benefit was expected to first, taking into consideration, the imponderable factors in fixing either the multiplier or the multiplicand In the decision of the Kerala High Court relied on by the appellant P. B. Kader v. Thatchamma, : AIR1970 Ker241 , the same method of assessing compensation was adopted.'

The multiplier method was reiterated in Bishan Devi's case : [1980]1SCR300 in 1979 in N. Sivammal's case : AIR 1985 SC106 in 1985 in O. P. Bhandari's case : (1986)11LLJ509SC in 1987, apart from cases prior to 1977. The Supreme Court has applied different multipliers in different cases as pointed out by Waghray, J. in A.P.S.R.T.C. v. Narsavva, : AIR 1987 AP127 (FB) but has neither indicated any 'real rate' of interest for discounting nor any particular multiplier table as appropriate.

33. Some High Courts have, however, made attempts to lay a mathematical basis and I shall now refer to those cases. In 1975 the Madhya Pradesh High Court was the first to apply Archer's Loan Repayment and Compound Interest Tables in Manoharlal's case : AIR 1976 MP38 . Sometime thereafter in 1981 the Kerala High Court in (Khalid and Subramanyan Poti, JJ.) (as they then were) applied the formula $P_0 = P_n / (1+r)^n / 100$ to which I had already made reference, for reducing future earnings to present value. But the defect in these two cases is that the future uncertainties (i.e., the mortality rates) were not taken into account. In Andhra Pradesh, in 1984, a Division Bench in Chaimman, A.P.S.R.T.C. v. Shafiya Khatoon : AIR 1985 AP83 as to which I was a party) referred to the Diplock method in Malleett's case, (1970 AC 166) as approved by the Supreme Court in M.P.S.R.T.C. v. Sudhakar (AIR 1977 SC 1189). It also stated that mortality rates (future uncertainties) as well as discounting to present value were both built into the Actuary's Multiplier. The Division Bench thought that in the absence of tables prepared for Indian purposes, the English Multiplier Table published in Kemp & Kemp (1967) based on a 'real rate' of interest of 5 1/2 % could be adopted and relied upon that particular multiplier table of England. The assumption was that the mortality rates in India in 1984 were at least comparable to those in England prior to 1967. Recently, the Full Bench in A.P.S.R.T.C. v. Narsavva : AIR 1987 AP127 has also accepted, in principle, the use of the actuary's multiplier Tables as

elucidated by the Division Bench and as also stated by the Privy Council in 1984 in Lai Wee Lian's case (1984-3 WLR 63). But it overruled that part of the judgment of the Division Bench in Shafiya Khatoon's case relating to the use of the 1967 English Table. To that extent only the Division Bench was overruled. The Full Bench has also restated clearly that as and when multiplier Tables are prepared for India (based on Indian mortality rates), the matter can be re-examined.

In the Delhi High Court, a Division Bench, in 1983 has discussed the principles regarding the 'real rate' of interest and 'inflation' in D.T.C. v. Kumari Lalitha, 1983 Acc CJ 253 : (AIR 1982 Delhi 558). Avadh Behari Rohatgi, J. discussed all these principles starting from Taylor v. O'Connor (1971 AC 115) to Lim Po Choo's case (1980 AC 174).

34. But till today, neither the Supreme Court nor the High Courts have considered what 'real rate' of interest is appropriate to India or what table of multipliers are to be applied in this country.

35. Therefore things are in a fluid and uncertain state in our country because the multipliers applied are not all uniform. As one learned Judge said regarding this very subject, we are living in a 'judicial jungle'. Unless and until Actuaries and Statisticians wake up and try to prepare tables for India similar to those prepared by Mr. J. H. Preveit in England (as published in Kemp and Kemp), the unfortunate result will be that in identical situations, victims with similar future annual losses will be differently paid by the Courts, - a situation which is far from satisfactory. It will be for the Supreme Court to lay down as to what should be the appropriate 'real' rate of interest suitable for India for purpose of discount 5% as in England or 3% as in Australia or (about) 7% (or now 3%) as in Canada. A simple Multiplier Table adopting a reasonable real rate of interest is the grave need of the hour in India.

36. (B) JURISTS : In England, Munkman (1985) refers to Mallett's case (1970 AC 166) and other cases and to the Diplock theory of adopting a low fixed rate of interest in vogue in non-inflationary times for converting future earnings to present values. He, however, suggests a rate of 4 1/2% as the fair rate of 'real interest' as the basis for preparing the multiplier tables (p. 60, 85). Again Kemp and Kemp

(1984) (Vol. 1, paras 7.007 to 7.011) state that there is not much need to take into account past inflation (before trial). So far as future inflation is concerned, they say that the present practice is generally to adopt what we term the 'Diplock approach' and that it has been accepted by the British Law Commission as the most practical way of making allowance for future inflation. They refer to the various cases and say that the statement of Lord Scarman in *Lim's case* (1980 AC 174) affirming the Diplock formula 'is likely to be the last word on this topic, at least for some considerable time'. But they suggest that the Court could apply a lesser rate than 4% to 5%. Recently, in 1983-84 the British Government's Actuary Department consisting also of Mr. J. H. Preveett published Multiplier Tables. The Working Party issued Tables from 1 1/2 % to 5% rates and concluded that since Index-Linked Government Securities (1981) have now become an essential part of the English investment market, it will be fair if discount rates between 2 1/2% to 3 1/2 % are adopted (Munkman, 1985, Appendix III, p. 224). Extracts from HMSO are quoted to say that the purpose of setting but figures based upon a range of rates of interest is to enable the user to choose a rate which reflects the 'real rate of interest' which is that part of the actual rate which excludes the inflationary element. David Kemp Q.C. in (1985 Vol. 101 Law Quarterly Review P. 556) in this 'Discounting Compensation or future loss' refers to the Australian case in *Todorovic v. Waller* (1981-150 CLR 402) and to the recent judgment of Lord Diplock in *Wright v. British Railways Board* (1983) 2 AC 173 and to the 1981 Index Linked Securities and states that the net return now is between 2% to 2 1/2% and pleads for using rates lesser than 4% or 5%. In another article, in *Civil Justice Quarterly* 1984 (p. 120) by David Kemp Q.C. entitled, 'The assessment of Damages for future pecuniary loss in Personal Injury claims', he refers to the Australian cases and to *Wright's case* and commends a lower rate than 5%.

37. In America, Prof. John Fleming (1977 Vol. 26, *American Journal of Comp. Law*, p. 51) points out : 'The real (or opportunity) cost of money is relatively stable but the actual cost is increased by the inflation element. This is commonly called the 'Fisher Effect' after Irving Fisher, the father of the modern interest theory'. After pointing out that current rates, if used, will be unduly prejudicial to the plaintiff, he describes the Diplock approach as having the 'widest' following, at least, in Commonwealth countries and refers to *Feldman's case* (1975-524 F 2d 384 (2nd

Circuit) in U.S.A. as following the same approach. He states that the Diplock formula has an inbuilt protection against future inflation. In Canada, Prof. Samuel Rea Jr, Toronto, in his 'Inflation, Taxation and Damage Assessment' (1980, 58 Can Bar Rev 280) says : 'Economists differentiate between the nominal rate of interest and the real interest rate. The latter is corrected for inflation. One has to deduct from the current (nominal) rates, the rate of future inflation, and the resulting real rate generally remains constant. If 'r' is the real rate of return and 'p' is the rate of inflation, the current interest rate must equal $r + p + (rp)/100$ to generate a real worth of return equal to 'r', In other words, the real discount rate $r = \text{current rate} - (p+rp)/100$ (see p. 285).

Prof. Beverley M. Mc Lachlin (1981, Vol. 59 Can. Bar Rev. p. 1) refers (at p. 26 to the concept of real earning, or 'net return' of money and says this is the most appropriate discount rate', since it does not depend on economic factors and predictions at the time of trial and could be given 'judicial notice', thus obviating the 'need to call economic evidence in each case. Both Prof. Samuel Rea and Me Lachlin agree that the Diplock method does not ignore future inflation but is fully structured to meet future inflation.

38. (C) ECONOMISTS : Prof. Paul A. Samuelson of the Massachusetts Institute of Technology in his Text Book on Economics (10th Ed. 1980 at p. 609) defines 'real interest' rate as the 'money interest rate minus' the percentage of 'price rise'. Thus if money rate is 8% and the annual price rise is 5%, the true real rate of interest is $8 - 5 = 3\%$. At p. 613, gives 'Fisher's Interest diagram. At p. 616, he formulates how PDV (Present Discounted Value) is to be computed. He says : 'evaluate the present worth of each part of the stream of future receipts, giving due allowance for the discounting required by its payment date. Then simply add together all these separate present discounted values'. He says (at p. 618) 'the formula for capitalising the asset value of a perpetual constant income can be extended when receipts are neither constant nor perpetual. Each dollar payable 't' years from now is worth only its present discounted rate of $1/(1+i)^t$ where $i=1+ r/100$ r' being rate of interest. So for any net receipt stream ($N_1, N_2, \dots N_t \dots$), the

39. Present Discounted Value= $N_1/(1+i) + N_2/(1+i)^2 + \dots + N_t/(1+i)^t$ where i = rate of interest /100. This is exactly the same as $a_x = 1/2 + V_1x+1 + V_21x+2 + \dots V_t1x + t$ to end of life used by the Actuary (see Kemp & Kemp 1984 Vol. 1, pp. 73-74) (to which I shall refer at the end), where the future annual receipts are adduced by the annual 'probability of living' taken from mortality Tables of Government, $1/2$ being added as correction factor. The economist's formula therefore tallies with that of the Actuary.

40. Prof. John A. Carlson of the Economic Department, Purdue University, (1976 Vol. 62, American Bar Association Journal, p. 628) in his 'Economic Analysis v. Court room Controversy' (The present value of future earnings) has also referred to Irving Fisher's' Book Appreciation and Interest (Mc Millan). He points out that 'discounting obtain present value is just the reverse of figuring the future value of a current vestment that grows at some compound rate of interest' and refers to the feature that current interest rates tend to rise when inflation is expected to become worse and the higher the rate of inflation, the higher go wages also. If a difference between rate of arise of inflation and interest is (say) 3%, at one point, the difference generally gets maintained in future.

41. In the result it is clear that there is a general consensus in all countries among Courts, Jurists and Economists that the 'real rate' of interest (difference between current returns on investment or property and rate of inflation is constant and that that alone should be taken as the discount rate (rate of interest) for converting future payments to current values. It is also clear that by applying a multiplier obtained by the Actuary using this method, future inflation is automatically taken care of and there is no need to increase the multiplier further to offset future inflation. We have earlier noted that the Actuary's multiplier takes care of future uncertainties of life and there is also no need to deduct anything for lump sum (or accelerated payment) if the Actuary's multiplier is applied. Further, there is the additional advantage of avoiding expert evidence of Economists in each case, as to the rate of increase of inflation and the current rates of interest on securities. That is why the Actuary's multiplier based on the Diplock method is now scientifically accepted as the best and also the simplest method for computing future loss of earnings. My entire endeavour is to set the trend to put computation

of future loss of earnings on a scientific and simple basis and also to see that uniformity is achieved among the various tribunals awarding compensation.

THE APPROPRIATE REALRATE OF INTEREST FOR INDIA :

42. This is the most important of all the questions. The multiplier to be applied to estimate the present value of future returns depends very much on the rate of interest. The literature on the subject to which I have already referred shows that mainly this rate is between 3% to 5%. That real rate is the constant difference, valid for the past and future as well, between the current returns on income and property and the rate of future inflation. That is what is known as the Fisher's effect. No doubt, the correct real rate for our purposes has some day to be settled by the highest Court namely, the Supreme Court of India in the same manner has been done by the Superior Courts in other countries. But some beginning has to be made by somebody and I wish to make a humble attempt in this direction.

43. It is gratifying, firstly, to note that there is considerable evidence as to the thinking of the Government in this regard. Before estimation of future damages had crystallised into a problem, the Government had a similar problem in respect of commutation of future-pensions. Commuted pensions had to be reduced to their 'present values' and then paid to the employees. Such rules appear to be in vogue at least since 1944 for Central and State employees. The A.P. Civil Services Pensions (Commutation) Rules 1944, (which must have been a replica of the then existing Central Rules) contains Rules regarding conversion of future 'payments to present values'. The Table of year's purchase (or multipliers) appended thereto, as per G.O.Ms. No. 1336 (Fin) dt. 4-12-1957 was based on 'real rate' of 3.5% for purposes of conversion, and the highest multiplier for a person aged 17 years was only 20.94 (because of higher mortality rates in those days) even though the table is one for earners (of pension) for rest of life. It may be noted that multipliers for pensioners and even professionals, who may earn till their death are higher than multipliers used for computing loss of earnings (say) up to 60 years. The rate was increased to 4% in G.O.Ms. No. 611 (Fin) dt. 21-12-1963 with effect from 1-1-1964 and the highest multiplier was 20.33 for a person aged 17 years. This was revised in G.O.Ms. No. 123 (Fin) dt. 10-5-1968, the highest multiplier for age 17 being

19.24 and further revised in G.O.Ms. No. 257 (Fin) (Part I) Dept. dt. 28-7-1971 applying a rate of 4.75% with effect from 1-3-1971 and fixing a highest multiplier of 19.28. Rule 7 of the Rules describes how 'present' values are to be applied to facts. Rule 8 provides that the appropriate 'rate of exchange for conversion' is to be such as prescribed by the (then) Secretary of State for India.

44. The table in A.P. effective from 1-3-1971 and computed at 4.75% rate is identical with the table appended to the Central Civil Services (Pension) Rules, 1972. There too 4.75% is used and the highest multiplier for a 17 year old is 19.28. All the multipliers are identical with those in the A.P. table effective from 1-3-1971. Obviously, the A.P. table is adopted from the Table in the Central Rules. It is gathered that the 'President of India is pleased to prescribe a revised table (annexure) of values of commutation of pension in supersession of the then existing table, and that the revised table is based on the rate of 4.75% per annum and the improvement in the mortality rate as indicated by the experience in Postal Life Insurance Policies' (see Chaudhari's Compilation of Civil Service Regulations, 10th Ed. 1976, p. 417, where the 1971 Rules are extracted). Even in the recent Central Civil Services (Pension) Rules, 1981 the same table is continued with S. 4,75% rate of interest and a maximum multiplier of 19.28 is given for a person aged 17 years (in a table for returns for full life). As already stated, multipliers for earners for life - as in these pension commutation tables - will be a little higher than the table computed at same interest rate for those whose earnings are up to (say) 60 years. From the above, it is clear that the Government real rates of interest in India have ranged from 3.5% in 1957 to 4.75% in 1971, and continue even in 1981 at the latter rate. It is in my opinion, reasonable to take a mean rate between 3.50% and 4.75% and adopt a rate of 4% which will more or less reflect the 'real rate' over longer periods.

45. I shall now try to verify this by taking the whole-sale Price Index (WPI) from figures of the Economic Department Reserve Bank of India, Bombay. (These WPI figures are said to be more accurate than the Consumer Price Index). These figures are given for 1970-71 base as 100 and have been converted by me taking 1975 base and computed up to 1985 :

Year.	W.P.I. (1970 Base).	% variation.	W.P.I. (1975 Base)
1975	175.8	+3.9	100
1976	172.4	-1.9	103.9
1977	185.4	+7.5	101.93
1978	185.0	-0.2	109.62
1979	206.5	+11.60	109.41
1980	248.1	+20.1	122.10
1981	278.4	+12.2	146.60
1982	285.3	+2.5	160.05
1983	308.5	+8.1	164.5
1984	334.5	+8.3	177.8
1985	353.3	+5.8	192.6

46. From the above, it is clear that the rise of WPI from 1975 to 1985 is 9.26 per annum. The interest rates on Government securities have also shown a corresponding increase over the years. In fact if we take the National Savings Certificates (VIth issue) the rate is 12% compound which (according No N.S.C.) works out to 17% simple. Today, dividend from units of Unit Trust of India is 16%. If we compute the 'real' interest rate at 17% or 16% minus 9.26, we will arrive at a high conversion rate of 7.74% or 6.64% which will be highly detrimental to plaintiffs. But going by other Government rates or those returns from Government-owned Public Corporations, it is, in my view, not unreasonable to say that there are rates upto 14% simple interest (if not 17% as in NSC). Deducting 9.7% (inflation rate) therefrom, i.e., from 14% it is arrive at 4.3%. I will be erring in favour of the claimants even if I adopt a rate of 4% as a 'real rate'.

47. I shall approach the problem again from the angle of the Consumer Price Index (CPI) of the Economic Department, Reserve Bank of India.

Year.	C.P.I. (1960 Base).	% Variation.	CP.I. (1975 Base).
1975	321	+5.6	100
1976	296	-7.8	105.6
1977	321	+8.4	97.4
1978	329	+2.5	105.6
1979	350	+6.4	108.2
1980	390	+11.4	115.1
1981	441	+13.1	128.2
1982	475	+7.7	145.0
1983	532	+12.0	56.2
1984	576	+8.3	174.9
1985	608	+5.6	189.4

The rate of increase of inflation over 1975 to 1985 will be 8.94% and if I go by the Government Company interest rates of 14%, the difference will be 5.06% which is more detrimental to plaintiffs than the difference of 4.3% obtained by use of Wholesale Price Index. Assuming the current rate of interest of Government Corporations as being only 13%, the difference will come down to 4.06%.

48. Thus on a consideration of the rates used for conversion of Pension-commutation over 1957 to 1982, and the Wholesale Price Index movements in 1975-1985 as well as the Consumer Price Index movements (1975-1985) (as per RBI figures), I am of the view that a real rate of 4% for conversion of future payments to present values will be reasonable in our country. It is neither as high as 5% in England nor as low as 3% in Australia. The rate of 4% appears to be proper according to economics and fair according to law, unlike the high rate of 5 1/2% adopted in Shafiya Khatoon's case (26) which gave lower multipliers. But the question of rate was not gone in detail in that case. Thus, for India, a real rate of interest of 4% is to be applied for conversion of future losses earnings to present values.

THE ACTUAL MULTIPLIER:

49. This is the ultimate problem. The actuary and the economist have arrived at the algebraic formula applicable for computing present values of future earnings-based not only on a non-inflationary real rate of interest but also based on the future mortality rates. If the basic material is available, it is not difficult to compute these calculations provided one has sufficient knowledge of principles of mathematics.

_ 1

$a_x = V1(x+1) + V^21(x+2) + V^31(x+3) + \dots$ to end of life + where $V = \frac{1}{(1+r)}$ and 'r' is real

----- (1+ r)

1x -----

100

rate of interest and $D_x = V^x 1^x$ For those earning (say) up to 60 years, the multiplier will

be slightly less:

- _____

$a_x (60-x) = (a_x 60-x + {}^1a_x (60-x) = (N_{x+1} N_x N_{60} N_{61})$ where as

$N(x+1)$ and ${}^1a_x = N_x; a_x = a_x + .$

Dx Dx

50. The Registrar-General, Government of India, New Delhi has issued (in 1985), the S.R.S. Based Abridged Life-Tables (1976-80) (Occasional Paper No. 1 of 1985). At page 21 thereof, we have the Abridged Life Table for Rural, Urban population for Males and Females separately. The tables give the figures for $1x$, x' (dx), nLx , ex as per standard international notation, $1x$ meaning the persons living at a particular age, qx (dx) the death rate, nLx (aggregate), and ex the expectation of life at age x . These figures are given for the age-groups 0-5, 1-5, 5-10,...upto 6.5-70. From Kemp & Kemp (Vol. 1, 1984 pages 73-74) as well as from the book 'Mathematical Basis of Life Insurance' and the formula mentioned in Samuelson's Economics, the following algebraic formula gives the annuity, or multiplier at age x (for a person who earns up to end of life)

51. As one whose first love was advanced statistics and advanced mathematics before drifting to law, I have taken sufficient pains and care to construct a table for Urban Males (for those earning up to 60 years) for different age intervals strictly according to the actuarial formula set out above. (I am annexing the basic data, - the SRS Based Abridged Life Table (1976-80) and other work sheets - as Appendix to this judgment (pages 1 to 8) as permanent record of this case, for benefiting those interested). This table worked out at a 4% real rate gives far higher multipliers than in Shafiya Khatoon's case : AIR 1985 AP83 where a rate of 5 1/2% was arrived.

52. Taking Mortality-Rates (1976-80) published by the Registrar-General of India and a 'real non-inflationary rate of interest of 4%', the multiplier table (for those retiring at 60 years) will be as follows for (Males) : -

THE MULTIPLIER TABLE (4% interest) URBAN - MALE:

-----Age	Multiplier-----	15	20.1620
19.1425	17.9530	16.5135	14.81
40	12.7945	10.4550	7.68
55	4.2759	0.97	

Taking this as guidance, multipliers for Urban (Females) can be - approximated by increasing the figures slightly (up to 0.20).

The multipliers for rural (males) will be slightly lower than in this table while those for rural (females) are slightly higher than in the Table. (This is because of the relative higher or lower mortality rates given in the SRS Table.

('Age': is age at trial (injury cases) or age at death (fatal cases).

In computing multipliers for persons who, like professionals, earn for all their life and there is no retirement, the multiplier from the table can be increased (approximately) by 1 to 2 points, the higher increase being adopted in cases of younger persons.

53. In cases of injuries, the relevant age for selecting the multiplier will be the age at the time of trial - for computing present value of future earnings because the loss up to trial can be otherwise computed directly. In cases of fatal accidents, the age at the time of death gives the relevant multiplier and this is subject to the further lowering of the same if the dependants (such as parents) are of advanced age.

54. The accident in this case occurred on 30-7-1978. The trial took place in Dec., 1979. The lower Court took the loss of earnings per month at Rs. 645/- but did not take the allowances into consideration. The evidence of the respondent (P. W. 2) is that, while not on the ship, he gets a subsistence allowance of Rs. 39/- P.M., an allowance of Rs. 64.50 P.M. and bonus of Rs. 51.25 P.M. apart from a permanent over-time allowance of Rs. 192/- P.M. Even assuming that the respondent gets such allowances only for six months in an year, the total annual loss would be Rs. $645 + 12 + (\text{half of } 39 + 64 + 51 + 192) \times 12 = \text{Rs. } 7740 + 2076 = \text{Rs. } 9816/-$ and not merely Rs. 7740/- as adopted by the lower Court. I have taken that the claimant has just entered 35th year.

1) Past loss of earning (up to

date of trial) = Rs.9816 x. 17/12 = Rs.13,907.00.

2) Present value of Future loss Rs. 9816 x 14.40 = 1,41,350-00.

of earnings (from date of _____

trial up to 60 years) Rs. 1,65,256.00.

(Here, because the injured was aged about 36 years, at trial, I have adopted a multiplier of 14.40)

Assuming a disability of 65% as done in the lower Court, this comes to Rs. 1,07,412/-.

55. The Court below, by applying the lump sum method for 23 years on an annual loss of Rs. 7740/- computed the disability at 65% and then deducted 25% for lump sum payment and arrived at Rs. 97,000/-. So far as pain and suffering are concerned, I agree with the respondent's counsel that Rs. 3,000/- is absolutely low and also that the lower Court erred, on fact, in not paying for other non-pecuniary losses. But as there is no cross-appeal there is no need to estimate or increase the non-pecuniary damages.

56. In view of the above computation, the award for Rs. 1 lakh (one lakh) is not high and, on the other hand, is on the low side. As there is no cross-appeal, it cannot be increased.

57. Before parting with the case, I would like to place on record my appreciation of the help rendered by the Librarian of the Judges' Library, Sri Sajid Mohiuddin but for whose help in securing important literature, this judgment would not have been possible.

58. Therefore the award made by the lower Court is confirmed and the appeal is dismissed but without costs.

59. Appeal dismissed.

APPENDIX TO

SooperKanoon - India's Premier Online Legal Search - sooperkanoon.com