Judicial Impact Assessment: An Approach Paper

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Introduction

Among the most important attributes of the notion of "rule of law" are the procedural and institutional characteristics of a country's legal system. The benefits of a good judicial system are many, covering economic, political, and social spheres. The importance of the judiciary lies in checking abuses of government power, enforcing property rights, enabling exchanges between private parties, and maintaining public order. A balanced, swift, affordable (accessible), and fair justice delivery system — besides promoting law and order — aids in the development of markets, investment (including foreign direct investment), and affects economic growth positively. Good economic policies need strong and accountable institutions to support and implement them. Strong justice institutions thus form the basis of lasting social order.

Court congestion, legal costs, and delays are the problems most often complained about by the public in most countries, and thus often perceived as the most pressing (Buscaglia & Dakolias, 1996; Brookings Institution, 1990). India is not an exception.

In India, a lack of judges has generally been cited as the main reason for court congestion and delays. Indeed, the number of judges per capita has been low compared to other countries. For instance, data on 30 selected countries from the World Bank *Justice Sector at a Glance* database indicate that in 2000 the average number of judges per 100,000 inhabitants was 6.38.[1] The corresponding number for India is about 2.7 judges.[2]

[1] The number of judges per 100,000 inhabitants ranged from 0.13 in Canada to 23.21 in the Slovak Republic, not showing significant correlation with GDP per capita. It should be noted, however, that for some of the countries the statistics covered only the federal court system (excluding the state or provincial court systems).

[2] The actual number of judges is even lower since the calculation is based on the sanctioned judge strength, not accounting for vacancies. See Hazra and Micevska (2004) for details.

This perception about inadequate judges in India in turn has been attributed to an insufficient resource allocation to the judiciary by the legislature. Yet the legislature has constantly enacted new laws and that has added to the burden. Moreover, at times, well-motivated statutes can have unintended consequences on the courts' ability to administer justice, especially on the criminal side. Therefore one needs to asses the problem from the demand side as well, although the proposed solutions are intended from the supply side.

What is Judicial Impact Assessment

Legislative proposals typically affect court workload either operationally, or through substantively. A third effect can happen through judicial interpretation, but that is clubbed with the second – in substantive law change. The former involves legislation that would directly affect court procedures (e.g., adding or modifying procedures for bringing a person to trial, conducting a trial, sentencing, or appeal); court administration (e.g., altering the responsibilities or number of court personnel); or court financing (e.g., increases or decreases in budget appropriations). Substantive impact, on the other hand, involves the elimination or creation of statutory causes of action. Substantive legislation can also affect court workload if the wording of a statute requires judicial interpretation. Judicial impact in this situation occurs not because of what the legislation says, but because of what it either omits or does not say clearly (Mangum, 1995).

Judicial impact assessment is therefore calculating the workload change that the judiciary has to bear due to procedural or substantive law changes and then calculating the expected indicative costs for the same change. Technically, operational impact has the most obvious effect on the courts and is therefore the type of impact most frequently addressed in judicial impact assessments. For substantive law changes it is not always possible to calculate the workload change that the judiciary has to undergo, especially if it involves a completely new area or the economy under goes substantial reforms per se.

Judicial Impact Assessment in the US

Currently the USA undertakes the exercise, although the developments are not shared except the results. The need for pinpointing the sources of the increasing flow of litigation prompted Warren Burger, Chief Justice of the U.S. Supreme Court, to call for Judicial Impact Statements to assist the Federal Judiciary in "rational planning for the future with regard to the burdens of the courts", in his address on the state of the Judiciary in 1972. The Congressional Budget Act, 1974, established a Congressional Budget Office to estimate the budgetary impact of legislative proposals with a view to assessing whether a proposed legislation is likely to increase or decrease or has no effect on the burden of the courts. In a related development, the National Academy of Sciences established the National Research Council for the purposes of estimating the changes in workloads that the courts would experience with the adoption of new legislation. In 1990, the Federal Courts Study Committee, created by Congress through the Federal Courts Study Act, 1988, recommended that an Office of Judicial Impact Assessment be created in the judicial branch. The American Bar Association also passed a resolution in 1991 calling upon each state legislature and the United States Congress to mandate by legislation the preparation of Judicial System Impact Statements to be attached to each Bill or Resolution that affects the operations of State or Federal courts; and also to establish a mechanism within its budgeting process to prepare Judicial System Impact Statements determining the probable costs and effects of each Bill or Resolution that has an identifiable and measurable effect on the dockets, workloads, efficiency, staff and personnel requirements, operating resources and currently existing material resources of appellate, trial and administrative law courts (Viswanathan, 2002).

The first thing that becomes apparent is that after the enactment of the Congressional Budget Act in 1974, which established a Congressional Budget Office to estimate the budgetary impact of legislative proposals, it took the US judiciary 20 years and dedicated offices to get data collection in line with the needs and make preliminary fiscal estimates of judicial impact assessment.

Moreover, the most comprehensive of the attempts conducted under the auspices of a National Academy of Sciences (NAS) reached two conclusions in its 1980 report. It found that, as proposed by Chief Justice Burger, the application of judicial impact assessment to all legislation that might create new cases in the courts was not feasible because the empirical and theoretical tools necessary for such across-the-board forecasts were not available. Importantly, however, the panel also determined that the process did seem feasible “if a more modest view [was] taken” of the goals of judicial impact assessment, employing it only “in selected instances” for specific legislative proposals (Mangum, 1995).

Across-the-board judicial impact assessments are thus not tenable. These assessments can be used to forecast largely the judicial impact of procedural changes and selected legislations.

The Position in India

It is true that every law enacted by Parliament adds to the burden of the State courts and since administration of justice, constitution and organisation of all courts except the Supreme Court and the High Courts fall within entry 11A of the concurrent list, the major brunt of the workload is borne by the courts established and maintained by the State Governments. Clause (3) of Article 117 of the Constitution provides that a Bill, which if enacted and brought into operation would involve expenditure from the Consolidated Fund of India, shall not be passed by either House of Parliament unless the President has recommended to that House the consideration of the Bill. The rationale for this requirement is that the President must know beforehand the additional financial burden which will be imposed upon the exchequer by virtue of the proposed enactment. In addition to this constitutional safeguard, under the respective provisions of the Rules of Procedure and Practice of Business in the House of the People and the Council of States, every Bill is required to be accompanied by a Financial Memorandum which spells out in detail the recurring and non-recurring expenditure which is

likely to be incurred from the Consolidated Fund of India if the Bill is enacted into law. If no expenditure is involved from the Consolidated Fund of India, there is no need for a Financial Memorandum to accompany a Bill. Because of this, instances where expenses are to be borne by the State Governments due to the litigation which is likely to arise by virtue of some provisions in the parliamentary enactment, such as the creation of new offences will escape the attention of the lawmakers and the public since they are not expenses incurred out of the Consolidated Fund of India. Even where a recommendation of the President is sought under Clause (3) of Article 117 and a financial memorandum is attached to the Bill, the likely increase in the workload of the courts and the consequent increase in the financial expenditure is not given any importance by the Ministries sponsoring the legislation. Under Clause (3) of Article 207 of the Constitution a similar legal position prevails with respect to Bills introduced in the State Legislatures. Where any authority or agency is created under the proposed legislation, the expenses for its establishment and maintenance are provided for from the budget of the sponsoring Ministry. However, no similar provision is made for the likely impact on the courts due to the enactment of the legislation. Till now a strong case based on statistical data, indicating the sources of litigation flowing from new legislation which is choking the judicial system is yet to be made by the Judiciary for demanding its legitimate share in the allocation of budgetary funds (Viswanathan, 2002).

The Fallacy of Supply Side Solutions

One should not draw the conclusion that the backlogs result from an understaffed or under funded court system. An analysis by Hazra and Micevska (2004) shows, the number of judges may be important, but this factor is hardly the only cause for the deficiencies. This is in line with Hammergren's (2002, cited in Hazra and Micevska, 2004) conclusion that in Latin America the traditional, institutionalized remedies (from the supply side like increasing the number of judges) have not worked any miracles and occasionally have even made things worse.

Studies (Goerdt et al., 1989; Dakolias, 1999) have found that an increase in filed cases may cause courts to internally adapt to the change to maintain their rates of case resolution. On the other hand, Priest (1989) argues that there is a reverse causality. According to him, there is some equilibrium level of court congestion. When reforms are implemented and delays decrease, more cases are filed in the courts thereby bringing congestion back towards equilibrium.

Governments in many countries, including in India, have launched a number of judicial reforms measures. Solutions have been usually sought in structural reform on the supply side: increases in the number of judges, changes in procedures, adoption of ADR mechanisms etc. However, most of the reforms designed to relieve court congestion have failed.

The Study

The study is based on the premise that measuring and minimizing the impacts of legislation on the courts will aid in preserving the courts' ability to keep pace with their growing workload, ensuring adequate funding of the courts, improving the quality of statutory enactments, and improving the administration of justice.

The study has two parts – one that looks at a substantive law change in the form of the Negotiable Instruments Act, 1881 (further N I Act) with the amendments in 2002, and the other on a proposed procedural change under the Criminal Procedure Act, wherein the statements of witnesses are to be recorded in front of a Magistrate so that the problems of witnesses turning hostile and its effect on delays can be minimized.

The study in the course of its development recognized the following:

1. A different methodology is required for criminal and civil cases.
2. A different methodology is also required for procedural law change and substantive law change. The former has the benefit of using actual

case load data of the particular law for which certain procedural amendments are sought.

3. There are two approaches that are available in general – forecasting based on macro level data and developing litigation models (behavioural or perception models), with a game theoretical approach.

If one reads these three points together, and the broad recommendations of the study, what emerges is that, for any substantive law change, while a micro based approach is more appropriate for civil cases (as the individual decision based on a host of factors, to litigate or not to litigate are important) for criminal cases the method to follow is a normative one based on the realization that a certain number of criminal cases are bound to occur in a society. On the other hand for procedural law change, forecasting the effect of any change is based on the actual trend of case flows.

However, the study recognizes a host of variables, behavioural and related to the judiciary that needs to be collected. Such data is presently unavailable, making the process less robust and therefore prone to error. In this regard the study suggests a variety of variables that needs to be collected and their importance to carry out any judicial impact assessment.

Nevertheless, the most important conclusion that the study reaches and also demonstrates is that while any impact assessment for the cases under section 138 of the Negotiable Instruments Act, could have been incorrect if done solely based on the inflow of cases of similar types, the same assessment can be done for the proposed change in Section 161 of the Criminal Procedure Act. This is in conformity with the consensus in the USA that the process is feasible in some selected instances only. Therefore Judicial Impact Assessment need not necessarily be possible for every new law made.

Finally the study wishes to make the commission recognize that this process involves a substantial effort and a dedicated office and staff, who need to collect data on a wide variety of variables on a sustained basis. A substantial period is of essence as economic analysis of this type hinges on time series data and the period needs to be sufficiently long, not a few years.

When citizens internalize the respect for law (thereby internalizing their behavior owing to the consequences of a law), "pronouncement of a new law can have an expressive effect that causes behaviour to jump to a new equilibrium. Given appropriate internalization, legal expression changes behaviour dramatically with little state expenditure".[3]

Economics treats individuals as rational human beings. This is akin to the 'bad man' without respect for law, of Oliver Wendell Holmes. The law will be broken if the benefits of breaking the law is higher than the costs of conforming to it, including the risk of punishment. However society is also made up of good citizens for whom law is a guide and not a constraint. Therefore it is at times a mistake to make laws only for such 'bad man'. Any legislation should also take into account the fact that the response of good citizens also determines the effects of that legislation.

In effect reckless expansionary policy of business by some business houses without incurring costs like those associated with proper verification procedure led to faulty issuances of cheque by both kinds of actors – bad people and good citizens. When law is made keeping only the bad people in mind, enforcement built in is inevitable costly. Therefore generalization of the laws and its impact is not possible.

[3] Cooter, Robert, (2000), "Do Good Laws make Good Citizens: An Economic Analysis of Internalized Norms", Virginia Law Review, Volume 86, No. 8, November 2000, pp. 1577-1601.

When a court adjudicates in a common law framework (like in India), it performs two functions – dispute resolution and law making. The first function can be modelled as a non-cooperative game (a negligible proportion of cases are settled in countries like India) wherein the social harm and cost of avoiding the harm is balanced by law in the courts (the social harm and cost is externalized). In the process the second function of governing society is performed and the demand for litigation is thereby affected. Of course in this the initial legal entitlements matter.

Demand for litigation can be explained through behavioural theory in economics which treats laws, like prices, as incentives for behaviour. In a civil dispute therefore, the evolution of law is either idea-driven or market-driven. Priest (1984) argued that litigant's behaviour reacts to changes in the doctrine and therefore the evolution of law is idea-driven. If the dispute could have been settled by bargaining, the resolution would then have been provided by the market. And therefore the Coase theorem, which states that the legal entitlements would have been allocated efficiently by the market irrespective of the initial allocation, would have been valid. Given the low level of settlement rates in India and the assumption that the dispute occur between strangers, we rule out bargaining as well as the possibility that prices will convey information to the parties.

On the other hand, inefficient doctrines that allocate legal entitlements ambiguously is intensively litigated, making the law evolve towards efficiency whether or not the courts choose efficiency as a conscious goal. Thus doctrines react to changes in litigation and litigation is a market phenomenon and thus is market-driven (Cooter, 1987; Priest, 1977).

Judicial impact assessment cannot be seen in the narrow confines of getting the legislature to sign on to additional resource allocation, whenever a new law is passed. Improving the administration of justice is required and this calls for a multi-pronged strategy and approach. The first concerns court strength. Second

is judicial or court productivity, and the third, court information technology systems particularly in reference to access to justice. The strength of a court essentially pertains to sufficient judicial staffing, although non-judicial staff and their skill sets are equally important factors. The main question pertains to the efficacy of enhancing legal competency as purely a supply side solution to clearing pending cases, or whether improvements in infrastructure and administration are required to improve productivity. Court productivity enhancements can come about through a variety of approaches. The first is judicial education (through training and continuing education) as a way of increasing judicial efficiency. A second is better management of court dockets, a central aspect of any judicial reform initiative. Alternate dispute resolution (ADR) mechanisms, which if successfully developed and implemented, are important to reduce the burden on court dockets. In addition to ADR, back office court functions performed by non-legal staff, such as process serving agencies, also need to be reformed. A final component of the reform process is enhancing non-legal staff competence to ensure that they keep pace with their judicial counterparts. Reforms in court administrative governance are associated with training of non-judicial staff, better human resource practices, workforce planning, and infrastructure planning. Closely associated with case-flow management practices remains the issue of court information systems, and particularly the use of information technology (IT) by developing or modifying case management information technology systems for the courts. This leads to simplified, harmonized, and transparent functionalities through which cases proceed to their logical conclusion. Enhancing IT capabilities of both the workforce as well as the courts helps to usher in transparency in processes and court information dissemination.

Developing a Methodology for Procedural Law Change – Case Study of Code of Criminal Procedure, 1973

This study seeks to develop a methodology for determining judicial impact assessments as distinct from suggesting any method (which ought to be full proof) in making an impact assessment. The reason for this distinction is simple. Since the exercise is primarily in the realm of predicting or forecasting future workloads, there can be more than one scenario in the ways the procedural or substantive law change could span out. The methodology delineates the possible approaches that need to be taken. The data is used to illustrate the methodology.

In order to develop a methodology, and understand the judicial impact of any legislation, there are two broad approaches available. The first involves taking macro aggregates as 'variables' in the model and then running an empirical test or regression analysis so as to demonstrate the correlation at specified significance levels as well as the tightness of the model. Thereafter the model is used for forecasting. The other approach is to develop a litigation model at a micro or individual level and then aggregate it using variables that are endogenous.

While both the approaches are useful, their applicability differs. The macro approach is more suitable in assessing the impact on the judiciary of a procedural law change. If the purpose of the exercise is to develop a methodology for assessing the impact of a new legislation or substantive law changes, it is better to adopt a micro based approach.

Any methodology for assessing the impact on judicial workload due to a procedural law change or enactment of any substantive law would therefore require modelling techniques. The basis, however, remains the first principle of demand and supply. The modelling techniques help one develop various scenarios that determine the demand and supply of court resources, either using a macro or a micro approach.

Demand for court resources, and any calculation towards it is based on the assumption that people go to court because they have an expectation of a favourable outcome, over and above the fact that the transaction costs of resolving the dispute is high outside of the court. In other words, transaction cost is not the sole reason why people go to court.

If the law exists, it is unambiguous and seeks to lower the net benefit of the offender (who becomes the defendant once the suit is filed) by either raising the cost of partaking in the activity higher or lowering the benefit from doing so. This is based on an assumption that the law ultimately aims to change people's behaviour against committing certain kinds of activities, which are deemed to be bad and therefore, illegal in the eyes of the State,

This assumption also applies to criminal activities and suits filed under the criminal jurisdiction (where the prosecution is done by the State on behalf of the victim). If the objective of any law is to provide a deterrent to criminal or unlawful activities and thus seek to change the behaviour of its citizens, and if the implementation of laws were easy, we should end up with a crime free society. However a crime free society is extremely rare. This is not because a certain percentage of its citizens are always criminally inclined and others are not. Societal pressures, adverse situations, and perverse incentives along with ambiguous laws or faulty implementation of the same, promote criminal activities. The law, if unambiguous, seeks to minimize the percentage of such people committing unlawful activities.

This, therefore, means that there are some benefits that occur to the perpetrator of a crime (excluding some that is inevitable, like honour killings). And the sole purpose of the law is to lower the net benefits (minus costs) of the offender.

Over and above these are civil disputes that necessarily occur in the process of doing business or transactions or even in family matters.

However, in the process, the dispensation of justice can be quite further away in time which decreases the deterrence aspect. This is very important as in India the conviction rate in criminal cases is extremely low (one in three cases roughly). The more time it takes to dispense justice, the waiting time for the victim increases, the benefits get diluted by a discounted factor and the quality of evidence gets weaker. This delay primarily occurs due to the existence of court congestion. In our models, court congestion, which brings about a disutility to the victim of the offence, is very important and the effects can be quite complex too. For example, increasing the conviction rate should lead to greater deterrence by the offenders on one hand and on the other, would lead to greater institution of cases by the victims (who were hitherto unwilling to come forward). This will lead to further congestion and the consequent time lag would increase the 'net benefit' of the offender and resulting in increasing the number of crimes committed.

While calculating the impact of an operational change, the biggest advantage is the available of trend data which is particular to the law in question. In other words, the behavioural pattern can be skipped as actual case load data is available. Nevertheless, one need to fit them into a model and then if the model is tight and results significant, the same model can be used to predict or forecast the independent variable in order to calculate the impending cost of the procedural law change. Thus while building a model taking into aspect the micro aspects is more challenging, it is not always necessary.

Amendments to the Code of Criminal Procedure, 1973

As mentioned in the previous chapter, we look at two case studies for the impact assessment on the judiciary. The first, which is dealt with in this chapter, pertains to a proposed procedural change in the Code of Criminal Procedure, 1973.

In India, the definition of a criminal offence and the quantum of punishment for the same are laid down in the Indian Penal Code, 1860 (IPC). The Code of Criminal Procedure, 1973 (CrPC) provides the procedural mechanism for investigation and trial of offences under the IPC and other laws.

In particular, the proposed amendment in the Code of Criminal Procedure, 1973 pertains to Section 161, which deals with the examination of witnesses during investigation by Police and recording of statements before a Magistrate, for offences attracting a sentence of imprisonment of seven years or more. This proposed change is intended to prevent the practice of witnesses turning hostile that added to the delay in the trial procedure. The proposed change makes it mandatory for a witness to sign statements made to the police. Material witnesses in heinous offences are to be produced before a magistrate for recording of statement.

These amendments seek to improve the existing criminal justice system in the country, which is besieged not only by huge pendency of criminal cases and inordinate delay in their disposal, but also by way of very low rate of conviction in cases involving serious crimes.

It is not that this provision is presently unavailable to the investing agency – the police. Being not mandatory, it is however, seldom used. Yet, the incidents of witness turning hostile are rampant. The proposed change seeks to make it mandatory. This would, however, mean additional workload for the Magistrates, who presently are the most overburdened category in the judicial system. So it is necessary to understand the additional requirement of Magistrates.

Data

For this data is required. In an ideal state, the data required would be:

A. The percentage of witness that turns hostile in serious crimes,
B. The average number of witnesses per case,
C. The average time line for the various milestones within a case as achieved,
D. Institution of serious crimes in the last 15 years for every state/Union territory,
E. Disposal of serious crimes in the last 15 years for every state/Union territory,
F. Pendency of serious crimes in the last 15 years for every state/Union territory,
G. Working Strength of Session Judges dealing with trial of serious crimes in the last 15 years,
H. The number of Crimes registered with the Police for every state/Union territory for the last 15 years.

Among these data for A, B C and G were not available. For the rest, data was not available, but for a much shorter period of time. Yet, the data on the average number of witnesses per case is crucial. So, instead of the cases, a survey of the Police Records was undertaken so as to estimate the number of witnesses examined for serious offences by the Police in the course of their investigation, and which they would potentially take to the Magistrates after the procedural change is affected. For the other variables, the data used are not hypothetical and are either in the public domain or has been gathered for the purpose of the study. Yet they have been used essentially for the purpose of illustration as appropriate data was unavailable. For example, any time series analysis ideally requires data points that give 12 or more degrees of freedom but the benefit of such long time series was unavailable. Nevertheless, the data is used to illustrate an actual regression analysis, which gives significant results to only indicate causality between dependent and independent variables (although it might not necessarily be true). Then the model is used to predict the workload change.

We first look at the process maps in both civil and criminal cases, and the process needs to be set so that every milestone can be calculated.

Figure 1: Civil Process Map

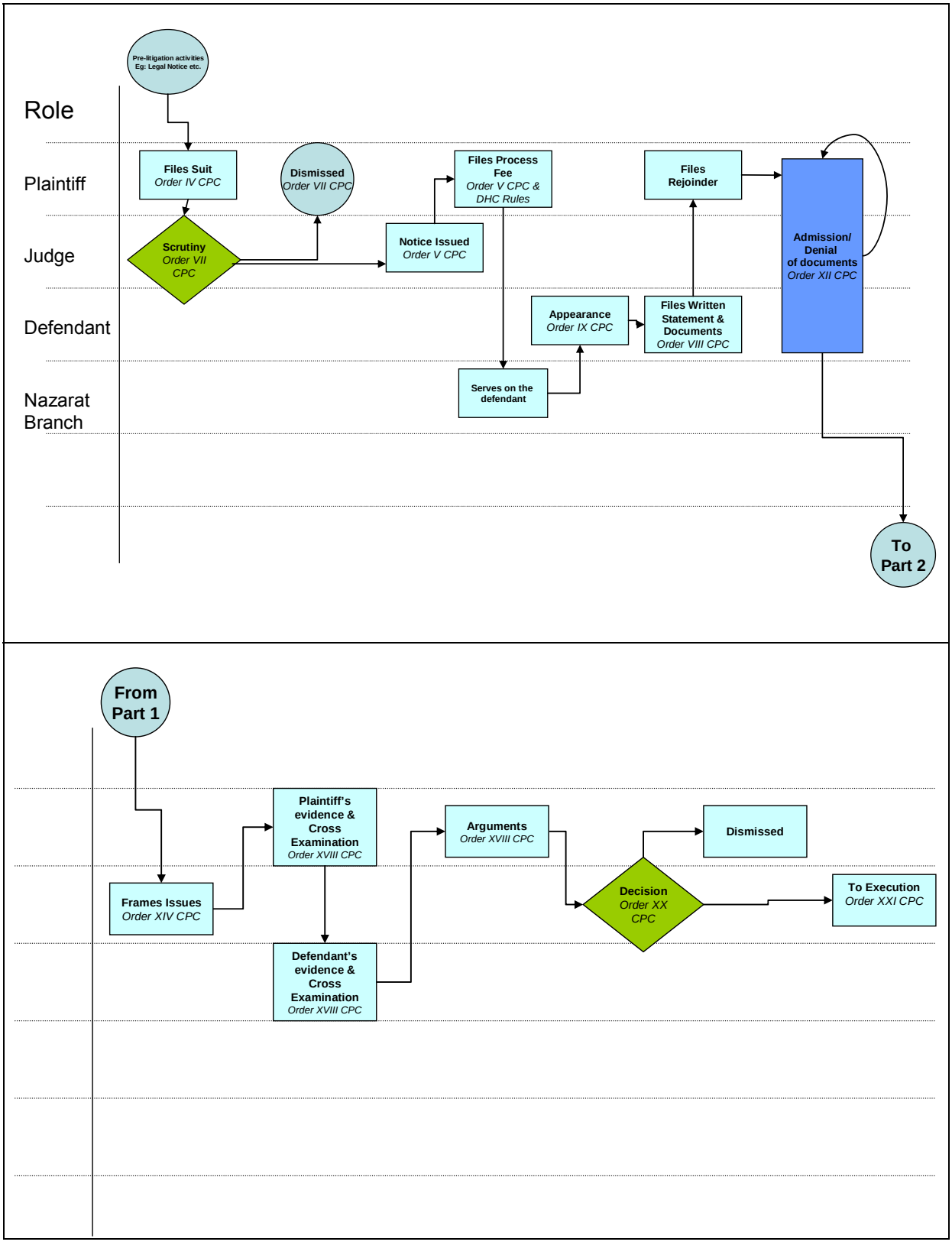
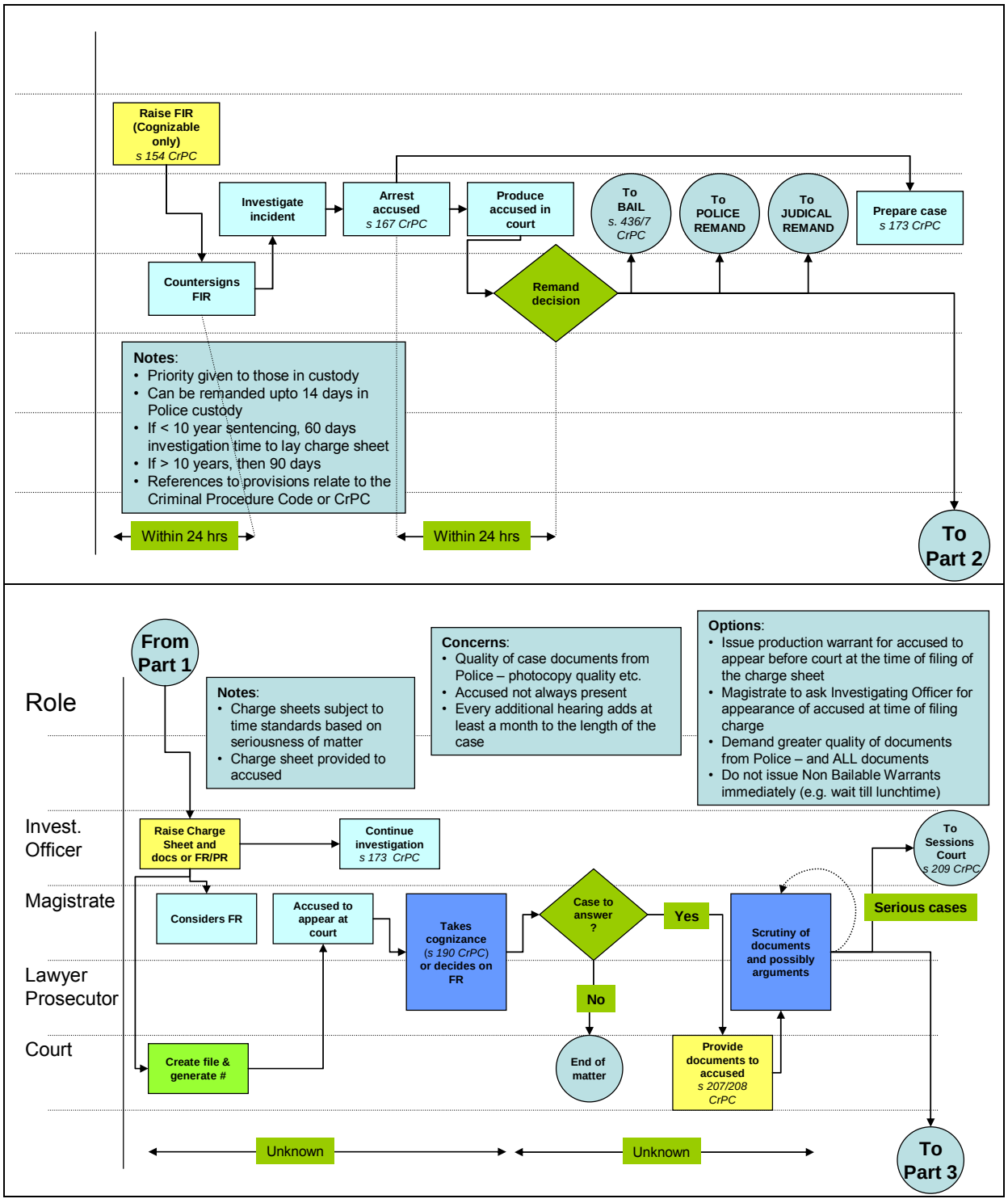
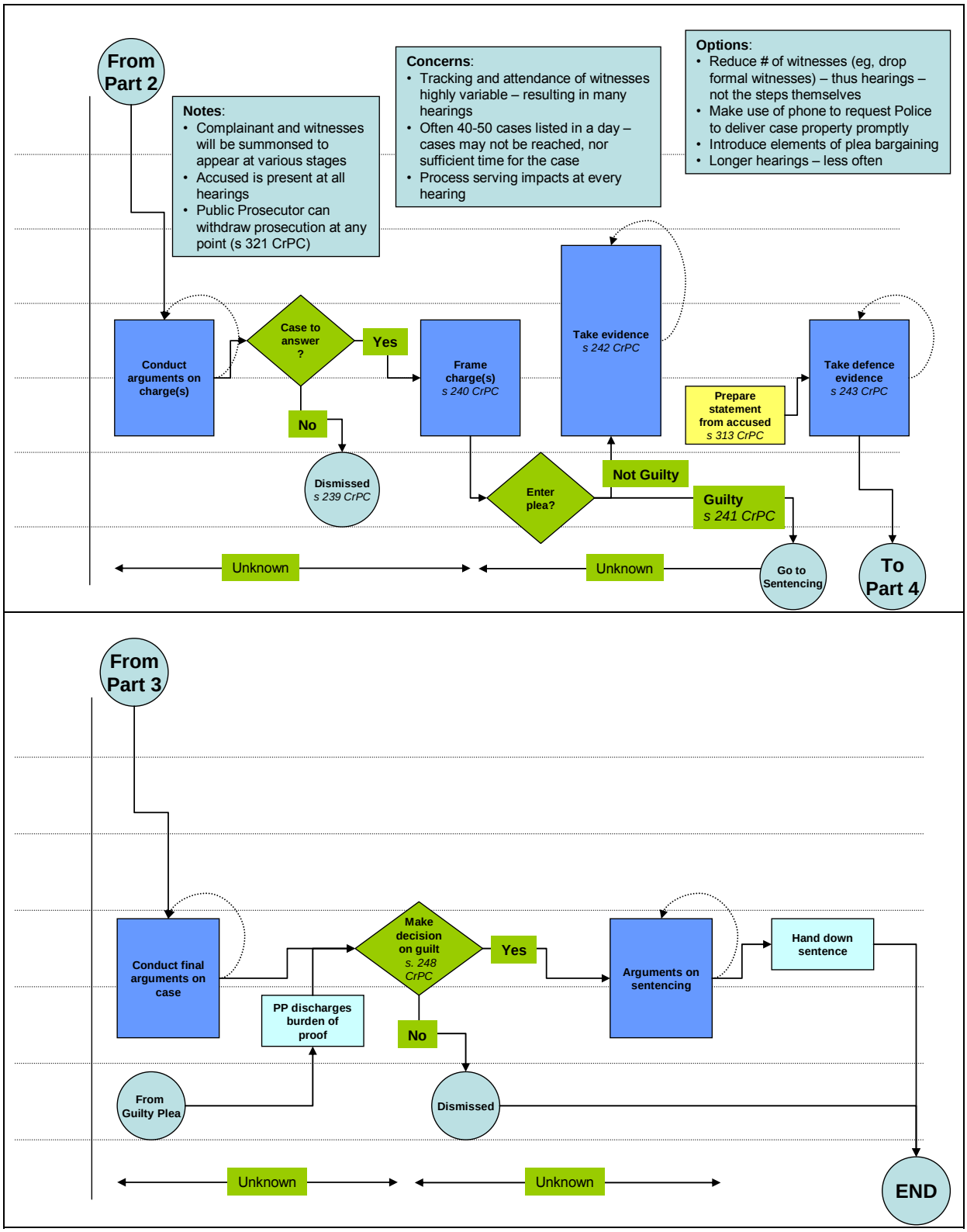


Figure 2: Magistrates Court Criminal Sub-Process




From Part 2
Notes:
• Complainant and witnesses will be summonsed to appear at various stages
• Accused is present at all hearings
• Public Prosecutor can withdraw prosecution at any point (s 321 CrPC)
Concerns:
• Tracking and attendance of witnesses highly variable – resulting in many hearings
• Often 40-50 cases listed in a day – cases may not be reached, nor sufficient time for the case
• Process serving impacts at every hearing
Options:
• Reduce # of witnesses (eg, drop formal witnesses) – thus hearings – not the steps themselves
• Make use of phone to request Police to deliver case property promptly
• Introduce elements of plea bargaining
• Longer hearings – less often
Conduct arguments on charge(s)
Case to answer ?
Yes
No
Dismissed s 239 CrPC
Frame charge(s) s 240 CrPC
Take evidence s 242 CrPC
Prepare statement from accused s 313 CrPC
Take defence evidence s 243 CrPC
Enter plea?
Not Guilty
Guilty s 241 CrPC
Unknown
Unknown
Go to Sentencing
To Part 4
From Part 3
Conduct final arguments on case
Make decision on guilt s. 248 CrPC
Yes
No
PP discharges burden of proof
From Guilty Plea
Dismissed
Arguments on sentencing
Hand down sentence
Unknown
Unknown
END

The Model

As discussed before, there is a certain amount of serious crimes that tend to take place in any country, and which can be minimized if incentives of committing the crime are decreased. In other words, the net benefits derived by the offenders can be changed by making the law less ambiguous, making the implementation tighter and justice dispensation faster.

We begin with the assumption that the law is fairly unambiguous as it exists. Therefore, the court congestion and the implementation mechanism tend to affect the behavioural pattern of the offenders.

Therefore, we have a normative approach for serious crimes, in the sense that a minimum level of crimes will be committed and a First Information Report (FIR) of the same will be reported by the police. This trend of crimes varies from country to country and also from state to state. This then is our first variable CR or 'Crimes Reported'. Consequently CR_t denotes the crimes reported in period 't'.

Not all reported cases end up in court, as a percentage of such cases are charge sheeted and admitted in courts. So the level of cases in courts should also be an indicator. As noted above, the court congestion levels also affect the incidence of crime. Here we use the pending cases as an indicator of court congestion and is the second independent variable. This is denoted by PC_t for the period t.

In place of pending cases we can also use the inventory stock of cases or a pendency control index, which is defined as the ratio of pending cases to the current Disposal Rate. This ratio when multiplied by 12 (the no of months in a year) gives a likely timeframe of the number of months that are required to finish the pending cases at this current disposal rate on a stand alone basis. One can also use a yearly clearance rate, which indicates annual disposal as a ratio of institution. When the rate is below 1, it indicates an addition to backlog. Finally,

one can also define and use a congestion ratio, which is pendency at the beginning of the year, plus institution to disposal ratio.

However, we use total pending cases for simplicity and also since the purpose of this exercise is to develop a methodology and therefore the statistical exercise is purely illustrative in nature.

The model can be written as follows:

$$D_{t+1} = \alpha + \beta CR_t + \gamma PC_t \quad (1)$$

Where,

D_{t+1} = Fresh Institution of Cases in period (t + 1) or the next period,

CR_t = Crimes reported in period t.

PC_t = Pending Cases in period t.

α, β, γ are all constants.

The results for Delhi State are given below.

Source	SS	df	MS	Number of obs = 6
				F(2, 3) = 22.25
Model	6646579.71	2	3323289.86	Prob > F = 0.0159
Residual	448162.289	3	149387.43	R-squared = 0.9368
				Adj R-squared = 0.8947
Total	7094742	5	1418948.4	Root MSE = 386.51

D_{t+1}	Coef.	Std. Err.	T	P>|t|	[95% Conf.	Interval]
CR_t	.052499	.0224308	2.34	0.101	-.0188857	.1238837
PC_t	.6319051	.0947508	6.67	0.007	.3303656	.9334445
Constant	-13288.94	5516.511	-2.41	0.095	-30844.93	4267.063

Clearly the results are very encouraging as both the R^2 and the adjusted R^2 are quite high, the t-statistic significant and both the coefficients have the right sign as higher pending cases will mean discounted justice given a static level of disposal rate and will therefore encourage more crimes to be committed. On the other hand, higher reported crimes will mean a higher incidence of cases coming to court.

It is again reiterated that the results are illustrative, given the inadequate number of observations. It must also be mentioned that the data are for the years 2000 to 2006, that is of seven years. The crimes reported data or data on CR are from *Crimes in India* and are all India figures. The pending case data as well as the fresh institution case data is for the state of Delhi. These figures were obtained from the Delhi District and Subordinate Courts. They pertain to only serious crimes handled in the Sessions Court. Particularly they pertain to cases under section 302 (murder) and other sessions trials but excludes corruption cases, criminal revisions and criminal appeals.

Again, different courts are characterised by different congestion levels and therefore the demand for litigation or the supply of infrastructure (through more judges) has different effects in different jurisdictions. Hazra and Micevska (2004) demonstrate that in India, judiciaries differ with respect to the nature and the level of congestion and as a result, the general “one-size-fits-all” remedy for observed deficiencies in the court system is inherently flawed.

In other words the encouraging result needs to be seen with the caveat that such results may not be obtainable for al the states in India.

Now, in the light of the results, the model can be re-written as follows:

$$D_{t+1} = -13288.94 + (0.05)\, CR_t + (0.63)\, PC_t \qquad (2)$$

Using this model we now try to forecast the fresh institution of cases in the next three years for the State of Delhi.

The model predicts that the number of fresh cases pertaining to serious crimes for the State of Delhi will be 5362, 5575, and 5787 cases for the next three years.

If we take the second year's predicted new case load as the mean value, we now need to predict the number of magistrates that will be required in Delhi and the corresponding costs inclusive of everything for securing that new additional judge numbers.

However this also means knowing the number of witnesses per case. In this regard we conducted an extensive survey of Police Stations in Bhubaneswar, Orissa and in Vishakapatnam, Andhra Pradesh. The teams visited Police Stations in metropolitan areas as well as in interior tribal, forested scheduled areas. The aim of the survey was to study the probable impact of the proposed amendment to the exiting procedural legislation - the Code of Criminal Procedure (Amendment) Bill, 2006 in the judiciary while evaluating the status of pending cases with respect to the offences tried by court of sessions, the delays caused during the case proceeding and the causes contributing to such delays. The study also had its object in observing the burden on the courts and whether it would be plausible / imperative to further burden the system by rendering the statement recording under Section 164 CrPC mandatory.

The two survey teams looked at 'Police Diaries' for a total of 197 cases and it was found that the cumulative figure of witnesses examined was 2048 implying roughly 10.39 witnesses per case. The teams also used the DELPHI method to estimate the time that would be required for the recording of statements by the Magistrates for a single witness. While the median value for Orissa was 25 minutes, for Andhra Pradesh it was 28 minutes.

The survey also covered the court of Sessions Judge, Khurda situated near Bhubaneswar as well as the subordinate courts. The method of random sampling was adopted by the teams. In total 292 case records were verified which consisted of 18 disposed and 274 pending cases instituted over a period ranging from 1981 to 2007. In Andhra, at the Sessions court in Vishakapatnam the corresponding figure was 286 case records, of which 17 were disposed.

The process followed at both places is as follows. After the FIR is registered and submitted to the concerned Magistrate Court, it is given a Crime Number. After a charge sheet is filed, the case is numbered as PRC. When all the documents and a comprehensive charge sheet is available before the concerned Magistrate, the record is perused and the case is sent to Sessions Court, which is known as 'Committal'. After the cases are committed, the Sessions Court calls upon the prosecution to start presenting evidence along with the witnesses.

The enormous delay has been caused due to non-appearance of the accused before the Magistrate Court at the various stages. Even after the Sessions Court is seized of the case, the summons to the accused is not being served in time. Because of the non-appearance of the accused even at the Sessions stage, the cases are being delayed. Thus, the non-execution of the Non-bailable warrants (NBWs) at the stage when the case is pending before the Magistrate and non-service of summons when the case is pending before the Sessions Court is one of the factors causing delay.

While perusing the concerned record, it has been noticed that a preliminary charge sheet is being filed by the police and a PRC number is given. The Court is returning many of these charge sheets as being technically defective and directing the police to file other comprehensive documents. The delay in filing comprehensive charge sheet along with all the documents and presence of the accused is causing delay at the stage of committal. It was found that after the PRC number is given, it was taking nearly one year for the committal. After it is

committed and prosecution begins presenting its evidence, it is taking 6 months for arguments to begin. The investigation after registration of FIR is also taking nearly one year.

The team in Andhra Pradesh reported that 90% of the cases registered under the Narcotics Drugs and Psychotropic Substances Act (NDPS) have ended in acquittal quickly as the mediators have been turning hostile in large numbers. The rural areas of Vishakapatnam have witnessed long delays at the committal stage, especially when the cases are registered under Arms Act.

Coming back to our model, if on an average 5575 fresh cases every year are filed in the Delhi Courts in the next three years, and if at an average 26 minutes are taken per witness with 10.39 witnesses per case, it works out to be roughly 270 minutes or 5.5 hours per case. This is roughly one day's judicial time for a magistrate. Assuming the all India standard of 210 days in a year, it works out a requirement of 26.55 judges for 5575 new institutions for Delhi.

For the year 2006, the expenditure in Delhi's Criminal Courts was as follows:

Salary	-	Rs. 60,186,542
Overtime Allowances	-	Rs. 38,308
Travel Expenses	-	Rs. 690,027
Office Expenses	-	Rs. 66,530,870
Other Charges	-	Rs. 5,499,910
Medical Treatment	-	Rs. 4,515,608
Total	-	Rs. 137,461,265

There were a total of 151 Judges on the criminal side, and this expenditure includes all the support facilities too. There per judge, the total expenditure roughly works out to be Rs. 910,340.

For 26.55 judges this works out to Rs. 24,169,514 and for 27 judges (if we were to round off) it works out to Rs. 24,579,167. In other words Rs. 2.41 to Rs. 2.45 crore needs to be additionally allotted to Delhi Judiciary if the proposed amendment to the Code of Criminal Procedure, 1973 pertaining to Section 161, which deals with the examination of witnesses during investigation by Police and recording of statements before a Magistrate, for offences attracting a sentence of imprisonment of seven years or more, is to be implemented.

It must also be clearly mentioned that, in the scenario that the proposed changes takes place and this additional judge numbers are not in place, then the heavily burdened judiciary in the criminal side will be further burdened. From 2001, the disposal rate of the Session's court has been below the fresh institutions; as a result the pending cases have increased steadily. In 2001, the pending cases were 7,344, increased to 7,793 in 2002, to 8,150 in 2003, to 8,122 in 2004, to 9,384 in2005 and to 12,598 in 2006. The Magisterial courts are further and heavily strained. The absolute number of cases pending increased from 200,010 at the beginning of 2000 to 518,911 at the end of 2006, an increase of 160 % in seven years.

Therefore, if the additional resources and judges are not put in place before the proposed amendments takes effect, it will lead to further delays, which will only increase the incidence of crimes (as punishment is further off in future) and therefore lead to more registered crimes, more cases in courts and further strain on the judiciary. The laudable aim of the proposed amendment will be lost.

It must also be mentioned that witness can still turn hostile and in such scenarios the power of the judge to summarily try the hostile witness for perjury needs to be there. Otherwise, there might be a flood of perjury cases and the courts will be ill equipped to handle them. This aspect has not been deliberately factored in as the original proposal for the proposed amendment to the Criminal Procedure Act also proposed to provide the power of summary trial for the hostile witness.

Developing Methodology for Substantial Law Change – Case Study of the Negotiable Instruments Act, 1881

In the process of developing a methodology, and therefore a model to understand the impact of any legislation which is substantive in nature the approach using litigation model at a micro or individual level and then aggregating it using variables that are endogenous is more suitable.

Now, what is a law and why have a law? A law is a sanction that is a) legally tenable, b) guaranteed by the State, and c) backed by threats. The reason for enacting a law by the State is to bring about a change in the behavioural pattern of its subjects (through a legally tenable sanction backed by threats). Thus the model has to be a behavioural model, which sees the impact of the structural change sought to be brought out. If we were purely to find existing laws that can act as proxy variables, different types/classification of cases will exhibit different characteristics and goodness of fit, resulting in inappropriate model formulation.

The literature on litigation and court congestion was surveyed extensively. The literature very clearly focuses on the fact that the litigation variables are primarily endogenous. Indeed, the early and very influential study by Zeisel, Kalven, and Buchholz (1959) has been largely criticized for its failure to account for endogeneity of litigation. That is, the authors presumed that the rate that disputes were brought to litigation was exogenous with respect to court congestion. And court congestion impacts the behavioural aspects of both the plaintiff and defendant in terms of filing a suit (going for litigation) or “committing the crime” in the first place. Alternatively, as noted by Priest (1989), the extent of congestion could have an important influence on the motivations of the parties to settle or litigate a dispute. Indeed, the endogeneity of the litigation variables was

confirmed by the Hausman test (which we tested preliminarily on the basis of country wide data on pendency by each state and court congestion) and they were also instrumented for use in the model by Hazra and Micevska (2004).

As a result we concentrated here on building a litigation model from the demand side. Litigants are conscious of congestion and integrate it into their utility function. Court congestion affects the plaintiff's decision whether to file a lawsuit, and therefore starting with an individual litigant we build a behavioural model to arrive at a methodology. The approach adopted has its basis in game theory, and we begin with an individual deciding to commit a crime and then if the crime is committed the victim decides to go to court or not. In case a suit is filed then court congestion, filing fees, and the degree of award along with the costs determine the Nash equilibrium. Therefore the next step is to identify the marginal litigant, develop a model and test for the stability of the equilibriums (there can be multiple equilibriums).

The study therefore approaches the problem from the demand side as should be the case. Plaintiff's filling decision is based on the cost of doing so being less than the expected benefit. A model is suitably built. The effects are complex. Raising the probability that the plaintiff will win can induce more cases and therefore further court congestion. Raising the recovery induces the defendant to commit fewer illegal acts since it increases the expected trial payment that the defendant will pay, but may reduce the probability of being sued and hence the probability of paying the award. Here we are interested in changing the law so as to increase the probability of being sued. Another implication of the perception models is that litigation declines with an increase in filing fees.

Crimes can be deterred, activities can be curtailed, and precaution can be induced by increasing the exposure to the liability or punishment. For example the criminal liability on N I Act. Yet, litigation is a zero sum game.

The Model – Explaining the Variables and the Assumptions

The literature on litigation model has its theoretical basis in the works of Shavell (1982), Cooter and Rubinfeld (1989), Cooter and Ulen (2004), and more recently Chappe (forthcoming). However, none of these works is backed by empirical studies.[4]

Perception models in the literature identify three immediate causes of the filing of legal complaints: the cost of filing a complaint, the expected value of the claim and the existence of court congestion. Filing a claim should increase when the cost of filing a complaint decreases. Filing a claim should also increase when the expected value of the claim increases. Finally, filing a claim should decrease when court congestion increases as the delay between suit and trial, caused by increased court congestion, reduces the present value of the expected judgment (Priest, 1989). Also, the plaintiff's chances of winning are reduced since delay leads to deterioration in the quality of evidence Vereeck and Mühl (2000). On the other hand, delay has the opposite effects on the defendant's chances of winning the suit. The expected benefit of asserting a legal claim consists of a favourable court judgment. A risk-neutral plaintiff will bring suit if, and only if, his/her estimate of the expected benefit of the trial judgment exceeds his/her estimate of the expected legal costs including the congestion costs he/she will bear. So court congestion deters the plaintiff.

The model approaches the problem from the demand side. Litigants are conscious of congestion and integrate it into their utility function. A particular

[4] The empirical studies have concentrated on the existence of congestion and delays. Zeisel, Kalven, and Buchholz (1959) studied delays in the New York City civil and criminal courts, Priest (1989) presents empirical evidence of delay in the Cook County, Illinois (Chicago) courts, Spurr (1997) used two data sets (medical malpractice claims filed in the Wayne County Circuit Court between 1978 and 1990 and claims for personal injuries filed in various courts in the First Judicial Department of New York State between 1974 and 1984), Spurr (2000) used two data sets (medical malpractice claims filed in Michigan between 1984 and 1989 and claims for personal injuries filed in various courts in the First Judicial Department of New York State between 1974 and 1984) to evaluate court congestion and, more recently, Hazra and Micevska (2004) explore the problem of court congestion in Indian lower courts. Jiang (2004) analyzes court delay in Chinese courts.

harm is committed by a person. The victim is the potential plaintiff, and the person committing the harm is the defendant if charges are pressed. For example in a case under Section 138 of the Negotiable Instruments Act, person A owes money to person B and writes a negotiable instrument (cheque) for the amount. The cheque is dishonoured. Person B decides to file a suit in court in order to recover the money. So person B, the victim, becomes the plaintiff and person A the defendant. In our model the behaviour or decision of the plaintiff is affected by endogenous variables related to the value of the claim, the court fees (in a civil suit stamp duties depending on the value of the claim has to be paid), the court congestion, and the litigation (lawyer's) cost (also a function of waiting time as in India lawyers are typically paid by the number of appearances).

Clearly the value of the claim is the benefit, while stamp duties, court congestion and lawyer's fees are the costs. In the benefit stream one can add the degree of the award – whether costs are awarded by the court and whether interest charges or transferable penalties (on the defendant) are awarded by the court. On the other hand, congestion or the waiting time brings about a discount to the net present value of the claim and therefore a method of discounting needs to be built in.

Therefore the plaintiff will press charges if the expected benefits outweigh the costs. The expected benefits and costs are determined by endogenous factors. However, in the process what is of utmost importance is to define the marginal litigant. Since the opportunity cost of the time spent in courts as a litigant is not the same across litigants, (for example it is usually very high for poorer sections that have subsistence income) it is this marginal litigant which defines the equilibrium.

The expectation of the plaintiff is partly based on the particulars of the case and partly on the law. The latter define the burden of proof, the legal standard of

evidence, the scope of damages claimed (if any, and which varies according to the type of suit), and the procedural laws.

A case under the Section 138 of the Negotiable Instruments Act prima facie assumes that any dishonouring of a negotiable instrument has been deliberate and therefore the defendant's behaviour is endogenous. So the law would aim to achieve two things – a) making the marginal plaintiff (victim) choose to go to court by making the process as certain as possible, making the law less ambiguous and also providing incentives to the marginal plaintiff to go to court by decreasing filing costs (a move from civil to criminal jurisdiction for example); and b) at the same time decreasing the benefit derived by the defendant (as the payment is later) by making the penalties stiffer, and making the law stringent (if a firm is the defaulter, holding the top brass responsible has different cost implications for the firm then holding the accountant of the firm responsible).

Very clearly in the model, court congestion and the resulting delays are assumed to play an important role. Chappe (forthcoming) demonstrates that when there is a high level of congestion, the positive impact on the use of a legal system with respect to reducing damages, the plaintiff's probability of prevailing and raising legal costs is much smaller than the impact of congestion itself. The results are consistent with the court congestion hypothesis of Priest (1989) - the effects of delay reduction measures may be offset by a resulting increase in the demand for litigation. This is what the model empirically tries to test at a later stage.

The Model - Mathematical Representation

Ideally, the plaintiff would like to go to court if the person has a reasonable expectation of wining an award which is more than his costs. Let the award be given as 'T', the value of the written cheque. This reasonable expectation is given by parameter '*p*', which is the probability of prevailing, and is drawn from a distribution over the interval [0, 1]. The plaintiff's cumulative probability distribution function over '*p*' is assumed to be *F(p)*. Similarly, the defendant has a

perception, a different perception, about the distribution of '*p*' and this cumulative probability distribution function over '*p*' is given as *G(p)*.

The court transfers 'T' from the defendant to the plaintiff at the end of the trial. Litigation involves costs for both parties, summarized by $C_p(n)$ for the plaintiff and $C_d(n)$ for the defendant. Since this cost is a function of the number of times the lawyer appears in courts, both C_p and C_d are functions of n, the period in which the case gets decided.

The filing fees are represented by *h*. The judicial system is characterized by a given capacity, *K* > 0. Let us denote the total demand for litigation by *D*. The relative proportion of the number of users of the judicial system and the capacity determines the level of congestion. Thus the congestion level is given by the function *Y* = *D* / *K*. We assumed that the decision to litigate depends on three factors – filing fees (*h*), value of the claim (*T*) and the congestion in the courts (*Y*).

Therefore, the plaintiff goes to court if,

$$p\,T > h + C_p(n) + \theta\,(D / K) \qquad (1)$$

We denote the disutility of court congestion to be θ for the plaintiff.

$$\text{or,} \quad p > \{[h + C_p(n)] / T\} + \{\theta / T\} * \{D / K\} \qquad (2)$$

As a result, the total number of suits will be:

$$S = 1 - F(\Lambda) \qquad (3)$$

Where, $\Lambda = \{[h + C_p(n)] / T\} + \{\theta / T\} * \{D / K\}$ denotes the marginal plaintiff.

Having established the marginal plaintiff notionally, we now go back to the initial stage. We started with the situation that the person committing the crime (say dishonouring a cheque of INR 1000) has a choice of doing it or not doing it. Then the victim, depending on the expected benefits and costs decides to go in for litigation or not. The probability of the plaintiff prevailing was *p;* p ~ [0, 1].

Scenario 1: When there is no legislation.

When there is no legislation on a particular crime (say dishonouring a negotiable instrument) then, there is no legal sanction by the State against the commission of the particular act (crime) and therefore no legal threats if the act is committed. In this case p = 0. So, the benefit is zero and less than costs. So the victim will not go to courts. The scenario is stable and quasi-judicial measures would be resorted to by the victims. Thus when there is no law, nobody would go to court and the equilibrium is stable.

This situation will also hold true when the law exists but is with a very low p. Then getting a positive outcome for the plaintiff is very low. Few negligible cases will come to court and the probability *p* of the plaintiff will be close to zero. The few cases that come up can be easily taken care by the judiciary without substantial impact.

Scenario 2: When law exists, and the Courts dispense justice immediately.

This is the scenario with no court congestion. In this case, the marginal plaintiff (victim) will go to court if

$$p\,T > h + C_p(n) \qquad (5)$$

or, Expected benefits > Costs

Note that this follows from (2) as, $\theta = 0$. Moreover, in a criminal liability as is the case with the Negotiable Instruments Act, h = 0.

Now, if the law is unambiguous, as long as costs are less than the benefits, the victim will go to court as justice is dispensed immediately and the benefits accrue immediately. There will however, always be a certain cost of going to court (transactions cost is not zero).

In this case, initially all the victims will go to court, get justice immediately, and therefore the persons committing the crime will have no incentive left to commit the crime as the benefits from committing the crime is negligible, or tends towards zero. The probability of wining for the victim in the court moves towards one.

So, $p \rightarrow 1$; benefits > costs; benefits from committing the crime $\rightarrow 0$; initially everyone goes to court, in the next round nobody commits the crime anymore and, hence, nobody approaches the court; the equilibrium is stable.

This is the ideal situation. When a law is passed, the law is to be designed so as to bring genuine litigation to a definitive end in favour of the prosecution so that the benefits (B) accruing to the law breakers (the person who has written the dishonoured cheque for example) and who becomes the defendant in the process, is minimized and such behaviour is deterred. Then the judiciary assigns a certain number of dedicated courts so as to ensure that $\theta = 0$. In this scenario, the unambiguous law and the backlog free judiciary (the system and process as a whole) together ensures that the probability *p* of the plaintiff moves closer to the value one and simultaneously the benefits B of the defendant declines (like harsher penalties and immediate dispensation of justice).

In this case the work of the judicial impact assessment is to look at the clauses that would attract litigation, look at the potential litigation population, and assign a probability to the percentage of the potential litigants that can become plaintiffs based on litigation rate of similar types of cases and jurisdictions.

Scenario 3: The Law exists. However there is congestion in the courts.

Cheques for various amounts are written at any point in time in a society. As mentioned before, let the amount on a cheque be denoted by T, $T \geq 0$ and let the distribution of these cheques be given by $F(T)$. The person writing the cheque must have enough money in his account so that when the person to whom the cheque has been issued presents the cheque to her bank, her account can be duly credited. If not, the cheque will "bounce" and, if the person to whom the cheque has been issued reports it, the issuer is criminally tried. By reporting the event, the holder of the bounced cheque expects to get back the cheque amount. However, settlement takes time as the courts are already congested.

We are considering the scenario when the law is unambiguous and the issuer of the bounced cheque is successfully prosecuted. Now dispensation of justice is not immediate, although the law exists, is fairly unambiguous and favours the prosecution. So there are benefits out of committing the crime (to the defendant). Also this benefit increases, the further in future the judgment is.

The problem lies in the fact that there is congestion in the courts and the time taken for the case to come up is uncertain. Since the law is unambiguous, the only thing the potential and genuine plaintiff is worried about, is when will the case come to court. The probability that it will come up in court in any given period n, $n \geq 1$, is $(1-p)^{n-1} p$. Once the case is decided, the genuine plaintiff gets back the amount she was supposed to get. The present value of the amount she gets decreases with time and, hence, if the case comes up in period n, the plaintiff gets $\delta^{n-1} T$, $0 < \delta < 1$. Let the plaintiff's court cost be denoted c_p. The plaintiff will go to court if the net benefit to the plaintiff, W_p, of going to court is positive, i.e.,

$$W_p \equiv pT + (1-p)p\delta T + (1-p)^2 p\delta^2 T + ... + (1-p)^{n-1} p\delta^{n-1} T + ... - c_p \geq 0, \qquad (6)$$

which can be written as

$$pT\frac{1}{1-(1-p)\delta} \geq c_p \qquad (7)$$

The important thing to note in (2) is that the plaintiff's decision to go to court depends not only on the expected time of settlement and the cost of going to court, but also on the amount on the cheque. Thus, if the case is settled immediately, i.e., $p=1$, then the plaintiff will go to court only if $T \geq c_p$. Very small denomination bounced cheques will not be taken to court. In general, there is a threshold amount for the cheque, above which the holders of bounced cheques will go to court. Define

$$T_p \equiv c_p \frac{1-(1-p)\delta}{p} \qquad (8)$$

Note that the fraction on the right-hand-side of (3) is equal to 1 when $p=1$, is greater than 1 for all values of $p<1$, and increases as p falls. Alternatively, for all $0<p<1$, $T_p > c_p$ and $\frac{\delta T_p}{\delta p} < 0$. From (2), it follows that for all $T \geq T_p$, a bounced cheque will be reported to the court.

The next question is: when will someone write a cheque that will bounce? The person writing the cheque is supposed to pay an amount T. If the person writes a cheque that will bounce, he may be taken to court. When the case is settled, the person will have to pay the amount T plus an additional personal cost x since it is a criminal offence to write a bounced cheque. The writer of the cheque will bounce a cheque if

$$T \geq p(T+x)+(1-p)p\delta(T+x)+(1-p)^2 p\delta^2(T+x)+..+(1-p)^{n-1}p\delta^{n-1}(T+x)+.., \qquad (9)$$

While the plaintiff loses the more time it takes to get paid, the defendant prefers to pay later rather than sooner. We can re-write (4) as

$$T \geq \frac{px}{(1-p)(1-\delta)} \equiv T_d \qquad (10)$$

with $\frac{\delta T_d}{\delta x} > 0$ and $\frac{\delta T_d}{\delta p} = \frac{x}{(1-\delta)(1-p)^2} > 0$.

Case 1: $T_d \geq T_p$

In this case, the threshold amount for writing bounced cheques is at least as great as the threshold amount for which the holders of bounced cheques are better off going to court. The proportion of bounced cheques written will be given by $1-F(T_d)$ and, since $T_d \geq T_p$, the lowest amount of the bounced cheques is no less than the threshold beyond which the holders of such cheques should file in court. Hence, they will all go to court and the proportion of cases in court will be $1-F(T_d)$.

Case 2: $T_d < T_p$

In this case, the proportion of bouncing cheques written will continue to be $1-F(T_d)$, but not all of them will come to court. In particular, the holders of bounced cheques whose denominations are between $[T_d, T_p)$ will not be presented in court but only those in the interval $[T_p, \infty)$ will be presented. Thus, the court cases will be $1-F(T_p)$.

In general, then, the number of court cases, N, because of this new law will be given by

$$N = 1 - F(\max(T_d, T_p)) \quad (11)$$

If the judges require t days to deal with each case, the total judge-days that the new law demands will be Nt.

Perception models identify two immediate causes of the filing of legal complaints: the cost of filing a complaint and the expected value of the claim. Filing a claim should increase when the cost of filing a complaint decreases. Filing a claim should also increase when the expected value of the claim increases, through an increase in the financial damages awarded or through the probability of prevailing. According to the standard models provisions, governments suspect that raising the filing cost or decreasing the expected award may reduce congestion. But, standard models do not take into account the influence of congestion on litigant decisions (Chappe, forthcoming). The behavioural model clearly depends upon the extent of court congestion, the value of the claim and the filing fees, besides the transactions cost or cost of going to court in terms of lawyer fees, etc. The effects are nevertheless complex. Raising the probability that the plaintiff will win can induce more cases and therefore further court congestion. Raising the recovery induces the defendant to commit fewer illegal acts since it increases the expected trial payment that the defendant will pay, but may reduce the probability of being sued and hence the probability of paying the award. Another implication of the perception models is that litigation declines with an increase in filing fees.

The endeavour here has been to build a perception model and therein demonstrate the methodology.

Case Study of Section 138 of the Negotiable Instruments Act

The Chapter 17 of Negotiable Instruments Act (section 138-142) was inserted by the Banking, Public Financial Institutions and Negotiable Instruments Laws

Amendment Act 1988 with effect from 01/04/1989. Before that, it was originally enacted to consolidate the law that relates to the Bills of Exchange, cheque and promissory notes.

Chapter 17 was purported to be a complete code in itself with respect to the dishonour of cheque and dealt with various aspects of dishonour of cheque. With the insertion of these provisions in the Act the situation certainly improved and the instances of dishonour relatively came down but on account of application of different interpretative techniques by different High Courts on different provisions of the Act it further compounded and complicated the situation.

In order to eradicate the bottlenecks that surfaced in strictly implementing the provisions, Parliament enacted the Negotiable Instruments (Amendment and Miscellaneous Provisions) Act, 2002 (55 of 2002), which intended to plug the loopholes. This amendment Act inserted five new sections from 143 to 147 touching various limbs of the parent Act.

Section 143 intended to achieve speedy trial. By applying provisions of Sections 262 to 265 CrPC it enables a Judicial Magistrate or Magistrate of the First Class to conduct the trial. Then it contemplates summary trial and provides for continuous day-to-day hearing of the case till its conclusion and further stipulates that the trial is to be completed within 6 months from the date of filing of the complaint. It further empowers the Magistrate to pass a sentence for imprisonment for a term not exceeding one year or a fine not exceeding twice the amount of the cheque notwithstanding anything contained to the contrary in CrPC.

Section 144 deals with the service of summons. It would now enable the Magistrate not to follow the elaborate procedure for serving summons as required by Sections 61 to 90 CrPC. The sub-section of this section allows the summons to be served through the speed-post and notified private couriers

besides the normal process. Precisely speaking, this section has brought about the concept of "constructive service". This provision is analogous to the principle incorporated in Section 27 of the General Clauses Act, 1897. According to this where the sender has dispatched the notice by post with correct address written on it, then it can be deemed to have been served on the sender unless he proves that it was really not served. This is the position which got endorsed by the Supreme Court in K. Bhaskaran case. Similarly the Andhra Pradesh High Court in the case of Y. Sriniwasa Reddy held that notice sent through registered post as well as under the certificate of posting was sufficient service. The new provisions took care of these two case-laws. Also on refusal to take delivery of the summons, the Court can declare that the summons to have been duly served.

Section 145 contemplates evidence on affidavit and it appears while bringing this amendment the Government had in its mind the ratio decidendi in the case of BIPS System Ltd. v. State, of Delhi High Court. According to this section the complainant can give his evidence by way of an affidavit and the same may be attached with the complaint and if the accused wants to contradict the contents of the affidavit the complainant may be called for examination.

Then Section 146 provides for presumption to bank memorandums. Earlier whenever a question arose whether there was insufficient funds in the account of the drawer of the cheque, it was conceived to be a matter of evidence being a question of fact and onus was placed on the complainant and for discharging this onus the bank personnel was to be examined. This naturally delayed things. It has therefore been provided that based on the bank slip the Court would presume the fact of dishonour, unless and until such fact is disproved.

Lastly, Section 147 provides for compounding of offences under this Act. There was a difference of opinion in different High Courts on the question whether offences under the provisions of the Act were compoundable or not. The Kerala

High Court's view was in the negative whereas the view of the Andhra Pradesh High Court was in the affirmative. Unfortunately the matter did not reach the Apex Court. Parliament therefore resolved the controversy and provided that offences under the Act would be compoundable.

Besides this Sections 138, 141 and 142 have also been amended by doubling the imprisonment term from one year to two years and the period of time to issue demand notice to the drawer from 15 days to 30 days and by providing immunity from prosecution for nominee director. It has also been provided that the Magistrate can condone the delay in filing the complaint in special and peculiar circumstances.

There has been an enormous rush of cases under Section 138 of the Negotiable Instruments Act after cheque-bouncing was made a penal offence in 1989 followed by the amendment in 2002 providing for summary trial for early resolution of the dispute.

The new amendment in 1989 that inserted the chapter 17 virtually converted the legislation from a civil one into a criminal one. Although the legislators have consciously endeavoured to lessen the burden of proof from the prosecution/complainant side by diverting a major portion to the defense/accused side by nearly reversing the burden still their noble intention is far from being translated into reality. Many factors contribute to the cause. The most effective being the over burdening of the already clogged criminal courts, less man power, inferior management system, the inherent red-tapism, the callousness and insincerity of the legal fraternity and the non-cooperation of the executives.

The research team conducted a random sampling test to observe the impact of legislation on the judiciary and other incidental factors with respect to the proper implementation of the concerned legislation vis-à-vis the hurdles posed by the amendment in the said statute. In Orissa, the court of SDJM Khurda situated at

Bhubaneswar and subordinate courts of judicial magistrates were covered in the study and the method of random sampling was adopted by the team. In total 312 case records were verified which consisted of 38 disposed (all acquittal) and 274 pending cases instituted over a period ranging from 1995 to 2007. In addition, similar data was also collected from Andhra Pradesh and the overall situation in Delhi was looked into. In Andhra Pradesh, the team studied 208 cases of N I Act pertaining to three years - 2002, 2003 and 2004.

In both the States, nearly half of the cases were found to be pending because of non-service of summons and non-execution of Non Bailable Warrants (NBW) upon the accused. The cases under Negotiable Instrument Act are filed by private parties (the nature is civil cases) and hence, the police machinery takes little interest in executing the NBWs. Non-execution of NBWs has lead to frustration of the legal process regarding N I Act cases. These have burdened the docket sheets of the courts. Many cases registered under the N I Act have been closed because the parties have compromised before the Lok Adalat or parties have entered into Out of Court Settlement. Unless the methodology is evolved for quick execution of the NBWs, the accused would be continuing to be absent and the Courts are not able to proceed with the cases.

However, once the trial starts, the process seems to proceed with greater momentum. In all these cases neither any repeat process to the accused has been issued nor has any endeavour to force his appearance been made. As the proceedings like execution of warrant are rare, they have been delayed basically for the legal formalities and time spending techniques. Over and above the reluctance of the Magistrates to issue non-bailable warrants except in rare occasions, the further proceedings to force appearance like proclamation and attachment of properties have not come up in the randomly selected cases in either of the states.

The overall study has also revealed that in each month though in an average 400 to 500 numbers of cases have been filed in each of these courts invoking the concerned provision of law, while only a negligible amount of 7 to 8 cases on an average seem to be disposed. This has led to the backlogs. It is the corporate entities who have contributed to the above problem of choking the overburdened courts to the most who file up to 400 cases on a single day involving bounced cheque of negligible amounts. They are also the most non interested parties in prosecuting these cases, who after filing of the cases seem to be most negligent in following it up, which is revealed from the delays in their cases from one step to another.

Prior to the amendment of the Negotiable Instruments Act, 1881, in the year 1988, the act of dishonour of cheque was treated as an offence under the Indian Penal Code. Since the penal law is based upon the principle of proof beyond doubt, the drawer of a dishonoured cheque was able to easily evade the rigors of punishment by raising flimsy doubts and the drawer of the cheque was left scot-free. *This is akin to the first scenario drawn in the model. Very few people filed a suit if a negotiable instrument was dishonoured and the probability p was close to zero due to the principle of proof beyond doubt.*

The amendments in 1988 and especially in 2002 were comprehensive as it raises the probability p with which the litigant files a suit and also reduces the benefit B, derived by the defendant, by increasing the exposure to the liability or punishment. *This enables us to move to scenario 2.*

However, as seen from the findings of the research team, appearance of the accused has been made almost immediately or very rarely. Most cases have been delayed for non-appearance of the accused. Even in many occasions it has been found that though the accused has appeared in response to the processes immediately but has vanished in the intermediary periods for long gaps of time forcing the magistrates to repeatedly issue warrants to force appearances. The

proceedings like execution of non-bailable warrants were rare. The cases have been delayed basically for the legal formalities and time spending techniques. The further proceedings to force appearance like proclamation and attachment of properties have rarely been used. The cases have lingered on at the preliminary stages in most of the cases. However, once into trial, the cases have proceeded much faster. Again, in most cases, the courts spend a lot of time issuing notices and summoning the accused and when the time comes to deliver the verdict on sentence, the parties reach a compromise and seek compounding of offences.

Thus inherent systemic delays of the judicial system add to the delays and court congestion. In Delhi, under Section 138 of the Negotiable Instruments Act, the institutions in the years 2003, 2004, 2005, 2006 and 2007 were 55,380, 70,649, 95,711, 138,310, and 236,894 respectively. At the same time the disposals were 31,142, 30,357, 50,247, 53,599, and 99,722 respectively. As a result total pendency increased from 86,601 at the end of 2002 to 418,478 at the end of 2007. And this is despite the Delhi Courts increasing the number of dedicated courts dealing with such cases from 6 to 32 in five years.

Thus systemic delays have rendered the law some what ambiguous. Under such circumstances, Negotiable Instruments Act cases needs to be accorded fast track status urgently, so that the disposal rate goes up and pendency is controlled. Then a forecasting of the workload increase is feasible based on the methodology outlined when one will be able to calculate the value of T_p. Presently, the data is not available. Also there has to be a distinction between corporate houses filing and individuals filing a suit as the former will tend to have lower transaction costs. Till then budgeting for additional resources year to year seems to be the better approach.

Further Recommendations

The set of recommendations made here indicate the kind of data that needs to be collected and the direction of further reforms in the judiciary that needs to be affected if we are to move towards proper judicial impact assessment.

It is absolutely crucial to understand that without certain basic reforms in place the judicial institution is close to cracking by its sheer weight. This has brought in certain systemic errors to the entire process and hinders credible model building as the law is failing to reach its intended consequences of prosecution and deterrence.

The court system should gradually over time implement the broad sets of recommendations made in the next few pages.

Recomend1: Indicators to Measure economy of Court Systems

1. **Costs to the state per disposal.** This indicator is calculated by dividing total recurrent costs of courts in a year with the number of disposals in that year. The figure produced usually has no meaning in itself but can be used for the purpose of comparison between years or with other court systems. Based on actual non-plan expenditures in FY 2004/2005, Rs94.44 crores (Rs944,400,000) was spent on the Delhi district courts. This is equivalent to USD21,685,419[5]. Comparing this expenditure against 175,195 cases disposed in the calendar year 2004, this produces an effective cost of Rs5,391 or USD124 per disposal. For the sake of international comparison, the cost per disposal in Australian criminal magistrate courts for the same year was USD274 and civil magistrate costs per

[5] Calculated at an assumed exchange rate of 1 USD = Rs. 43.5500.

disposal were USD160.[6] A goal of economical courts is to compare cost per disposal indicators against effectiveness indicators to indicate whether the state is getting value for its additional investment in courts recurrent costs. Increased salaries or court building services, for example, should be capable of being related to increased productivity, such as reduced attendance rates and age of disposed cases.

2. **Costs to litigants**. These are indicators of the costs to litigants in terms of court filing fees and fees payable for legal representation. Court filing fees are generally low, except that for money claims ad valorem rates of court fees are applied (i.e. sliding scales based on a percentage of each rupee claimed in the suit). A common view is that court fees should be kept low so as not to exclude poor litigants. However, current arrangements do not yet factor in the option of using differential fee systems by which commercial and corporate litigants may be required to pay higher fees whilst poor litigants may have their fees reduced or waived. A court fee indicator is calculated by dividing the number of cases instituted on payment of a fee by the amount of court fees collected in a given year. Such an indicator cannot yet be calculated for Delhi district courts for example, as many court fees are paid via the purchase of National Capital Territory Government stamps and are not included in the accounts of courts.

3. **Cost of legal representation**. Little is known in measured terms about the cost to litigants in arranging private legal representation. Market forces dictate the fees charged by advocates, suggesting that the range of fees may be highly divergent. Some legal fees, such as for legal aid, is said to be low. What can generally be assumed, however, is that general levels of legal representation costs will be affected by attendance rates and settlement rates. High attendance rates and low settlement rates magnify the extent of effort required of advocates to represent their clients' interests and imply higher overall costs. Measures

[6] Source: Productivity Commission Report on Government Services 2005, Chapter 6. Costs for higher courts in Australia are substantially higher due to the higher costs of capital, geographic dispersal and personnel; and cost impact of the jury system in criminal matters – USD3,604 per case for criminal sessions matters and USD1,314 for district level civil matters.

which reverse these trends can be expected to have beneficial effects on the cost of litigation and the general extent of access to the courts.

4. **Judicial workload**. Judicial workload indicators are a way of representing productivity related to the human resources of courts. The most useful indicator of judicial workload is the ratio of judges to disposals per year because this gives an insight into judicial productivity or court productivity in general. In Delhi district courts this ratio is 654 disposals per judge per year, based on 2004 figures. As an international comparison, the comparable figure for Australian courts is 1,336 disposals per judge or around double the level of Delhi disposals.[7] Another indicator is to measure the number of judges needed to dispose of 100,000 cases. This is useful for the purpose of justifying additional judge appointments in tandem with increases in caseloads. In Delhi district courts 153 judges are needed to dispose of 100,000 cases. The comparable figure for Australian courts is 66 judges; again suggesting that Australian judges have double the disposal capacity of Delhi judges. The likely reasons for these discrepancies are that Australian judges preside over courts which generally have high pre-trial settlement rates (and high plea rates in criminal courts) and much shorter case delays. Thus the average Australian judges can dispose of cases faster and with less effort.

5. **Judge/population ratios**. Another indicator is to compare the number of judges per million of population. There are 21.5 Delhi judges (including High Court judges) per million of population in Delhi (13.8M). The comparable figure for Australia is 50 judges per million of population (20M), i.e. there are 2.5 times more judges in Australia when compared with population. However, when population is related to disposal rates rather than numbers of judges then a different perspective emerges. In Delhi the number of cases disposed per million of population is 150.[8] The comparable Australian figure is 665, or almost four and a half times greater. This suggests that the population of Delhi is, at most,

[7] Source: Productivity Commission of Australia, Report on Government Services 2005, Chapter 6.
[8] This is derived from figures given in Judicial Accessibility and Productivity Ratios of the Delhi district courts.

one quarter as litigious as the Australian population. Consequently it can be said that, based on Australian judges having double the case disposal capacity of Delhi judges, if litigation rates rose to Australian levels in Delhi then the productive capacity of the Delhi district courts would need to increase at least eight fold to cater for the additional work. This example illustrates the value of considering judicial workload, not in terms of the number of judges, but in terms of the productive capacity of judges.

6. **Physical accessibility**. This indicator attempts to place a value or a cost on the journeys which litigants and advocates may need to make to attend court. More often than not physical access cannot be readily measured except in general ways, such as distance between one court complex and the next court complex. In Delhi there are plans to establish new court complexes at Rohini, Dwarka and Saket. A related set of qualitative indicators would also be those that show how easily courthouses may be entered and physically used, which may be demonstrated by the extent of compliance with minimum building health and safety standards.

7. **Alternative means of access**. This indicator attempts to identify whether litigants have practical alternatives to physical access, such as use of electronic means of doing business with courts or finding out about the status of a case. There is a website for district courts which provides information about published cause lists. The website also provides some incomplete information about orders made in some cases, but the information is said to be unreliable by reason of the systems used to collect and publish the information. So far there are no systems in place, other than the online cause list service, that offer a satisfactory substitute for visiting a courthouse or for relying on a lawyer to obtain information from a court or to lodge a document in a court. Systems for providing access to courts by telephone and fax services are also poorly developed.

8. **Conviction rates**. There is little that courts can or should do to assist prosecutors in obtaining a conviction. However, courts are interested in the

quality of a prosecution. High rates of acquittal or successful appeals by accused persons are indicators of poorly prepared prosecutions and, by inference, mis-direction of state and court resources in prosecuting cases with insufficient evidence or cause. These costs are multiplied by the incarceration for long periods of persons who are subsequently acquitted. The contribution courts can make to improving the quality of prosecutions (other than by acquitting persons who are poorly prosecuted) is to monitor and report upon prosecution outcomes. Rates of conviction and acquittal and outcomes of criminal appeals are matters of public interest which courts should monitor, publish and use actively in working with prosecutorial authorities to improve the workings of the criminal courts. Prosecution outcomes, and conviction rates in particular, rank highly as key indicators of the health of the criminal justice system. Currently Delhi district courts do not monitor conviction rates; and it is unclear whether police authorities collect this information. However, the Director or Public Prosecutions for Delhi has reported that conviction rates are as low as 35%. The highest rate recorded in the last four years for sessions courts in which many defendants are in custody, is a low rate by world standards. It seems clear from these figures that high proportions of prosecutions fail to achieve their publicly funded purpose and impose usually high personal costs on persons whom the courts have found to be not guilty of the offences alleged against them.

Recommend 2: The Need for a Court Administrator

One of the assumptions made was that the disposal rate was uniform across case types and jurisdictions, even within the same court. This might not be the case and in fact disparity in workload affects efficiency and output.

In India, although there does not exist the concept of a court administrator, the reason behind the following paragraphs is to identify the various statistical applications to identify the problems in the way of a proper management of court dockets. Limitations on data gathering and reporting are huge and these are

borne in mind. The Objectives of a Court Administrator from a statistical point of view should be to identify the areas where management of court dockets is increasingly getting problematic. There are various steps one needs to undertake simultaneously to identify the problem areas. Once there is an indication of pending cases being built up or docket management getting problematic, it should call for immediate attention to resolve the problem by either employing additional judge strength or evolving better docket management practices. The steps can be summarized as below:

Within the data limitation that exists, the following exercise to determine the Judge Strength needs to be carried out first.

Let us denote as,

I = Half Yearly Institution of Cases
D = Half Yearly Disposal of Cases
P = Pending Cases that are more than One Year Old.
WS = Half Yearly Working Strength of Judges

Based on these indicators for which data is usually available, three things can be defined:

$$X = D/WS \quad (1)$$

Where, X is the Half Yearly Disposal Rate and is equal to disposal per judge.

$$Y = P/WS \quad (2)$$

Where, Y is the Real Pendency per Judge. Real Pendency or Backlog is defined as Cases that are more than One Year old. There is a difference between total pending cases and backlogged cases. A case needs a minimum time frame (time standard) to be completed. This is taken as One Year. However, if extensive data is available then one can identify the actual time standard.

$$Z = D / I \quad (3)$$

Where, Z is the Half Yearly Clearance Index and is equal to Half Yearly Disposal of Cases as a ratio of Half Yearly Institution of Cases.

Let us assume for the time being that Z = 1 i.e., Half Yearly Disposal of cases is more or less equal to Half Yearly Institution of cases.

Then, if the total Pendency is sought to be completed in specialized backlog reduction courts or if no fresh institution of cases are considered or if there is a 100 percent increase in working strength of Judges, then the time taken (T) in years would be:

$$T = Y/2X \quad (4)$$

(For a single Judge, if 'X' number of cases are disposed in six months or in 1/2 year then 1 case is disposed in 1/2X years and Y number of cases are disposed in Y/2X number of years.)

Therefore, it would take time 'T' with a 100 percent increase in the number of working strength of judges. If we are to finish all the pending cases within a fixed time of three years, than the required percentage of Judges (J) would be

$$J = (T \times WS) / 3 \quad (5)$$

When Z is not equal to one, but in fact say is less than one i.e., there are less disposals than institutions. Then there is a steady accumulation of cases. Consequently, we would now require (1 - Z) x WS additional Judges to tackle this steady accumulation of cases. This value can be found out for the last three years and averaged out.

So, overall, we would require additional Judges (R^) based on

$$R^{\wedge} = J + \text{Average in last 3 years of } [(1 - Z) \times WS]$$

or, R^ = (T x WS)/3 + Average in last 3 years of [((1 – Z) x WS]

or, R^ = (WS x Y)/6X + Average in last 3 years of [1 – (D/I)] x WS]

or, R^ = [WS x (P/D)]/6 + Average in last 3 years of [1 – (D/I)] x WS] (6)

Where, P is the Pending Cases that are more than One Year Old,
D is the Half Yearly Disposal of Cases,
I is the Half Yearly Institution of Cases, and
WS is the Half Yearly Working Strength of Judges.

If one works with Annual Figures instead of Half Yearly figures then

R = [WS x (P/D)]/3 + Average in last 3 years of [1 – (D/I)] x WS] (7)

or, R = [(Working Strength x Pendency Control Index) / 3] + Three Year Average of [Working Strength x One minus Yearly Clearance Rate]

Here, **Pendency Control Index (PCI)** is defined as the ratio of Pending Cases that are more than One Year Old to the current Disposal Rate. This ratio when multiplied by 12 (the no of months in a year) gives a likely timeframe of the number of months that are required to finish the pending cases at this current disposal rate on a stand alone basis, and; **Yearly Clearance Rate (YCR)** indicates annual Disposal as a ratio of Institution. When the rate is below 1, it indicates an addition to backlog.

Based on this exercise, to be undertaken for each of the major case type or by jurisdiction, and a calendar of Judge Vacancies that are likely to arise in the next six months, the Court Administrator should recommend additional Judge Requirement.

Even when backlogged cases are within control (Cases pending for more than one year are negligible), this formula should be constantly applied by the Court Administrator and when the Judge Requirement exceeds 10 % of the current working strength, the additional numbers should be requisitioned.

Moreover the Court Administrator needs to constantly check for the following. However, it needs to be reiterated that certain cases require longer time period to dispose off, especially certain old cases. So, one of the primary task of the court administrator is to assign cases to various judges with a particular case type, so that there is a balance of old and new cases across all the judges and moreover no judge is left with comparatively huge or negligible number of old cases.

1. The institution of cases – if these are increasing at over 5 % for three consecutive months or cumulatively are more than 15 % compared to the previous quarter, then one gets an indicator that should be taken into cognizance. Then one should see the clearance rate and if this disposal as an institution ratio is close to one or less than one, then it should call for additional judge strength within the case type.

2. Yearly Clearance Index - If the clearance index is below 0.90 for three consecutive months or cumulatively below 0.90 compared to the previous quarter, then one gets an indication that pending cases are steadily building up.

3. Disposal Rate per Judge – Based on data for the previous couple of years there should be a data base of disposal rate for every case type. It should be monitored that every judge is within a band of 10 % of this median value within his/her case type. If found otherwise, the reasons behind less disposal rate should be probed and if the reasons are unsatisfactory, then remedial measures needs to be designed. Moreover, if the clearance

index for any particular judge falls below 0.90 for three consecutive months or is cumulatively below 0.90 compared to the previous quarter, then the disposal rate should be checked, and whether it conforms to the band of 10% should be verified.

4. Timetable for older cases – Every case that is older than 10 years should have a timetable made for disposal and the parties as well as lawyers on both sides should agree to it. The timetable should be strictly followed and if there is a problem due to any of the parties/lawyers, then costs or ex-parte decision should be adhered to. Over time the criteria should be brought down for cases older than 5 years.

5. Percentage of Old Cases – At no point of time should the percentage of cases older than 3 years be more than 10 % for any case type. If the court administrator finds that the percentage of cases older than 3 years are increasing and is above this percentage, then it should indicate additional judge strength (atleast on a short term and ad hoc basis to clear of this backlog).

6. Case Complexity and Time Frame – The Court Administrator with the help of the Judge should make a value judgment about the complexity of a case. Cases should be delineated into complex and simple type. The case needs to be put in either of the two tracks. Some case types will have all cases that are complex and some relatively simple. Therefore any case will be put in either of the two tracks based on the nature of the case and the value judgment on it. The case then needs to be processed accordingly. Within its tenure there are various processes that the case goes through (process mapping) and a timeframe needs to be put for every step depending on the perceived nature of the case (complex or simple). This should also include the nature and number of adjournments. If any part process exceeds the prescribed timeframe, then the court

administrator needs to docket the case more frequently and apply extra resources towards its completion.

7. Disposal as a function of Institution – It needs to be monitored as to the percentage of cases that are getting disposed within 6 months and within 1 year. Cases which take more than 1 year need to be categorized. Suitable remedial measures needs to be accordingly designed. This has to be separate from backlog reduction which would require more specialized and concentrated attention.

8. Backlog Reduction – The Court Administrator needs to see the overall backlog figures of all judges within any case type. After the process of reallocation of cases between judges within the case type for a balance, there can also be a reallocation of judge time for backlog cases and days in a week can be earmarked for this purpose. It also needs to be seen if additional judges can be freed form other case types. It might also be necessary to employ additional judges and this has to be decided by the court administrator.

9. Judgment - The Court administrator should identify individual judges who tend to write longer judgments or deliver judgments after a considerable lapse. Both needs to be controlled.

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Judicial Impact Assessment: A Suggested Methodology

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Executive Summary

Judicial Impact Assessment: A Suggested Methodology

The Supreme Court of India, in the case (Supreme Court Case 344 0f 2005) of Salem Advocates Bar Association v Union of India, directed the Central Government to examine the issue of Judicial Impact Assessment as done in USA. The Government of India constituted a Task Force with Justice M. Jagannadha Rao as the chairman. Judicial Impact assessment is interpreted in this study as the impact on judiciary resources needed when a new legislation is introduced. It is closely related to, but different from, preparation of financial budgeting of the judiciary. It is indirectly related to judiciary caseload. While financial budgeting deals with revenue and expenditure estimation for the judiciary, judicial impact assessment only deals with estimation financial implications of introducing a new legislation. This in turn is related to estimation of the increased workload generated by a new legislation in the first stage and then translating that increase in workload in the second stage to the financial resources needed to cope with that increase in workload so as to keep the workload at the same level as would have prevailed without the new legislation.

Given that the primary goal of the judiciary is improved access to dispensation of justice, judiciary impact assessment is just part of a series of measures that are needed. These are:

- Judiciary impact assessment (by Office of Court Administration, to be established as suggested in this report)
- Performance-based budgeting, and budget planning (Office of Court Administration)
- Caseload management (judges and Office of Court Administration)

The purpose of this study is

1. To develop a general methodology for Judicial Impact Assessment (JIA)
2. To take two legislations, one a Central Act-Arbitration and Conciliation Act of 1996 (CA for short), and the other a State Act in Karnataka, Karnataka Municipal Corporations

Act of 1976 (KMC for short), collect the data for a subordinate court provided by the Karnataka High Court, and examine to the extent the data permit, the feasibility of applying the suggested methodology

3. The objective of the above step is four-fold, (i) to use it as a pilot study to assess the adequacy of the existing database to implement the methodology, (ii) to suggest improvements in the database to apply the methodology, (iii) to pilot test how the methodology works, and to suggest possible directions for improvement in the methodology itself, and (iv) to compare the proposed methodology with the currently available scheme of judicial impact assessment.

The proposed methodology will be used along with the data collected from the judiciary electronic database to make important decisions regarding allocation of resources to the judiciary. Hence it is vital that both the methodology and the data used provide credible method and credible evidence. After the study of the judicial literature and the type of data available in the computerized records of city civil court, Bangalore, the following methodology has been suggested.

Demand Estimation – Number of cases that are likely to be filed

1. Identify important characteristics of a law
2. Identify the laws which are similar in nature
3. Identify the target population to whom the new law might be applicable
4. Identify the parameters which might influence the demand of laws which are similar to the new act/law being studied
5. Collect and analyze the secondary data-possibly historical time series data
6. Prepare a Questionnaire to capture the perceptual data from the target population identified in item 3 above along with awareness, accessibility, and affordability
7. Administer the Questionnaire to the target population (Steps 6 and 7 can be done away with for any specific legislation if periodic legal surveys are conducted as suggested in this report (Section 3.3)
8. Estimate the demand for the act based on the demand estimation from the primary data and the secondary data mentioned above, through splicing of cross-section and time series data by accepted statistical methods for that purpose. In order to do this there must be some common socioeconomic and demographic variables in both the primary data and the secondary data.

Judiciary Production Function – Estimate the judicial resources required

9. Identify the cases filed against the laws which are identified as similar in step # 2 above

10. Calculate the judicial time taken per case at different stages
11. Identify the factors or independent variables which can have impact on the judicial time (variable selection through exploratory data analysis)
12. Estimate the judicial resources that might be required for disposing of one case filed and disposed of at any of the stages.
13. As cases could be disposed off at various stages the stage mix of various stages of disposal of cases filed will have to be taken into account in making the judicial impact.
14. Estimate the total judicial time needed to dispose of all the cases filed, assuming a stage mix of cases at different stages of disposal
15. Estimate the number of new judges needed.

Estimate the financial implication

16. Create an estimate of budgetary impact due to an increase in the judge strength by one judge due to the increase in support staff, infrastructure etc.
17. Use the estimates of the number of cases filed and the judicial resources required calculate the budgetary impact

For the effective implementation of the above methodology the following improvement in the judicial database and following steps in research and analysis are recommended. (In making this recommendation we assume that the pattern of electronic database across the nation is same as what we observed in Karnataka)

A. **Section of the act**

The section against which the plea is made should be mentioned in all cases.

B. **Case Type**

The name of the Act/Law has to be captured either as a case type or in a new field.

C. Names of the Judges

Need to capture and retain the names of all the judges who might have handled the case.

D. **Stage / Sub-stage information**

The time spent on a stage/ sub-stage by a judge at each stage needs to be captured.

E. **Litigant information**

The demographic information of the litigants needs to be captured. There is a need to classify the litigants into individuals, businesses, governments, educational institutions as we found that judge time taken by a case depends on these categories.

F. Information about the Lawyers

The lack of expertise of the lawyers in the intricacies of the act/law, the number of cases handled by the lawyer, the relationship of the lawyer with the judge (reflected in the runs of a judge-lawyer combination in court cases), experience of the lawyer and his association with a big law practice and access to good research have been cited as the reasons for the variation in the time taken by judiciary. There has to be master database of all the lawyers, their experience, expertise, access to research, number of legal staff available etc.

G. **Information from Prayer**

The judicial experts were of the opinion that prayer is a rich source of information for gauging the complexity of a case. There is need to generate some classifications based on the information in the prayer and the type of relief claimed

H. **The resources used for each stage of each case**

There is need to capture the manpower resources used at each stage of a case life cycle.

I. **The cases which are in process**

Since the computerized database captures the information of the cases filed since 2003, the information about the cases which were filed earlier, but still in process is missing. It is important to track all the cases which are not yet disposed.

J. **Survey to gauge the potential litigants**

Since the social circumstances keep changing, the number of cases filed change even when there is no change in an act. Need to have a continuous improvement in the forecasting model by administering periodic legal survey questionnaire and analyzing the data.

K. Demand and supply studies

The classification of the acts and identifying the characteristics of the acts which might have impact on the demand is not a one time job. Similarly, the resource use of the courts is recording continuous changes along with technological improvements on one hand and changing nature of the cases and adaptation of judicial administration to cope with such changes on the other. The proposed Office of Judiciary Administration and the National Judicial Academy must be engaged in continuous monitoring of demand and supply conditions.

In order to facilitate the implementation of the suggested methodology the following organizational structure is recommended:

A. Establish an Office of Courts Administration (OCA), with central office being located in the Supreme Court of India, with Branches in each of the High Courts of India. This office must be entrusted with advisory and support services to the Indian courts on matters such as judiciary information data base management, judiciary planning and budgeting, assisting the National Law Commission, liaison services between the legislative, executive, and judiciary branches of government.
B. For research and training on judiciary administration, management and policy the services of the following organizations may be used.
    1. National Judicial Academy
    2. State Judicial Academies
    3. Indian Law Institute
    4. National Law Schools of India, and similar reputed legal educational and research entities.
C In order to get scientific credibility to the procedure suggested and for its wide acceptance the existing judiciary database needs to be supplemented by adding a few more data entries as suggested above in the electronic database and obtaining information from primary surveys of potential litigants, and judicial consensus obtained through Delphi technique.

In order to provide a constitutional mandate to implement the suggested methodology, as a part of budgeting process, it is recommended that suitable amendments be made to the Finance Act to make it mandatory to allocate financial resources for a Judiciary budget within a narrow margin of the suggested budget(to maintain judicial independence). However, in order to justify that status the judiciary budget must be prepared in a scientifically credible fashion and the method proposed here can be used for that purpose.

It is noted that any central act will create caseloads on the courts within various states. As law and order is a state subject the responsibility to meet the judiciary expense lies with the states. One of the reasons for backlogs in the courts could be due to the state

governments not having enough financial resources due to limited taxation powers. In view of this the Supreme Court may consider asking the 13th Finance Commission to devise a suitable formula to allocate central funds to states to meet the requirements. The methods suggested in this report can be used to develop such formulae.

Judicial Impact Assessment: A Suggested Methodology

By

T. Krishna Kumar, Anil B. Suraj, Jayarama Holla, and Puja Guha[1]

"Justice, Sir, is the great interest of man on earth. It is the ligament which holds civilized beings and civilized nations together".

Daniel Webster

1.0 Introduction

The backlog of pending cases in courts and the enormous delay in disposing of cases filed has been a major concern in India. Although it is the practice to mention in each bill submitted to the parliament what would be the financial implication of the bill, that is taken as a vague statement and it is answered in equally vague manner. Law and order is a state subject. Any enactment of a central law would impose additional work load on subordinate courts in the states and the resources required to meet the additional workload being not always and fully available with the state governments. This seems to be one of the reasons for the backlog in courts. There is a need, therefore, to request the 13th Finance Commission that the centre-state financial transfers should include funds needed to improve the state's resources for coping up with the backlogs in courts and to meet the extra work load created by new central legislations.

With liberalization of the Indian economy and the two-digit or a near two-digit growth rate, India needs a legal infrastructure to sustain this phenomenal economic growth. It is expected that the resources needed for law enforcement and judicial system must be augmented considerably. There is thus a need for developing a credible methodology for

[1] The authors thank Justice M. Jagannadha Rao, Chairman of the Task Force on Judicial Impact Assessment, Professor N.R. Madhava Menon and other members of Task Force for providing us an opportunity to apply econometric and managerial tools to a nationally important issue of reducing the backlogs in our Indian courts. The authors are extremely grateful to the Chief Justice Honorable Justice Syriac Joseph of Karnataka High Court for the keen interest he has shown by extending full and quick response to our request for data. The authors thank the Registrar (Judicial) Justice R.B. Budihal, , and Retired Judge and Professor Dr. S.B.N. Prakash of the National Law School of India University, Bangalore for their assistance in carrying out this study. The authors thank Mr. N.S. Kulkarni, Judicial Officer in charge of the Computer Centre of Karnataka High Court for giving us expert guidance on interpreting the judicial data and processes.

preparing accurate budget estimates to meet the requirements of providing adequate legal infrastructure to sustain the growth in the emerging economic power house that is India.

In the case (Supreme Court Case 344 0f 2005) of Salem Advocates Bar Association v Union of India, the Supreme Court of India directed the Central Government to examine the issue of Judicial Impact Assessment as done in USA, as suggested by a committee headed by Justice M. Jagannadha Rao. The Government of India constituted a Task Force with Justice M. Jagannadha Rao as the chairman and with the following terms of reference:

1. To suggest a methodology to assess the likely impact of legislation on the courts and also an appropriate framework so that every bill introduced in parliament is accompanied by Judicial Impact Assessment.
2. To suggest ways and means of preparation of Judicial Impact Assessment
3. To make an assessment of financial requirements so that the Financial Memorandum attached to each bill reflects the budgetary requirements for meeting the expenses of additional cases (civil and criminal) which may arise in case the bill is passed by the legislature.
4. To recommend the content for initiating a training program for laying down for the expertise to prepare Judicial Impact Assessment.
5. To suggest any other measures required for assessing the increase of the workload on the courts on passing a new legislation.

The Task Force felt that as this is a new and very important initiative there should be a brainstorming session or a Workshop to gather the views of social scientists, legal educators, practicing lawyers, judges, and administrators dealing with judicial administration and financial budgeting. Such a workshop was held at the Indian Law Institute, New Delhi, on November 17, 2007. At the workshop the members of the Task Force and the experts present made the following observations:

1. One must look at the dispensation of justice as well as the quality of justice rendered, with attention to time taken for a case, the quality of evidence collected,

the quality or advocacy by the two parties etc, where specialization plays an important role.

2. Access to justice may be taken as a basic human right and hence any study of judicial impact assessment must focus on access to justice.
3. Judicial independence may require a systematic and objectively determined judicial budgeting, independent of controls from the executive branch of the government. This might require a new legislation on Judicial Impact Assessment and Judicial Budgeting Act.
4. One must examine not only new legislations but also the issue of judicial interpretation, as some important judgments involving judicial interpretation on an existing legislation may generate new cases. Similarly, poor drafting of a law may give rise to a lot of scope for such judicial interpretation and additional cases.
5. The actual workload, defined as the number of cases handled by a judge, and the time it takes to clear a case and the quality of justice delivered, depend very much on the pending cases or the backlog, and on the quality of training and skills of the lawyers, and on their specialization.
6. One of the main reasons for the backlog is that the judiciary and the Union Ministry of Law and Justice have very little clue on the number of cases that could be filed as a result of any new legislation. There is therefore a need to forecast the number of cases that are likely to be filed when a new legislation is introduced.
7. Different sections of an Act may have different impacts on the number of cases filed. Similarly different aspects of an act such as retroactivity, jurisdiction, *locus standi* for filing a case etc may give rise to different impacts

Taking due note of all these aspects the following scope is set for this study:

1. To develop a general methodology for Judicial Impact Assessment

2. To take two legislations, one a Central Act-Arbitration and Conciliation Act of 1996, and the other a State Act in Karnataka, Karnataka Municipal Corporations Act of 1976, collect the data for a subordinate court provided by the Karnataka High Court, and

examine to the extent the data permit, the feasibility of applying the suggested methodology

3. The objective of the above step is four-fold, (i) to use it as a pilot study to assess the adequacy of the existing database to implement the methodology, (ii) to suggest improvements in the database to apply the methodology, (iii) to pilot test how the methodology works, and to suggest possible directions for improvement in the methodology itself, and (iv) to compare the proposed methodology with the currently available scheme of judicial impact assessment.

The proposed methodology will be used along with the data collected from the judiciary electronic database to make important decisions regarding allocation of resources to the judiciary. Hence it is vital that both the methodology and the data used provide credible method and credible evidence.

2.0 Perspective and Review of Literature

In a globalizing environment it is necessary to adapt the legal infrastructure to cope with the emerging new areas of dispute resolution through the introduction of new legislations or amending the old ones. This turbulent legal environment is bound to create an increasing number of disputes needing adjudication. North (1990) contends that the absence of low cost means of enforcing contracts is the most important source of economic stagnation, both in historical context and in contemporary under development in the Third World. Using statistical data on relative economic performance and quality of judiciary in India Koehling (2006) postulates such a causal link.[2] In many countries, including the industrially advanced countries, the increasing number of disputes and shortage of judges has resulted in a focus on applying economic and business management principles to the adjudication process. Good governance is essential to sustain economic growth and development, and dispute resolution forms an important component of governance. During the last one and half decades many national

[2] http://econpapers.repec.org/paper/wpawuwple/0212001.htm

governments and multinational agencies such as the World Bank and Asian Development Bank have spent almost one trillion US dollars on judicial reform projects.[3]

One may distinguish between two different contexts in which the phrase judicial impact assessment is often cited. First, it is interpreted as the impact of a judicial decision or judicial reform on the establishment of the rule of law. Second, it is interpreted as the impact on judiciary resources needed when a new legislation is introduced. It is with this latter interpretation that we deal with in this report. This second interpretation of judicial impact assessment is closely related to, but different from, preparation of financial budgeting of the judiciary. It is indirectly related to judiciary caseload. While financial budgeting deals with revenue and expenditure estimation for the judiciary, judicial impact assessment only deals with estimation financial implications of introducing a new legislation. This in turn is related to estimation of the increased workload generated by a new legislation in the first stage and then translating that increase in workload in the second stage to the financial resources needed to cope with that increase in workload so as to keep the workload at the same level as would have prevailed without the new legislation.[4]

Every Bill introduced in the parliament is required to be accompanied by a Financial Memorandum which spells out in detail the recurring and non-recurring expenditure which is likely to be incurred from the Consolidated Fund of India if the Bill is enacted into law. If no expenditure is involved from the Consolidated Fund of India, there is no need for a Financial Memorandum to accompany a Bill. As law and order is a state subject there are several instances where the Union Government would hold the opinion that expenses incurred due to litigations are to be borne by the State Governments, and they are not expenses incurred out of the Consolidated Fund of India.

[3] Messick (1999)

[4] When additional resources are actually made available to cope with the increase in workload due to a new legislation those resources may actually be used to clear the existing backlog. What proportion of the newly created resources will actually be used for the new legislation depends on the extent of backlog. Hence it is important **to** realize that the judicial impact of a new legislation depends on the existing backlog.

Even where a recommendation of the President is sought under Clause (3) of Article 117 and a financial memorandum is attached to the Bill, the likely increase in the workload of the courts and the consequent increase in the financial expenditure is not given any importance by the Ministries sponsoring the legislation. Several of the bills introduced in the parliament simply state that there is no financial implication from the consolidated funds of Government of India. Under Clause (3) of Article 207 of the Constitution a similar statutory position exists with respect to Bills introduced in the State Legislatures. If any authority or agency is created under the proposed state legislation, the expenses for its establishment and its maintenance, has to be provided for from the budget of the Ministry sponsoring the Bill. However, no similar provision is made for the likely impact on the existing courts due to the enactment of the legislation. Thus there is a lacuna in our present statutory provisions to budget properly for the judicial and non-judicial resources needed as a result of introducing any new legislation.

The degree of backlog, or the number of pending cases, is a reflection of poor budgeting practice. Consider the figures from the office of the Chief Justice of India— the arrears increased in High Courts from 27.5 lakh cases in 1999 to 36.5 lakh cases in 2006. In the subordinate courts, the arrears increased over the same seven-year period from 2 crore cases to 2.48 crore cases. Thus, the arrears grew by 33 percent in the High Courts, while they grew by 24 percent in the subordinate courts. This was despite the possibility that several potential litigants may have decided not to approach the courts due to enormous expected delays in dispensation of justice. This backlog could be due to the inability of the judiciary to forecast the potential litigations that could arise, as highlighted by Justice Madan Lokur at the National Workshop on Judicial Impact Assessment drawing from his experience at the Delhi High Court[5]. There is thus a need to develop detailed econometric models for forecasting the demand for cases. This backlog also could be partly because of inadequate budget provision in spite of a realistic higher estimate of the demand. Any

[5] The examples he gave are those of recent Amendments to Negotiable instruments Act (Section 138), Hindu Marriage Act permitting divorce through mutual agreement.

such severe constraints on judiciary budget could result in erosion of independence of the judiciary from the executive branch of the government.[6]

The backlog could also possibly be due to lack of attention to performance-driven budgeting. That it could be so is suggested by the figures given by the Chief Justice of India recently. Out of the sanctioned strength of 792 judges in the 21 high courts of the country, there are only 586 working judges. Thus there are 26 percent vacancies against sanctioned strength in the high courts. Out of the sanctioned strength of 15,399 judges in the subordinate courts in the country, there are only 12,368 working judges. Thus there are 20 percent vacancies in the subordinate judiciary. While in absolute terms, a larger number of judges have to be appointed to the lower courts, a higher percentage of posts of judges are lying vacant in the high courts.

Given that the primary goal of the judiciary is improved access to dispensation of justice, judiciary impact assessment is just part of a series of measures that are needed. These are:

- Judiciary impact assessment (by a new Office of Court Administration (OCA) as proposed here)
- Performance-based budgeting, and budget planning (by OCA)
- Caseload management (judges and OCA)

The first two topics given above deal with estimation of demand for cases to be filed with the judiciary and the resources needed to supply the necessary judiciary services. These steps involve econometric modeling of demand and supply of judiciary services. The last topic deals with the budgetary resources as given and to improve the performance of the judiciary through application of principles of modern management. Productivity in the judiciary is measured, as a crude measure, by the number of cases cleared by the judiciary. This is called the caseload. The time taken by a judge to dispose of a case depends on the nature of the case and its complexity. The number of cases a judge can clear in a year thus depends on the case mix. For example, the caseload with same

[6] Webber (2006, Chapter 1, page 3) deals with this issue of judiciary budgeting in relation to fiscal responsibility and judicial independence. See the following link:
http://siteresources.worldbank.org/INTLAWJUSTICE/Resources/LDWP3_BudgetPractices.pdf

productivity could be less for a court that handles a greater proportion of criminal cases than another court that handles less criminal cases. We cannot, therefore, use the same caseload norm to compare the productivity of different courts irrespective of the case mix that the courts confront. One must define a standard case mix and the associated resource requirements to compare the resource requirements and productivity of courts with different case mixes. It is for this reason that even for assessment of judiciary impact one must take into account the case mix by type of cases and their severity, and the time taken for each case type.

In view of the above remarks the norm of 500 cases per year suggested for senior judges and 600 cases for junior civil judges and to Metropolitan Magistrates, proposed at the Chief Justices' Conference of 2004 call for detailed analytical and empirical support before they can be taken seriously. To get a better insight into this issue we must examine the actual data regarding the case type and case mix on the one hand, and the time taken for dealing with those cases on the other.

It is evident from the above that we need some statutory provisions regarding judiciary budgeting process to keep judiciary independent of the executive branch of government, and to cope with the demand for judiciary services.[7] We also need some organizational changes to help the judiciary with administrative and managerial functions. The experience in the US in this regard is worth noting and emulating[8]. As far back as in 1939 the 28th US Congress established an Administrative Office of US Courts under the supervision of the principal policy making body of the Judiciary, The Judicial

[7] One may see the proposals in this regard made by Justice M. Jagannadha Rao:
http://www.mjrao.com/docs/Financial%20support.doc

[8] This study draws from the experience of the first author with a research study undertaken by him about thirty three years ago for the Research Applied to National Needs Program of National Science Foundation of United States, Grant Number APR-75-20564, on "Measurement of Productivity in Budgeting and Managerial Control Function in Public Service Organizations". That study was focused on three case studies of non-profit public service organizations, universities, hospitals, and state governments. Courts are also non-profit public service organizations. It is surprising that in spite of existence of such a study in the public domain in the US, the US courts do not seem to have used the methods suggested there.

Conference of the US Courts. This office provides, *inter alia*, the following services to the judiciary[9]:

- Develops and executes the budget and provides guidance to courts for local budget execution.
- Defines resource requirements through forecasts of caseloads, work-measurement analyses, assessment of program changes, and reviews of individual court requirements.
- Provides legislative counsel and services to the Judiciary; acts as liaison with the legislative and executive branches.
- Prepares manuals and a variety of other publications.
- Collects and analyzes detailed statistics on the workload of the courts.
- Monitors and reviews the performance of programs and use of resources.
- Conducts education and training programs on administrative responsibilities.

There is a similar conference of the state court administrators with a National Center for State Court Statistics and a Bureau of Justice Statistics. The Congressional Budget Act, 1974, established a Congressional Budget Office to estimate the budgetary impact of legislative proposals with a view to assessing whether a proposed legislation is likely to increase or decrease or has no effect on the burden of the courts. The National Academy of Sciences established the National Research Council for the purposes of estimating the changes in workloads that the courts would experience with the adoption of new legislation. In 1988 Congress enacted Federal Courts Study Act, 1988. In 1990, the Federal Courts Study Committee recommended that an Office of Judicial Impact Assessment be created in the judicial branch. In 1991 the American Bar Association passed a resolution calling upon each state legislature and the United States Congress to mandate by legislation the preparation of Judicial System Impact Statements to be attached to each Bill or Resolution that affects the operations of State or Federal courts; and also to establish a mechanism within its budgeting process to prepare Judicial System Impact Statements determining the probable costs and effects of each Bill or Resolution that has an identifiable and measurable effect on the dockets, workloads, efficiency, staff and personnel requirements, operating resources and currently existing material resources.

[9] One may see the following web links for more details on modern management techniques applied to the judiciary in USA: http://www.usdoj.gov/ag/annualreports/pr2007/TableofContents.htm and http://uscourts.gov/

In 1992, the Wisconsin Judicial Conference Resolution cited the acute need for the legislature to recognize the workload burden being placed on the Judiciary when passing legislation and endorsed the creation of Judicial Impact Statements by the State Legislature to measure the effect of legislation on the Judiciary. If one looks at the recent Annual report of the US Department of Justice, with the web link provided in the footnote of the previous page, it becomes clear that it applies modern management techniques through a strategic five year plan for 2007-2012 with a mission and goals and objectives with performance being monitored according to these.

One may compare the present situation in India with the system that prevails in the USA. The Law Commission of India had stated in its Report in 1988 that we have only 10.5 Judge per million people in India, while in countries like the US and the UK and others have 100 to 150 per million people. While one cannot compare such performances ignoring the country wide differences in nature of cases, conditions such as awareness, accessibility, and affordability the differences are still quite glaring.

We have already commented on the extent of backlogs in Indian courts. The issue of reducing the backlogs in the courts can be handled through different approaches, such as through the introduction of alternate dispute resolution systems, Information and Communication Technology, and better management techniques. In order to reduce the backlog amendments to the Civil Procedure Code of 1908 were made by Act 46 of 1999 and Act 22of 2002. The emergence of Bangalore as an IT Hub resulted in the Karnataka High Court introducing IT technology in court administration. In the year 2004, accepting the Karnataka system as the role model, the Union Cabinet, on a recommendation of the then Chief Justice of India, Hon'ble Justice R C Lahoti, formed e-Committee chaired by Justice G.C. Bharuka. In August 2005, e-Committee submitted its report to the Chief Justice of India. On 8th February 2007, Government of India gave financial sanction to the first phase of the project. It appointed National Informatics Centre as the implementing agency which is required to implement the project in close consultation, guidance and supervision of the e-Committee.

The Task Force on Judicial Impact Assessment chaired by Justice M. Jagannadha Rao has only recently submitted three reports on judicial impact assessment. These dealt with (i) ways and means of coping with some of the objections raised regarding these amendments introducing alternate dispute resolution systems, (ii) suggesting model rules for these ADR amendments, and (iii) recommendation of model rules for case management at the subordinate and High Court levels.[10] Some degree of case management is already practiced in the Indian courts. The High Court of Karnataka has published Karnataka (Case Flow Management in Subordinate Courts) Rules, 2005 as an amendment to the Code of Civil Procedure, 1908 (Central Act 5 of 1908) in Notification No. LAW 294 LAC 2005 dated 18.3.2006 and is presented in Appendix I

This report deals with the last of these three, and in particular with a methodology for judicial impact assessment. The methodology we suggest has an additional desirable feature of placing this task within a broader perspective of understanding and controlling judiciary production process. Once this methodology is implemented, along with the e-Governance of the judiciary, India will be closer to the US in its efforts at bringing modern business process management tools to the judiciary.

One more dimension that will complete this process is to introduce the concept of Total Quality Management in the Indian judiciary. For this one must understand the judiciary as consisting of processes and also people, as the stake holders of the judiciary system. Total quality management requires motivating all stake holders, judges, litigants, and lawyers to work together for the common goal of improving the functioning of the judiciary.

3.0 Methodology for Judiciary Impact Assessment

We adopt the following scheme in this report. First we develop a very broad desired general methodology, irrespective of the availability of the required data for its application. We then examine the data available in Karnataka on the two chosen Acts.

[10] http://mjrao.com/docs/Report%20No.1.doc, http://mjrao.com/docs/Report%20No.2.doc, http://mjrao.com/docs/Report%20No.3.doc

After examining the data we identify the data gaps and suggest some revisions in database management. In the last stage we modify/simplify the suggested methodology to adapt it to the available data and illustrate our method for judiciary impact assessment.

A systematic approach to developing a methodology for Judicial Impact Assessment (JIA- from now on) must pay attention to:

- Definition of concepts and terms for clear identification of the issues
- Using simple methods for an analysis of data (exploratory data analysis) to understand the underlying the structure of the Indian Judicial System
- Development of an econometric model to determine the number of cases that are likely to be filed (demand side)
- Development of a general model for the production of judicial services using a variety of resource inputs (supply side)
- The data collection for developing a method of judicial impact assessment based on the demand and supply models
- Estimation and calibration of the models
- Validating the model and the method with the data
- Comparison of the performance of the existing method of estimating the workload and budgetary impact with the new method (this part is irrelevant for the present study as there does not seem to exist any method for estimating the judicial impact assessment other than using an arbitrarily chosen caseload and working its financial burden)

First of all we present a **general** methodology. Its application to any specific legislation may call for special approaches specifically suited to that legislation. For instance the way one classifies different sections of an Act may depend on what one finds in terms of stability and variability of the pattern of production of judicial outcomes and use of judicial and other resources as applied to that legislation.

The main focus must be on the basic human right of access to justice and to use JIA as a tool to assure a long-run equilibrium between the need for judiciary services and supply of justice, with no backlogs in courts.

3.1 Development of Useful Concepts and Methods

Most of the legal provisions enshrined in any legislation, in terms of a subsection or a section of an Act, result in either a creation of a right or denial of a right, or modification of the rights in a previous situation, *viz.* either denies a right granted earlier, or establishes a new right that did not exist before under the law. Some of the legal provisions might modify the process through which justice is delivered such as the provisions of Code of Civil Procedures and the Code of Criminal Procedures. The above statement can be modified to include judicial interpretation also, by regarding a new judicial interpretation as almost equivalent to introducing an Amendment Act.

An economist would interpret that the first type affects the **judicial outcome** measured in terms of number of rights of different types and kinds created or denied. The second type affects the process of producing the judiciary services and thereby alters the resources or inputs needed for producing the judiciary services. Thus any section or a subsection of legislation affects either the outcomes of a judiciary process or the inputs and the process of producing the judiciary service. ***For these reasons it is suggested that JIA must be conducted by examining empirically the process of production of judiciary services***. This is illustrated below:

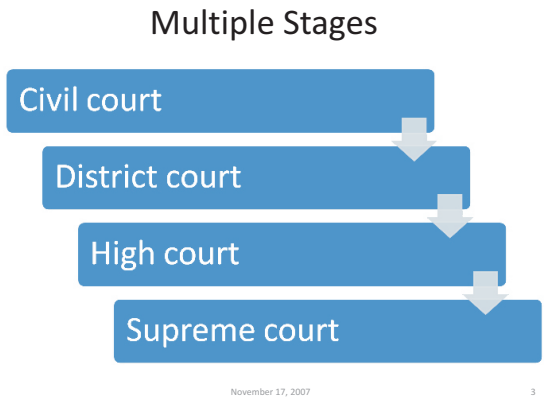
The Impact of Any Section of an Act

- Creation of a socially or individually beneficial right of a particular type or significance
- Denial of a socially or individually harmful right of a particular type or significance
- Change in judicial procedure that reduces the cost of litigation
- Change in the judicial process that increases the cost of litigation

One can possibly identify different types of impacts by the nature of benefits and costs-such as creating fundamental rights being different from, and superior to, creating personal economic benefits, rights created in civil cases being different from rights created in the criminal cases etc.

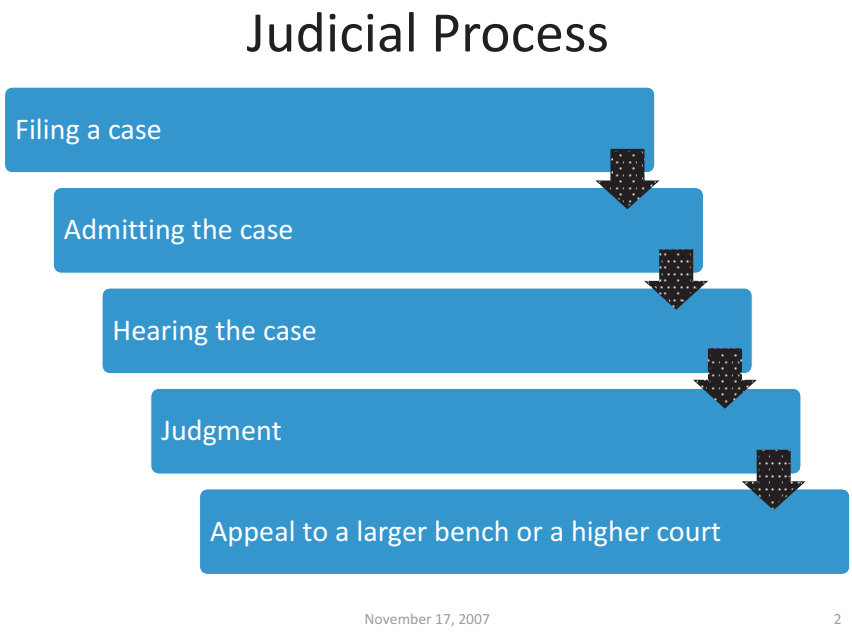
The type of analysis that is being described below may be carried out for different types of cases, and separately for different sections of a single Act. One can then add the impacts of all sections of the Act to get the judicial impact of the entire Act. One can possibly arrive at some rank ordering of different types of cases by the degree of importance given to the creation of a positive right and to that of a negative right (denial of a harmful right or act), and even come up with a scale to compare them such as a right to life is so many times that of the personal civil right conferring an economic benefit of Rs 1 lakh etc. Similarly, cases of different types may be ranked by the unit cost of each. Although this seems like a heroic step it can be achieved through a fruitful interaction of an analyst (econometrician/operations manager) and the judiciary (judges) to arrive at such relative weights. One can then add the benefits and costs across different types of legislations to arrive at aggregate impact.

A case could go through different courts as shown below

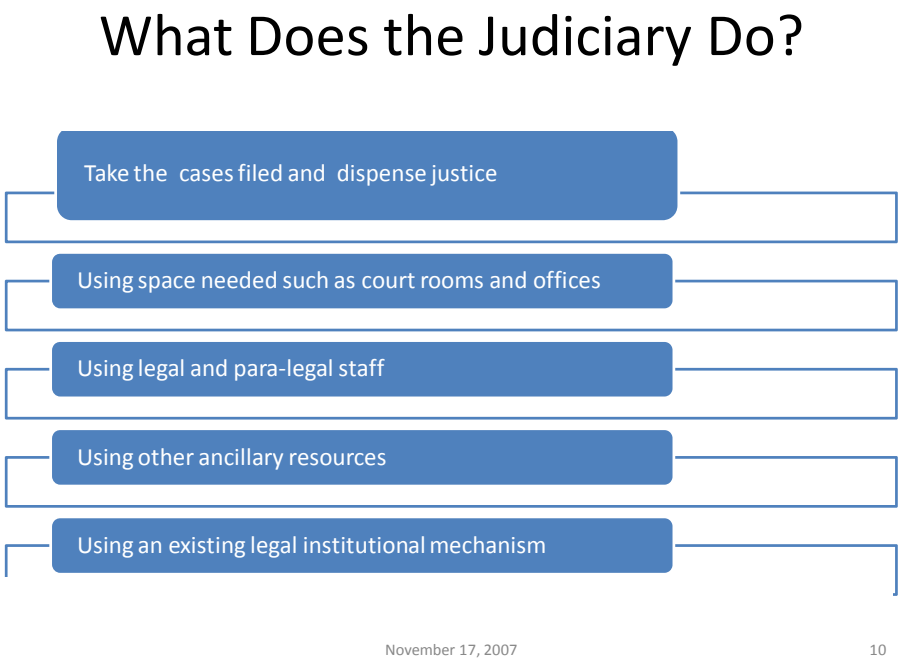


The last phase is in applicable when a case is disposed by the full-bench of the Supreme Court.

At each these courts the judiciary process starts from the date a case is filed until it is disposed. It is quite useful to understand this process before we come up with a methodology for judiciary impact assessment. Within each court the judicial process will go through a series of stages as shown below:



The judiciary process, monitored over a period of a month or a year, consists of taking the cases that come to the judiciary system and processing them through the courts to add value to the admitted cases in terms of "disposal of justice" or creating an inventory of "unfinished cases" that are at different stages. The courts do this by utilizing physical space, legal, para-legal manpower resources, and ancillary resources.



The output of the judiciary process during any year is thus a collection of finished cases and unfinished cases in different phases.

As the number of cases filed is the basic raw material with which the courts work it is useful to identify the factors that influence the number of cases filed.

3.2 Determinants of the Number of Cases Filed:

- Potential number of persons who could seek judicial services from the courts (N)
- Probability of seeking justice from courts (P)
- Number of cases filed (NP)

- N depends on the socioeconomic and demographic factors
- N depends on the perception and intensity of felt injustice relative to the norm specified in the legislation
- P depends on the perceived cost of seeking a legal remedy, including the cost of time delays
- P depends on degree of awareness of law
- P depends on the accessibility of courts
- P depends on the affordability of legal services

Some of these factors are demand factors and the others are supply factors.

The number of cases coming to the courts will be less if there are good alternative dispute resolution systems (ADRs), such as the one implied by Section 89(1) of CPC. Hence the socio economic and cultural background of the population and presence or absence of alternative dispute resolution system must also be taken due note of. The higher productivity in ADRs might reduce the number of cases brought to the courts and might give an impression of higher productivity in the court system. Many cases under many laws compete for the court time and court resources. The number of cases filed depends on the number of cases filed in the special courts and in special tribunals. The greater the number of cases filed in the special courts and special tribunals the lower would be the number of cases filed in the general courts, other things remaining the same. If the legislation is drafted poorly, reflecting inefficiency in drafting legislation, this will be reflected in an increase the number of cases brought to the court. Thus, the overall improvement in the judicial system consists of productivity at various stages of the system, drafting of legislations, procedures and the functioning of courts etc.

3.3 The Need for Periodic Legal Surveys and Legal Economic Experiments

It has been observed by Justice Madan Lokur and others at the National Workshop on Judiciary Impact Assessment held on November 17, 2007 in Delhi that one of the major concerns facing the judiciary is the degree of uncertainty or ignorance surrounding how many potential cases could be filed when either a new legislation is introduced or when an Act is amended. The above scheme of estimating the demand side is thus an extremely important component of the judicial impact assessment. This part of judicial

impact assessment itself can be treated as an independent research project in its own merit, deserving much greater attention and much deeper understanding.

The number of cases brought to the court is like the raw material processed by the courts, the processed product or service being the number of settled cases. The efficiency of judiciary functioning depends on the level and quality of this raw material used by courts, and the value added by the judiciary services rendered by the judiciary. The actual number of cases filed under a specific Act depends on the potential number of disputes that can arise between persons on issues that are the subject matter of that Act. There are two sides to any litigation. Any dispute resulting in a case is such that its adjudication imposes a cost on one side and provides benefits to the other. The number of cases filed depends on the extent and severity of the difference in these benefits and costs and on the cost of seeking a legal remedy. If people are more law-abiding then there will be fewer cases coming to the courts. In addition the number of cases coming to courts depends on three As, *awareness, accessibility*, and *affordability*; awareness of the law, accessibility to the courts in terms of physical access and in terms of being able to spare the time to go through the legal proceedings, and affordability in terms of the cost (both direct and indirect) of seeking a legal remedy.

There are two different methods that can be employed to elicit this information for estimating the demand for cases. One is conducting systematic national legal surveys, similar to the national health surveys conducted in India or the victimization surveys periodically conducted in USA. Such surveys can elicit information on awareness, accessibility, and affordability described above. They can also elicit information on perceived benefits and costs of certain provisions of law, and on perceived opportunity cost of taking an issue to court etc. Another way of estimating this demand is through an economic experiment conducted prior to designing or drafting any new legislation. This is similar to designing an auction mechanism for auctioning the bandwidth by the telecommunications regulatory authority. Methods of experimental economics can be

applied fruitfully to achieve this.[11] In addition one may use historical data on the number of cases filed by different segments of the society and relating them to some socioeconomic and demographic data for those segments through a regression, and see if a reasonable demand forecasting model can be obtained. Ultimately one can obtain a much better model for estimating the demand for cases by combining primary data, secondary data, and experimental data through slicing of such data by matching cases by certain common characteristics.

3.4 The Judiciary Production Process

The judiciary process is actually a production process that produces a value-added service, a service of dispensing justice, by taking various inputs from the parties involved in dispute, the lawyers, the judges, and other inputs. This is also a multi-stage production process where the output at an earlier stage becomes an input to a later stage, and at each stage there is a production of some value-added service. The Code of Civil Procedures and the Criminal procedure Code actually codify the judiciary process that takes place in different stages. There, however, are some other procedures actually followed not codified in CPC and Cr PC. All these put together constitutes the institutional set up under which the judiciary operates.

We make the following assumptions:

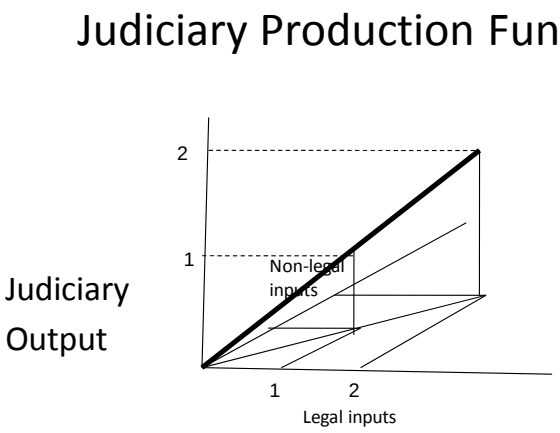
- The multistage judiciary process has some degree of stability
- This production pattern varies between different types of cases and at different stages of the judiciary process
- At each stage and for each type of case the resources required per case is constant so that the resources required for two cases are twice that required for one case

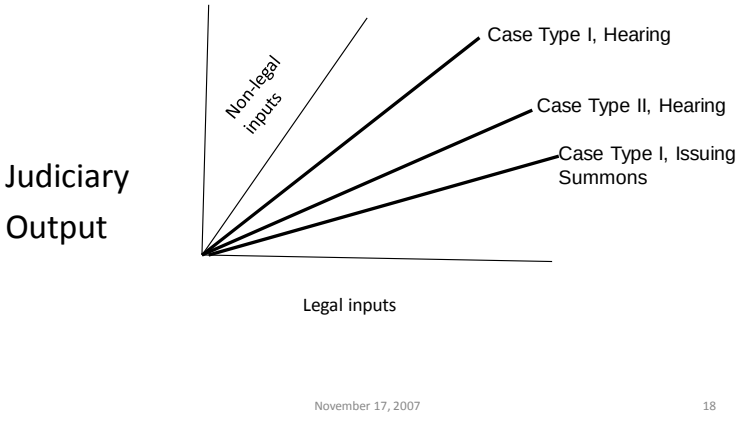
The constancy mentioned above on resource requirements per case holds good for each type of case and for each stage. There can be variations in resources needed by different types of cases, such as civil and criminal, and at different stages.

Following from these assumptions we have what one may call a Judiciary Production Function that depicts the judiciary output as a unique function of the resources used, the

[11] As an illustration of the use of experimental economics to examine the effect of pre-trial negotiations one may see: http://www.data-archive.ac.uk/doc/4242/mrdoc/pdf/a4242uab.pdf

resources being both judiciary resources and non-judiciary resources. This is what economists call as a linear production function with constant returns to scale, or a Leontieff production structure.





The judiciary may function at different levels of efficiency. A more efficient mode of production is associated with a production function that lies above that of a less efficient mode (either produces more judicial output for the same resources or uses less of

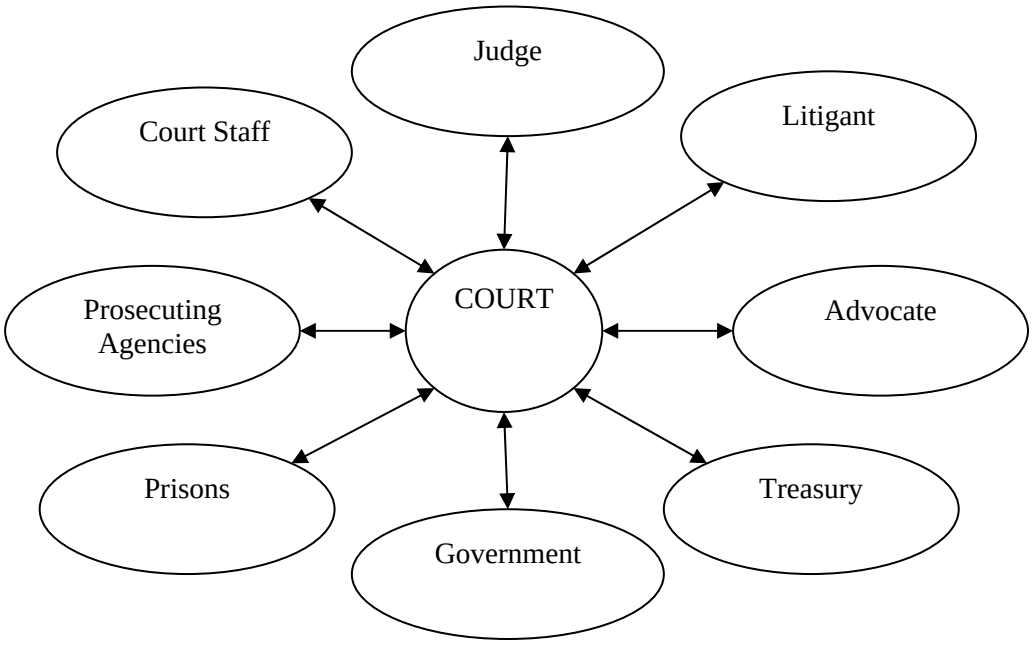
resources for the same level of judicial output). Some of these differences in efficiencies could be due to the extent of effort put in by equally efficient persons. The differences in effort levels can also be due to innate differences in skill levels or differences in innate levels of efficiency. The differences in effort levels are due to either a lack of motivation or due to the individual goals and objectives being different from those of the judiciary system. In these cases Human Resource training programs for the judiciary and non-judiciary personnel will be useful. Such programs may be focused on motivation and incentive compatible methods of achieving congruence of the personal goals and objectives with those of the judiciary system a whole. When the differences in efficiency are due to differences in skill levels efficiency can be improved through identification of gaps in skills and conducting special training programs to reduce such gaps. The differences in efficiency can also be due to lack of specialization.[12]

Such training programs to improve judiciary productive efficiency through augmentation of skills and motivation may be conducted by the National Judicial Academy and the State Judicial Academies. These academies may benefit from contracting a two-phased training on judiciary management, of which the first phase should be a joint research by the NJA faculty and the faculty of the Centre for Public Policy of the Indian Institute of Management, Bangalore. The second stage would be a formal training program on judiciary management by IIM-B faculty to NJA Faculty.

All these kinds of efficiency are clubbed under one category called technical efficiency. There are other instances where resources are used in wrong proportions, such as the skilled judges and lawyers performing functions that could as well be performed by lower paid non-judicial persons. This would reduce the efficiency of judicial persons. Availability of legal information in easily accessible electronic form could reduce the cost, and increase the speed, of making decisions made at various stages. This type of efficiency is called allocative efficiency. The concept of allocative inefficiency means using inputs so that the actual cost of inputs used could be more than what is optimal.

[12] One may see Haire, Lindquist and Hartley (1999).

The stakeholders of the judiciary process are[13]:



In order to study the judicial impact assessment we demarcate the judicial system as the one directly associated with the bench. The stakeholders not directly associated with the court system and their activities are taken as exogenous and given for our JIA study. The administrative work of the court is carried out by

1. Administrative Branch
2. Accounts Branch
3. Civil Branch
4. Criminal Branch
5. Records and Copying Branch
6. Process Branch

The resources of interest are:

- Judges

[13] Taken from National Judicial Infrastructure Plan

- Chief Administrative officer, Sheristedar, Senior Administrative Officer, Registrar, Superintendent, Clerk of Court or Senior Munsarim
- Bench Clerk, Reader, Bench Assistant or Peshkar
- Process Servers or Bailiffs
- Stenographers, Typists and other supporting staff
- Court halls and offices of the courts
- Facilities for the litigants, witnesses, advocates and police which includes waiting rooms, toilets and special needs of disabled, sick, women and children.
- Information technology infrastructure, which includes computer hardware, software, internet connection, telephone, fax, video conferencing and printing/copying facilities.
- Access to bank, post office and hospital
- Other material supplies

Appendix III lists the staff classification used in Karnataka Courts.

It is necessary to understand differential resource requirements of cases arising from different legislations, and of different severity. This requires an understanding of the judiciary process from a perception of injustice by the people to filing of a case to finally its disposition. Such an understanding is possible only with a systematic analysis of data already available on this judiciary process. If there are any data gaps they may be filled in order to understand the system better.

We identified the following stages, in that order, in the judiciary process:

Pre Admission stage

- Filing a plaint
- Scrutiny
- Register/Admission

Pre Hearing Stage

- Issue and service of summons, Notices
    - Application of fresh summons

    - Extension of time
    - Furnishing the copies of plaint and the process fee for the same, if the same was not done properly at the time of issuing the summons
- Written statement
    - Filing of subsequent pleadings Filing of subsequent pleadings
    - Pass orders on an application seeking leave to deliver interrogatories
    - Admission documents and facts
- Determination of Issues
- Record Oral/Documentary Evidence
    - File application for issue of witness summons
    - Payment of batta etc.
    - Use of a commissioner for examination of witness or production of documents

Arguments/ Hearings/ Adjournments/Judgment

- Arguments – Hearings
- Interlocutory Applications
- Pronounce judgment
- Prepare decree
- Certified copies of judgment

The judicial database identifies various stages in the judicial process and stores the date on which the case entered each of these stages

Appendix VI shows the judicial process as identified in judicial database.

The judiciary impact assessment requires that we understand the judiciary process. Once we understand the judiciary process we can then make meaningful inferences based on the data about that judiciary process. In order to make the judiciary impact statement credible it must relate specifically to that legislation for which the impact is being provided. **The basic question we have to address in developing the methodology for the judicial impact assessment for new legislations is therefore if one could use the historic data of old legislations to make inferences on what would happen with a**

new legislation. This question is similar to that of a business economist who asks how he could he use the existing consumer demand for cars in projecting the demand for a new model of a car for which there exists no historic data on consumer demand. Kevin J. Lancaster developed a consumer demand theory for different attributes of the product (Lancaster (1971). Basically what he suggested is that both the old and the new cars have more or less the same attributes but in different intensities and combinations, attributes such as space, shape, color, looks, speed, fuel efficiency, etc. Once we translate the demand for old cars into demands for various attributes for the car then it is possible to estimate what would be the demand for a new car that has different combinations of these attributes. We slightly modify this approach as follows.

We first examine what are all legislations that could be grouped together to form a class to which the concerned legislation could belong. We then collect data pertaining to that group and make inferences on possible judiciary impact for that group. **We may have to then modify that assessment, taking due note of what features make the particular legislation under review differ from the group to which it is assigned. The structure of the judiciary process may also be not static. The data, based on which inferences are made, could refer to different regimes than the future regime.** In this case one may have to modify the assumptions about the model for forecasting the number of cases or of the judiciary production structure. One may assume that there is some "core" or "deep" behavior that remains the same both in the old regime and the new regime, while there could be slight modification as a result of the new judicial structure that could alter the civil and criminal procedures.

The procedure mentioned above is based on an understanding of the statistical patterns observed on models that provides conditional forecasts for the number of cases, and on the average number of judge hours per case. It also involves professional judgment by the judges on the similarity between the cases and sections of different Acts, which is a crucial step in the methodology. **If this proposed method of estimating the judicial impact is to be used for important decisions by the judiciary, it must be based on a credible method and credible evidence. Credibility of the method has to be**

established through a consensus of experts from the respective disciplines such as legal, statistical, and managerial. Such a consensus can be achieved through the Delphi technique. The credibility of evidence or of the data has to be established through a very careful scrutiny of the electronic database. This scrutiny should check for data accuracy, and it must also make sure that all necessary data needed for JIA is available. If some relevant data are not available they must be collected or some reasonable proxies must be used instead of ignoring the relevant data due to its non availability.

We specify the following steps for applying the methodology:

3.5 Demand Estimation

We have to examine the sections of a new legislation. Then we must estimate number of persons, for each section of legislation, who could seek legal recourse to settle an issue through the legal system. For this one must estimate the extent of conflict or dispute that can be generated by various provisions of the legislation. This is possible only if periodic legal surveys are conducted to elicit information from potential litigants.

The existing electronic database needs to be extended to include data obtained from the concerned statistical organization that collects and disseminates socioeconomic data (Central Statistical Organization and State Bureaus of economics and Statistics). In addition the judiciary database should also include data collected through periodic surveys to ascertain people's perceptions on awareness, accessibility, and affordability to seek justice through the courts. Such surveys may also elicit information regarding several aspects of any proposed new legislations so that the demand for the number of cases of new legislations can be estimated. We also need to incorporate in the database information from economic experiments conducted prior to introducing any new legislation.

The demand for number of cases to be filed would depend primarily on

- Socioeconomic and demographic factors (different factors are relevant for different Acts)

- The severity of felt injustice to self or to the public
- The three As: Awareness, accessibility, and affordability
- Effect of new legislations on the existing legislations

(Can reduce or increase workload for other legislations)

The efficiencies mentioned in the following comments may all depend on the number of cases and the number of legislations, and in particular on the number of new legislations

- In case of criminal cases-the efficiency of the prosecution process
    - Inefficiency can generate appeals to a higher court and more workload
- In case of civil cases the efficiency and the strength of plaintiff's case
    - Inefficiency can generate appeals to a higher court and more workload
- In both criminal and civil cases-the efficiency and strength of the defense side
    - Inefficiency can generate appeals to a higher court and more workload

3.6 Judiciary Production Function and Resource Requirements

From a detailed analysis of electronic data on various stages of cases pertaining to different Acts we determine distinct production structures applicable to any Act, as different Acts may exhibit different production relations. Given a new legislation we must first determine the type to which the Act belongs. This can be done by placing before a team of expert judges a set of different production structures that exist for different Acts with different types of rights. They are then asked to determine to which type the new legislation could belong, at least in an approximate sense. This can be done through Delphi technique of generating a consensus.[14]

We assume a production of a value added judicial service at each stage of the production process. The previous stage produces a "product in progress" that is used as a raw material in the current stage. As a first approximation we assume that the judiciary and non-judiciary resources are used in fixed proportions, these being different for different types of cases and different stages.

[14] For a description of Delphi technique and its use in the judiciary one may refer to Ostram, Hall, Hewitt, and Fautsko (2000).

The inputs are:

- The number of each type of cases entering that stage of production
- The number of judges, lawyers, clerks, and other inputs

One can derive from the above, given the number of cases filed

- What the additional inputs required are for a projected demand for cases

3.7 Financial Implications

- Given the unit costs one can estimate the financial implications of a new legislation associated with an estimated demand for cases and the resource requirements that go with it
- Given the unit cost of each of those judicial inputs one can estimate the cost implication of a new legislation

As suggested earlier this type of analysis may be made separately for different types of legislations-social and economic, criminal, and civil. We may present the above steps as follows:

4.0 Pilot Study of the Methodology

It is proposed that the above suggested methodology be pilot tested taking two legislations, one a state legislation, and the other a central legislation that creates burden on the subordinate courts in the state where the pilot testing will be done. For the central legislation we take Arbitration and Conciliation Act of 1996. For the other we take the State Act the Karnataka Municipal Corporations Act of 1976. To examine the feasibility of applying the suggested methodology we collect the data provided by the Karnataka High Court on the cases filed under these two Acts in the City Civil Courts of Bangalore. Before we do that we present below a schematic description of the various steps in the form of a synopsis.

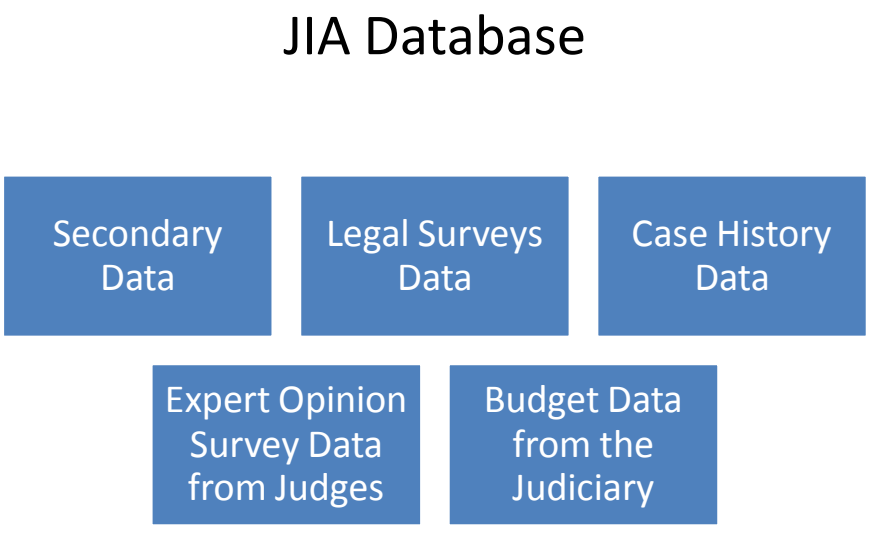
There are several sources of information that must be combined into one electronic database. These are:

- The electronic database of the court system (Data structure given in Appendix III)

- Secondary data on socioeconomic and demographic profiles of people from whom the potential litigants come (This data are available from state and central statistical organizations such as Central Statistical Organization in Delhi and State Bureaus of Economics and Statistics. The judiciary must procure these data and add to the existing electronic database)
- Primary data through national and regional legal surveys, such as national health surveys used for the health sector (The basic summary findings of these surveys must be added to the judiciary electronic database)
- Budgetary data showing the resources used and their unit costs (this data available with the judiciary must be added to the electronic database of the judiciary)
- Expert opinion from the judges (A questionnaire used for the purpose is in Appendix V)

The scheme describe below shows various elements of the JIA database

Database for Judiciary Impact Assessment



The source of electronic data for this study is the data compiled by National Informatics Centre for the Ministry of Law and Justice on case histories or case status from the case filing stage to the latest position on the case. Fortunately for us Karnataka happens to be the state that pioneered the electronic data collection and retrieval. Appendix IV presents the complete data structure of judicial database (the electronic/digitized data collected and maintained by Karnataka high Court).

4.1 A Synopsis of Judicial Impact Analysis (JIA) Methodology

Action	Base it on	Who
Demand Estimation – Number of cases that are likely to be filed		
1. Identify important characteristics of a law 2. Identify the laws which are similar in nature 3. Identify the target population to whom this law might be applicable	The text of the act and the classification done for similar acts	The law makers and judicial experts (NJA)
Collect and analyze the primary data to capture Awareness of law, accessibility of law, and affordability of law 4. Prepare a Questionnaire to capture the perceptual data 5. Administer the Questionnaire to the target population 6. Analyze the response	Base it on the questionnaire in Appendix II. This captures awareness of the potential litigants about the law, the propensity of the person to litigate, the likely expenses he is willing to incur to approach the court etc.	OCA staff
Collect and analyze the secondary data 7. Identify the parameters which might influence the demand of laws which are similar to the new act/law being studied	On the number of cases filed against the similar laws/acts from the judicial database	OCA Analysts and judicial experts from NJA
8. Estimate the demand for the act based on the demand estimation from the primary data and the secondary data mentioned above	Methodology suggested. See Section 4.3	Analysts of OCA and NJA
Judiciary Production Function – Estimate the judicial resources required		
9. Identify the cases filed against the laws which are identified as similar in step # 2 above	The judicial database	Analysts of OCA and NJA

Action	Base it on	Who
10. Calculate the judicial time taken for each of these cases at different stages	Elicit information from the judicial experts using the questionnaire in Appendix V and derive the table in Appendix VI	Analyst of OCA and judicial experts from NJA.
11. Identify the factors or independent variables which can have impact on the judicial time	Methodology suggested. See Section 4.4	Analysts of OCA
12. Estimate the judicial resources that might be required for solving one unit of a case filed	Methodology Suggested. See section 4.4	Analysts of OCA
Estimate the financial implication		
13. Create an estimate of budgetary impact due to an increase in one unit of judge due to the increase in support staff, infrastructure etc.	Methodology Suggested. See Section 4.5	Analysts at OCA
14. Use the estimates of the number of cases filed and the judicial resources required calculate the budgetary impact	Methodology Suggested. See Section 4.5	Analysts at OCA

4.2 Critical View of the Data in the Judicial Database

Any forecast done using predictive analytics techniques, is highly dependent on the quality of data which is used to build the model. Similarly although the existing judicial database is a very good start in automating case flow management, it falls short in the capture of critical data elements which are essential for the kind of analysis that is required for JIA. We list the following critical information which needs to be captured. As we gain more experience in working on the JIA model we might have to refine the information captured in the database. Some of the issues are associated with not entering the data rigorously although provision has been made to capture the information in the judicial data templates. Hence the quality of data is a real issue that must be tackled in order to make the method credible.

Information	What is available	What is required
Section of the act	There is always only one section mentioned against the cases for any act, which is copied from a master file.	The section against which the plea is made should be mentioned in all cases.
Case Type	There is no one to one correlation between each Act/Law the case type	The name of the Act/Law has to be captured either as a case type or in a new field.
Judges who have been assigned to the case	Since the judges can change over the life cycle of a case, only court hall is mentioned.	It is very important to know the case mix a judge is working on at any point in time. Need to capture and retain the names of all the judges who might have handled the case.
Stage / Sub-stage information	The database captures all the stage/sub-stages that a case has been through.	The number of sub-stages looks like very extensive. There is a need to take a look at the list of sub-stages
The time spent on a stage/ sub-stage by a judge	The date on which the case is listed in the court in any sub-stage is captured	There is no information on how long a judge has spent on the case at each stage.
Litigant information	The database has provision for entering rich information on litigants	The fields are blank. Only valuable information available is the last name of the litigant

Information	What is available	What is required
Litigant information	The litigants are not classified.	There is a need to classify the litigants into individuals, businesses, governments, educational institutions etc.
Information about the Lawyers The lack of expertise of the lawyers in the intricacies of the act/law, the number of cases handled by the lawyer, the personal relationship of the lawyer with the judge, experience of the lawyer and his association with a big law house and access to good research have been cited as the reasons for the variation in the time taken by judiciary.	Names of the lawyers are not entered for all case records.	There has to be master database of all the lawyers, their experience, expertise, access to research, number of legal staff available etc. should be maintained. The name of the advocate who is representing the litigants has to be entered in the database.
Information from Prayer	The judicial experts were of the opinion that prayer is a rich source of information for gauging the complexity of a case.	There is need to generate some classifications based on the information in the prayer and the type of relief claimed
The resources used for each case	As of now we have used a very rough thumb rule of 8 supporting staff required for each judge	There is need to capture the man power resources used at each stage of a case life cycle.

Information	What is available	What is required
The cases which are in process	Since the computerized database captures the information of the cases filed since 2003, the information about the cases which were filed earlier, but still in process is missing	It will be important to track all the cases which are not yet disposed.
Survey to gauge the potential litigants	Since the social circumstances keep changing, the number of cases filed change even when there is no change in an act.	Need to have a continuous improvement in the forecasting model by administering the questionnaire and analyzing the data.
Classification of the Acts	The classification of the acts and identifying the characteristics of the acts which might have impact on the demand is not a one time job. There is a need to take the opinion of the judicial experts on a regular basis and monitor and improve the forecasting model.	We have excellent academic and research institutions such as National Law School and National Judicial Academy who can be entrusted with this task

4.3 Estimating the Demand

For estimating the number of cases filed against these acts under consideration we have used secondary data such as Gross State Domestic Product, Property Tax Paid etc. The actual number of cases filed under the two selected Acts classified by certain characteristics as given in the judicial database is given below:

Year wise list of number of cases filed against the acts being studied

Name of the Act	Case Year	Total Number of cases Filed	The case is related to financial transaction	The case is an appeal	The case asks for an injunction	Case is related to Tax matters
Arbitration and Conciliation Act 1996	2003	135	15	110	46	0
	2004	121	14	87	48	0
	2005	146	12	101	69	0
	2006	249	62	152	101	0
	2007	395	27	111	239	1
	2008	98	2	16	37	1
Karnataka Municipal Corporation Act 1976	2003	111	27	65	6	12
	2004	121	2	116	0	82
	2005	94	1	77	11	27
	2006	75	4	67	11	5
	2007	61	7	55	2	14
	2008	26	1	24	18	0

The number of cases filed against various secondary data measures is shown in Appendix IX.

We need to collect data on individual perceptions about various sections of the Act and on awareness of law, accessibility of law, and affordability of law by administering a survey. For any act such type of questionnaire, as shown in Appendix II (two model questionnaires are developed for the two selected Acts), need to be designed and administered and data need to analyzed through regression models for estimating the number of potential litigants in that region.

We assume that the number of potential cases under the Conciliation and Arbitration depends on:

- State Domestic Product or Income during the year (From secondary data; Appendix IX provides limited data series for this variable and its significant effect on number of cases)
- Proportion of contracts that allow for arbitration by an arbitrator (From primary survey- A questionnaire designed for this is given in Appendix II)
- Awareness of law, accessibility of law, and affordability of law
  (From the primary survey-Appendix II)

The regression model fitted to predict the number of cases filed under Arbitration and Conciliation Act -1996 using the secondary data alone, *viz.* on state gross domestic product, is given in Appendix X. As per the fitted model, mean predicted number of cases filed for year 2008-2009 is 294, and lies within a range of 135-453 with a confidence interval of 95%. Thus a credible statistical model for the number of cases filed will give not only the mean expected number of cases filed but also the range within which the number could lie with 95% confidence. One can use the upper and lower bounds to come up with a possible range of values for the number of cases.

This model is just illustrative of the benefit of the proposed methodology in generating reasonable estimates for the expected number of cases to be filed under a new law provided we have a better credible model that uses primary data and secondary data together in a full-fledged model for estimating the number of cases.

We assume that the number of potential cases under the Karnataka Municipal Corporation Act will depend on:

- Property tax collected during the year (From secondary data; Appendix IX)
- Awareness of law, accessibility of law, and affordability of law
  (From primary survey-Appendix II)

We could not implement a regression equation for number of cases in KMC Act using the secondary data on property tax as such information was readily available only for the

latest available year. But the method to be used is more or less same as what is indicated and illustrated above for The Conciliation and Arbitration Act 1996.

4.4 Estimating the Judicial Resource Requirements

Given the description of various stages of the judiciary process given in the previous section our next step is to understand the structure of judiciary production in terms of the resources needed at each stage of the process for handling each case. As we said already these resource requirements might vary from case to case, depending on the type of the case, defined in some clear terms, and by the severity of the case. Our understanding of this judiciary process depends on the availability of information collected.

The judicial database provided to us by the Karnataka High Court gives us information on two major time duration items:

- The cumulative time taken from the date of filing of a case to the last stage of that case
- The time taken between two consecutive court sessions

By combining these two we get the total time elapsed between filing and final disposal of a case at any of the stages. Tables 1 and 2 below present the total time lapsed in days for different types of disposals of a case.

Table1: Arbitration and Conciliation Act 1996: Time Elapsed (in days) Between Filing a Case and Final disposal-2003-2008

Type of Disposal	**Nature of Disposal**	**Average Elapsed Days till the Disposal**
		51.00
ALLOWED	CONTESTED	794.36
CLOSED	NON-CONTESTED	1393.80
COMPROMISED	NON-CONTESTED	512.28
DECREED	CONTESTED	688.64
DISMISED FOR DEFAULT	NON-CONTESTED	1578.99
DISMISSED	CONTESTED	1655.83
ORDER ON ADMISSION	NON-CONTESTED	2352.00
ORDERED EX-PARTE	NON-CONTESTED	349.00
PARTLY ALLOWED	CONTESTED	1733.49
PARTLY DECREED	CONTESTED	415.90
PLAINT REJECTED/RETURN	CONTESTED	9.00
WITHDRAWN	NON-CONTESTED	326.59

Table2: Karnataka Municipal Corporation Act 1976: Time Elapsed (in days) Between Filing a Case and Final disposal- 2003-2008

Type of Disposal	Nature of Disposal	Average Elapsed Days till the Disposal
ALLOWED	CONTESTED	1705.15
CLOSED	NON-CONTESTED	1172.24
COMPROMISED	NON-CONTESTED	3.00
DECREED	CONTESTED	501.00
DISMISED FOR DEFAULT	NON-CONTESTED	1366.22
DISMISSED	CONTESTED	1530.45
PARTLY ALLOWED	CONTESTED	2270.00
PARTLY DECREED	CONTESTED	470.00
WITHDRAWN	NON-CONTESTED	796.71

As establishing credibility of evidence is important, there must be a serious effort at checking the data for errors before it can be used for judicial impact assessment. This is a task that the judiciary must undertake before using the data. This is a task that we suggest the proposed OCA undertake with the help of NJA.

We need to link the case history with each judge so as to obtain the case mix of each judge, and the judge time used in processing cases of different types. All that information gives us the caseload, along with case mix handled by judges. Unfortunately the existing database does not identify the judge to whom the case is posted. Such data, however, seems to be available in digitized form elsewhere. It is desirable to put these together into one database. We use, therefore, an indirect method for deriving the judge time for a case.

The following table shows the year wise number of disposed cases (under all possible acts) in the city civil court of Bangalore for the years 2003 to 2007.

Year	Number of Judges	Average days	Total judge days	Number of cases Disposed
2003	39	281.4872	10978	16033
2004	42	271.9762	11423	6997
2005	45	254.6444	11459	5636
2006	49	207.7959	10182	3344
2007	69	187.7536	12955	17504

This database does not record the number and time taken by judicial resources such as judges. In order to have judicial impact assessment we need information on such resources used at each stage of processing of a case. In the absence of availability of this information in the judiciary database we resorted to an alternative method to get an estimate of that time. This we did by eliciting the average estimate of time taken for each stage from judges who have the first hand information on this. We obtained this information from two retired judges on the time taken at each stage of a typical case. The questionnaire we used to elicit information from the two judges is given in Appendix V. The average of these estimated times were assigned to each stage of a judicial process as tracked in the computerized database (Appendix VI).

The judicial database records the number of times a case is scheduled at each of the stages listed in appendix VI. By combining the average time estimates given by the experts, we were able to calculate the time taken at each stage for any case in the database. If a case is adjourned on a particular day, the judicial time is estimated to be 1 minute. The total judicial time taken for disposing a case is just the sum of judicial time taken at each stage.

Next we need to know the nature of litigants. The judicial database does not classify the litigants in any manner. We classified the litigants into to Businesses, Government and Individuals based on the litigant name. Next we wanted to see if we can codify the information contained in the prayer or the relief claimed. We classified the cases into several categories, such as

1. Is the case is an appeal or if an arbitrator was used in the previous hearings.
2. If any financial compensation being claimed in the prayer
3. If the case is related to a property dispute
4. If any injunction was asked for by the parties
5. If it is related to tax matters
6. If the case is regarding vehicle re-possession.

We also wanted to see if the number of words in prayer, order or judgment, is an indication of the complexity of the case which will have an impact on the time taken. The backlog of cases in the court system will definitely have an impact on the time taken for disposal. We found the number of cases filed and disposed off during the life time of each case and used that as a measure of backlog.

Regression technique was used to find the significant factors which have an impact on the judicial time taken. The model is listed in Appendix XI. Appendix VII lists the important factors which have a bearing on the judicial time taken for cases filed under the acts under study. The appendix also lists the estimates of average judicial time taken at important stages of a case. As a result of the regression model for judicial time we are able to estimate the judicial time taken for the disposal of a case at any of various stages identified in the stage related explanatory variable of the model.

4.5 Estimating the budget

After having estimated the number of potential litigants and the time taken for resolving the cases, the budgetary impact can be assessed based on the existing judiciary structure. In Karnataka courts it can be estimated that on an average 7 support staff are required per judge. Average annual salary of a judge is Rs.5,20,000/- and average salary of an average staff is 1,36,000/- based on the budgetary estimates for the City Civil Court Bangalore. The total annual budgetary load for every increase of one judge could be around Rs. 14,72,000/-.

Strictly speaking under our JIA we need to obtain a credible estimate for the number of future cases likely to be filed under a new Act. Using that number and the judicial time taken to dispose of those cases, under an assumed stage mix of disposal of cases, one must arrive at the total judicial time required. We must then convert that into number of judges and other supporting staff and other supporting resources needed). While the suggested methodology clearly illustrates the method in that ideal situation, we depart slightly and present our JIA for the actual number of cases filed under the two Acts.

The following table gives the average number of judges required for the acts under consideration.

Case Year	KMC Act 1976			A/C Act 1996		
	Average Predicted Time	**Predicted Number of judges**	**Estimated Budget (in Lakhs)**	**Average Predicted Time**	**Predicted Number of judges**	**Estimated Budget (in Lakhs)**
2002	20485.18	13.66	201.03	31104.20	20.74	305.24
2003	31576.00	21.05	309.87	30126.00	20.08	295.64
2004	20961.00	13.97	205.70	27118.80	18.08	266.13
2005	18387.33	12.26	180.44	24764.00	16.51	243.02
2006	8956.00	5.97	87.89	19061.00	12.71	187.05
2007	4740.00	3.16	46.52	15037.00	10.02	147.56
2008	235.49	0.16	2.31	1688.00	1.13	16.56

In the above table it has to be realized that the number of judges is based on the year in which the case is filed and not the year in which it is disposed.

5.0 Recommendations

- The existing judiciary electronic database may be improved to meet the specific needs of JIA.
- Supplementary data such as legal survey data eliciting attitudes and perceptions, legal experiments data, and secondary data on potential litigants and their socioeconomic and demographic profiles, should be collected and made a part of the extended database for JIA.
- In order to facilitate implementation of judicial impact assessment and judicial planning and budgeting a new Office of Court Administration (OCA) be created with headquarters in the Supreme Court and braches at the High Courts.
- OCA may collect and maintain judiciary data in a computerized database such as Public Access to Court Electronic Records (PACER) in USA (see the link:http://pacer.psc.uscourts.gov/) and make it available at a fee to the litigants, defendants, their lawyers, and to researchers selectively based on secured limited access.
- OCA may conduct and publish reports periodically on important research and analyses using these data. OCA may establish a long term association with the

National and State Judiciary Academies, and the Centre for Public Policy of Indian Institute of Management in order to carry out such studies.

- It is recommended that a consortium of three institutions identified below be chosen to conduct further studies on JIA as suggested in this report. These institutions are: Center for Public Policy of Indian Institute of Management, Bangalore, National Judicial Academy, Bhopal, National Law School of India University, and the Karnataka State Judicial Academy
- OCA may be given overall responsibility for assisting the judiciary with respect to court administration and management, including judiciary impact assessment, judiciary budget planning, and dealing with the legislative and executive branches of government.
- OCA may be staffed with an interdisciplinary team drawn from law, economics, statistics, sociologists (including criminologists), computer scientists, and management.
- As it is difficult to provide promotional opportunities to people drawn from such diverse subjects within the organization it is recommended that only a limited number of senior appoints be made and junior staff be recruited from other institutions through deputation or through a young scholar program.
- National Judicial Academy and the state judicial academies may be enlisted for supporting research and training in the area of judiciary budget planning and judiciary management.
- There should be a two-phase collaborative program between NJA faculty and faculty of the Centre for Public Policy of IIM-Bangalore. In the first phase faculty of both institutions learn from each other the domain expertise on the judiciary and on management through joint research involving research articles and case studies. In the second phase the faculty of NJA will be offered training in general management so that they can conduct judiciary management training programs at NJA.
- In order to provide a constitutional mandate to implement the suggested methodology, as a part of budgeting process, it is recommended that suitable amendments be made to the Finance Act to make it mandatory to allocate

financial resources for a Judiciary budget which is carefully prepared as per new Act that may be called Judiciary Budgeting and Management Act to be introduced in the parliament for preparation of a credible judiciary budget aimed at providing a reasonable level of judicial service, independent of any executive control on its size beyond a reasonable limit. The provision for the creation of OCA must be a part of this new Act

- It is noted that any central act will create caseloads on the courts within various states. As law and order is a state subject the responsibility to meet the judiciary expense lies with the states. One of the reasons for backlogs in the courts could be due to the state governments not having enough financial resources due to limited taxation powers. In view of this the Supreme Court may consider asking the 13th Finance Commission to devise a suitable formula to allocate central funds to states to meet the requirements. The methods suggested in this report can be used to develop such formulae.

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Appendix I: Classification of Cases into Various Tracks

Tracks from Notification **LAW 294 LAC 2005**

Categorization of suits and other proceedings - 1) The Presiding Officer of the Court shall categorize the suits and proceedings in his Court into Track-I, Track-II, Track-III and Track-IV.

- **Track-I**: l) Maintenance 2) Child Custody 3) Appointment of guardian and wards, (4) Visiting rights, (5) Letters of Administration, (6) Succession Certificate, 7) Recovery of Rent, (8) Permanent injunction.
- **Track- II**: 1) Execution cases, (2) Divorce, (3) Ejectment.
- **Track III**: (1) Partition. 2) Declaration, (3) specific performance, (4) Possession, (5) Mandatory Injunction, (6) Appeals, (7) Damages, (8) Easements, (9) Trade marks, Copy Rights, Patents, (10) intellectual Property Rights.
- **Track-IV**: Such other matters not included in Track-I to III shall be posted in Track IV.

The Presiding Officer shall endeavor to dispose of the cases in Track-I within 9 months, the cases in Track-II within 12 months and the cases in Track-III and IV within 24 months from the date of appearance or deemed appearance of defendant-respondent.

NOTE: The time prescribed for disposal of the Suit/Proceeding is the maximum time
Other time limits

- The Summons/Notices issued in suit or proceeding shall indicate maximum of 30 days for filing written statement/objection from the date of service

- The process if paid in time for service, the case to be posted not later than 15 days from the date of issuance of summons or notice, for appearance.

Calling of cases.- The stages of the suit or proceeding shall be as follows:-

(a) Steps for service of summons/Notice.
(b) Appearance of the parties.
(c) Filing of Written Statements, Objections.
(d) Hearing of Interlocutory Application.
(e) Reference to *Arbitration, mediation and Lok Adalaths.
(f) Naming of issues (for suits).
(g) Evidence: - Examination-in-chief by affidavit, Cross –examination and Re-examination.
(h) Arguments.
(i) Judgment

The Presiding Officer shall Cause preparation of two cause-Lists of the cases for the calling work every day.

1. The case at the stage of hearing Interlocutory Applications, reference to arbitration or mediation or Lok Adalath, evidence including the examination in- chief by affidavit, cross-examination of witness, arguments and judgment shall be listed in cause list No. 1.
2. The case at the stage of steps for service of summons/notice, appearance, filing of written statement or objections or rejoinder and framing of issues shall be listed in cause list No.II.

The cases Listed in cause list No.1 shall be called in Open Court by the Presiding Officer. Cases will move from List –II to List-I after a maximum of 90 days, if no extension is asked for.

The cases to be posted in List No. I for cross-examination and arguments shall not be more than 8 cases and 2 cases respective.

The Interlocutory Applications shall be disposed of within 30 days from the date of appearance of the other side.

APPENDIC II

Primary Questionnaire for Demand Estimation: KMC Act, 1976

Household Information (Information to be provided by Resident)						
Name	Age	Sex	Marital Status	Occupation	Number of residents in Household	Total Household Gross Income
Type and number of vehicles	Car		Two wheelers			
Residential Information (place of current stay)						
Type of residence	Type of ownership			Duration of stay		
1-house 2-apartment	1-rented 2-leased 3-own(Individual) 4-Own(Family inheritance)					
Other Property ownership						
Type of Property	House	Apartment		Land	Business Premises	Others
Number Leased-in						
Numbers Owned						
Of the owned number rented/leased out						
Propensity to approach the court						

1. Have you ever approached a court of law for any reason? If yes please list the following for each case a. The name/section of the act under which it was filed b. How long the case has taken for resolution c. How much did you spend	
2. Have you taken any legal help from a lawyer?	
3. Awareness about the law a. Are you aware of the KMC Act – Y/N b. If yes have you filed a case against the provisions of this act? c. Are you aware of anyone you know who has filed a case against this act?	

In the following scenario how likely are you going to approach the court						
Sr.No	Scenarios	1-Least Likely	2	3	4	5-Most Likely
1	BBMP has unjustly increased the property tax					
2	BBMP has not provided the basic amenities(Street lamps, roads drains etc)					
3	BBMP wants to acquire your property for expanding the road/Metro					
4	You have a trouble with the tenant to whom you have leased your property					
5	A business has started in your locality violating the zoning law					

Appendix IIb: Primary Questionnaire for Demand Estimation: Arbitration and Conciliation Act 1996

Household Information (Information to be provided by Resident)						
Name	Age	Sex	Marital Status	Occupation	Number of residents in Household	Total Household Gross Income
Type and number of vehicles	Car		Two wheelers			

Residential Information (place of current stay)			
Type of residence	Type of ownership	Duration of stay	
1-house 2-apartment	1-rented 2-leased 3-own(Individual) 4-Own(Family inheritance)		

Details of the Occupation (Only for the individuals)					
Type of Occupation	Self Employed	Retired	Private Sector	Government/Public Sector	Others

Have you signed a contract as a part of your employment or service provided/received	Yes/No
Are you aware of any arbitration clause (submit to arbitration for all disputes that might arise) mentioned in the contract	Yes/No

Details of the Business (For Businesses)					
Type of business	Proprietary	Partnership	Private Ltd	Government/Public Sector	Others
If you own a business, how many people are employed by you?					
Have you signed a contract with your employees					Yes/No
Are you aware of any arbitration clause (submit to arbitration for all disputes that might arise) mentioned in the contract					Yes/No
The Annual turnover in Rs.					
Do you	Have Lawyers as employees	Have a lawyer as a retainer			Have no Lawyers
Number of Lawyers					

Propensity to approach the court	
4. Have you ever approached a court of law for any reason? If yes please list the following for each case a. The name/section of the act under which it was filed b. How long the case has taken for resolution c. How much did you spend	
5. Have you taken any legal help from a lawyer?	Yes/No
6. Have you ever gone to an arbitrator for resolving any dispute	Yes/No

Awareness about the law	
Are you aware of Arbitration and Conciliation Act -1996	Yes/No
If yes have you filed a case against the provisions of this act?	Yes/No
Are you aware of anyone you know who has filed a case against this act?	Yes/No

In the following scenario how likely are you going to settle for an arbitration / accept the judgment of an arbitrator						
Sr.No	Scenarios	1-Least Likely	2	3	4	5-Most Likely
1	Your employer has unilaterally terminated your employment					
2	Your employee has breached the contract that was signed at the time of employment					
3	Your business partner has breached the contract that you have signed					
4	You have hired a contractor to build a house and he has not built the house as per the contract signed/ price negotiated					
5	You have bought a product from a shop and is not functioning satisfactorily and the shop keeper is refusing to replace					
6	Your partner or others are illegally providing service under name of your business					

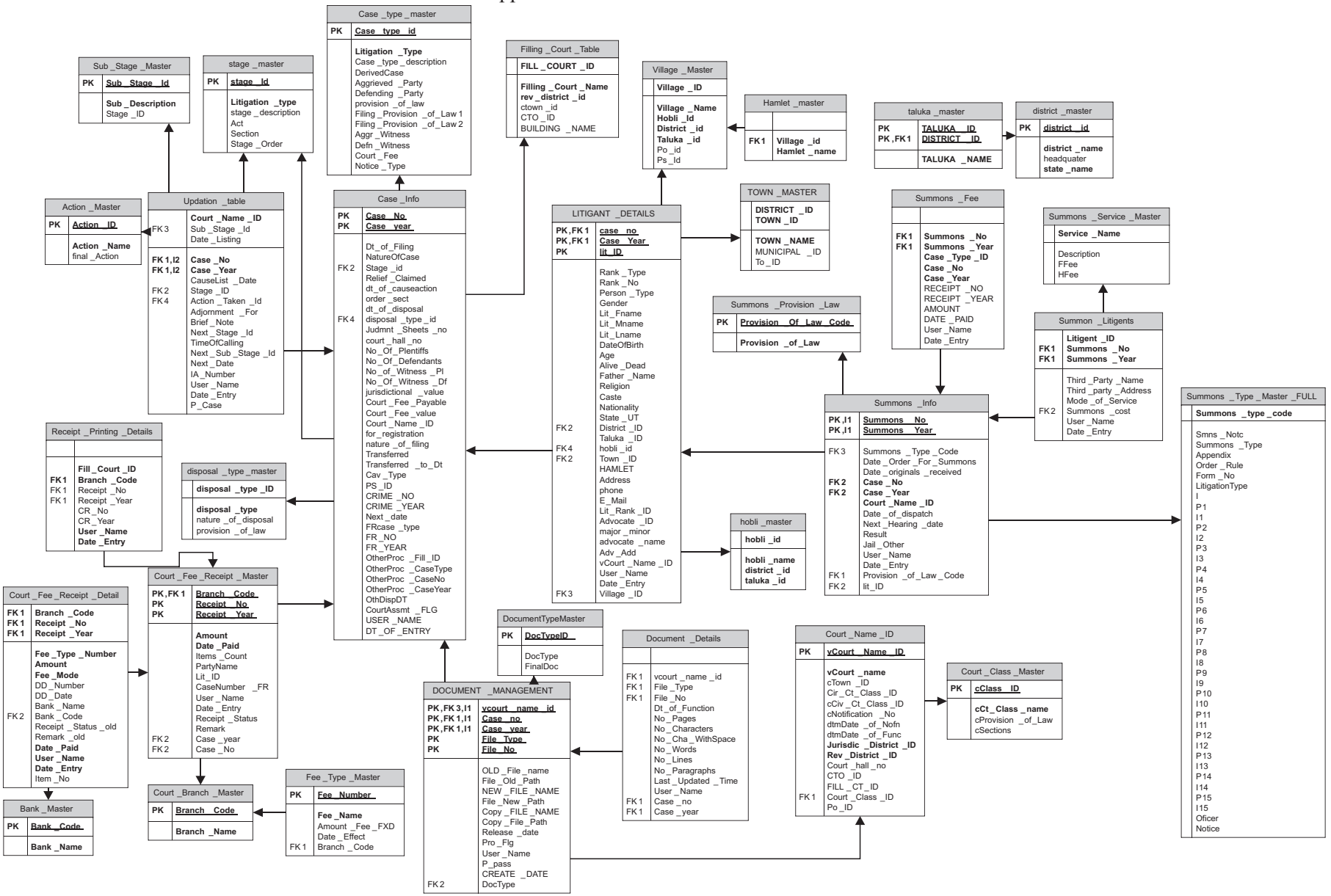
What are the chances that you will approach the court?				
Amount at stake	Time Taken	Court Fee	Complexity of paper work	Rating 1-Least Likely 5- Most Likely
Rs.10,000	3 Months	Rs.100	Easy	
Rs.10,000	6 Months	Rs.100	Easy	
Rs.10,000	3 Months	Rs.1000	Easy	
Rs.10,000	6 Months	Rs.1000	Easy	
Rs.10,000	3 Months	Rs.100	Complex	
Rs.10,000	6 Months	Rs.100	Complex	
Rs.10,000	3 Months	Rs.1000	Complex	
Rs.10,000	6 Months	Rs.1000	Complex	
Rs.50,000	3 Months	Rs.100	Easy	
Rs.50,000	6 Months	Rs.100	Easy	
Rs.50,000	3 Months	Rs.1000	Easy	
Rs.50,000	6 Months	Rs.1000	Easy	

What are the chances that you will approach the court?				
Amount at stake	Time Taken	Court Fee	Complexity of paper work	Rating 1-Least Likely 5- Most Likely
Rs.50,000	3 Months	Rs.100	Complex	
Rs.50,000	6 Months	Rs.100	Complex	
Rs.50,000	3 Months	Rs.1000	Complex	
Rs.50,000	6 Months	Rs.1000	Complex	
Rs.1,00,000	3 Months	Rs.100	Easy	
Rs.1,00,000	6 Months	Rs.100	Easy	
Rs.1,00,000	3 Months	Rs.1000	Easy	
Rs.1,00,000	6 Months	Rs.1000	Easy	
Rs.1,00,000	3 Months	Rs.100	Complex	
Rs.1,00,000	6 Months	Rs.100	Complex	
Rs.1,00,000	3 Months	Rs.1000	Complex	
Rs.1,00,000	6 Months	Rs.1000	Complex	

Appendix III- Resource Chart used in Karnataka Courts

C01	Presiding Officer
C02	Chief Administrative officer (C.A.O.)
C03	Assistant Registrar
C04	Sheristedar
C05	FDA
C06	SDA
C07	Typist
C08	Typist-Copyist
C09	Judgment-Writer
C10	Stenographer
C11	Bailiff
C12	Attender
C13	Daphedar
C14	Peon
C15	Process Server
C16	Registrar
C17	Deputy Registrar
C18	Driver
C19	Clerk
C20	Scavenger
C21	Cleaner

Appendix IV: Structure of electronic Data



Appendix V: Questionnaire to elicit information from judges

This is to be filled by the experts

	Approximate number of Resources used and average time taken by the each resource **(If cases go through a stage multiple times give the aggregate)** **If resource requirements change in relation to A-Nature and number of Parties and B- Type of proceedings, please record the deviation**			
	Judge Hours	**Other paralegal hours (Refer Coding C below)**	**Any other**	**Any source of such information**
Pre Admission stage				
• Filing a plaint • Scrutiny • Register				
Pre Hearing Stage				
• Issue and Service of Summons, Notices o Application of fresh summons o Extension of time o Furnishing the copies of plaint and the process fee for the same, if the same was not done properly at the time of issuing the summons				
• Written statement o Filing of subsequent pleadings Filing of subsequent pleadings o Pass orders on an application seeking leave to deliver interrogatories o Admission documents and facts				
• Determination of Issues				
• Record Oral/Documentary Evidence o File application for issue of witness summons o Payment of batta etc. o Use of a commissioner for examination of witness or production of documents				

	Approximate number of Resources used and average time taken by the each resource (If cases go through a stage multiple times give the aggregate) If resource requirements change in relation to A-Nature and number of Parties and B- Type of proceedings, please record the deviation			
	Judge Hours	**Other paralegal hours (Refer Coding C below)**	**Any other**	**Any source of such information**
Arguments/ Hearings				
• Arguments -Hearings				
• Interlocutory Applications				
• Pronounce judgment				
• Prepare decree				
• Certified copies of judgment				

Legend

A= Nature of Parties	**A: Nature of Parties**	**B: Type of Proceedings:**	**C: Nature of Court Personnel**
B = Type of Proceedings	A1: Individual	B1: Final Orders/Decrees	C1: Registrar(s)/Sheristedar
C= Nature of Court Personnel	A2: Government	B2: Interim Orders/Partly Decreed	C2: Typists/Stenographers/Copywriters/Judgment writers
	A3: Corporate	B3: Dismissal/Rejection/Withdrawn	C3: Bench Clerk, Reader, Bench Assistant or Peshkar
		B4: Ex-Parte Orders/Judgments	C4: Process Server/Daphedar/Bailiff

Appendix VI: Average estimated judge time invested at each stage of a civil court process

Stage Description	Sub Stage	Estimated Judicial Time (Minutes)
SUMMONS	STEPS	1
	APPEARANCE OF COUNCIL	1
	SUBPHEONO SS	1
	L.R. NOTICE	1
	AWAIT SUMMON/NOTICE	1
	SUMMONS	5
	RP NOT PAID	1
	PAPER PUBLICATION	1
	WRITTEN STATEMENT	5
	ORDERS ON IA	5
	NOTICE RETURNED UNSERVED	1
	SS TO DEFT. BY SUB-SERVICE	1
	COURT NOTICE TO DEFT.	1
	AMENDMENT OF W.S.	1
	NOTICES	5
	VAKALATH OF DEFTS.	5
	OFFERING OF SECURITY	1
	ISSUE COMMISSIONER WARRANT	5
	OBJECTION ON IA	1
	PRODUCTION OF DOCUMENT	1
	PF/CF	1
	COURT NOTICE TO PLFT.	1
	OBJECTIONS	5
	IMPLEADING APPLICATIONS	1
	CLAIM STATEMENT	1
	NULL	1
	AWAIT RECORDS	1
	NOTICE ON IA	1
	AWAIT SUBPHEONO SS	1
	AWAIT ORDERS	1
	HEARING ON IA	5
	SS TO DEFT. BY RPAD	1
	TO FURNISH PLAINT COPY TO DEFEDENTS	1
	L.R'S APPLICATION	1
	AMENDMENT	1
	AWAIT COMMISSIONER WARRANT/REPORT	1
NOTICE	NULL	1
	ISSUE CAUSE NOTICE	1
	ISSUE SHOW CAUSE NOTICE TO GARNISHEE	1
	ISSUE SALARY ATTACHMENT WARRANT	1
	COMPLIANCE OF OFFICE OBJECTIONS	1
	STEPS BY	1
	AWAIT AMOUNT	1
	CALL FOR AMOUNT	1
	BALANCE BY	1
	OBJECTION OF JUDGMENT-DEBTOR	1

Stage Description	Sub Stage	Estimated Judicial Time (Minutes)
	TO FURNISH DEFICIT P.F	1
REJECTION OF PLAINT	OBJECTION ON IA	1
	OBECTION	1
	NULL	1
APPEARANCE OF PARTY	Null	1
HEARING	ISSUE SALE PROCLAMATION & SALE WARRANT	5
	ISSUE SALE NOTICE	5
	ISSUE DELIVERY WARRANT	5
	TO FURNISH NON-JUDICIAL STAMP PAPER	5
	TO FURNISH DRAFT SALE DEED	5
	TO DEPOSIT COMMISSIONER'S FEE	5
	ISSUE ATTACHMENT WARRANT OF MOVABLES/IMMOVEABLES	5
	ISSUE ARREST NOTICE / WARRANT TO JDR	5
	SALE FEE AND VERIFIED STATEMENT	5
	PRESENT SALE DEED FOR REGISTRATION	5
	PREPARE SALE DEED AND PUT UP	5
	OFFICE TO VERIFY THE DRAFT SALE DEED AND PUT UP	5
	ISSUE COMMISSIONER'S WARRANT	5
	NULL	5
A.D.R.	MEDIATION	10
	LOK ADALATH	10
	ARBITRATION	10
	CONCILIATION	10
ISSUES	HEARING ON PRELIMINARY ISSUES	60
	NULL	60
	DRAFT ISSUES	60
	ADDL. ISSUES	60
LIST OF WITNESS AND DOCUMENTS	NULL	1
EVIDENCE	CROSS-EXAMINATION OF JUDGMENT-DEBTOR	30
	AWAIT ORDERS/REPORT FROM LAND TRIBUNAL	30
	CROSS-EXAMINATION OF DECREE-HOLDER	30
	CROSS EXAMINATION OF PW	30
	AWAIT ORDERS FROM HON'BLE HIGH COURT	1
	CROSS EXAMINATION OF DW	30
	CLAIMANTS EVIDENCE	30
	SS TO WITNESSES	30
	PLNTF EVIDENCE	30
	FURTHER EVIDENCE FOR PLNTF	30
	FURTHER EVIDENCE FOR DEFND	30
	EXPARTE EVIDENCE	30
	EVIDENCE OF OBJECTOR	30
	AFFIDAVIT EVIDENCE	10
	EVIDENCE OF JUDGMENT-DEBTOR	30
	EVIDENCE OF DECREE-HOLDER	30
	NULL	30
	DEFN EVIDENCE	30
ARGUMENTS	ARGUMENTS	60

Stage Description	Sub Stage	Estimated Judicial Time (Minutes)
	WRITTEN ARGUMENTS	10
	CLAIMANTS ARGUMENTS	60
	HEARING ON IA	60
	FURTHER ARGUMENTS	60
	ARGUMENTS BY ADV. PLFFS.	60
	NULL	60
	ARGUMENTS BY ADV. DEFTS.	60
JUDGMENTS	NULL	90
ORDERS	AWAIT FURTHER ORDERS	10

Appendix VIIa Estimates of Average Judicial Time (Minutes) for cases related to Arbitration & Conciliation Act – 1996

	Case year 2003				Case year 2005				Case year 2006				Case year 2007				Case year 2008			
Stage value		The case is an appeal	The case is related to financial transaction	Case is Arbitration Suit		The case is an appeal	The case is related to financial transaction	Case is Arbitration Suit		The case is an appeal	The case is related to financial transaction	Case is Arbitration Suit		The case is an appeal	The case is related to financial transaction	Case is Arbitration Suit		The case is an appeal	The case is related to financial transaction	Case is Arbitration Suit
Summons	53.59	56.04	56.99	86.50	9.94	56.04	56.99	42.85	0.00	56.04	56.99	0.00	0.00	56.04	56.99	15.62	0.00	56.04	56.99	26.01
Hearing	62.49	64.94	65.89	95.40	18.84	64.94	65.89	51.75	0.00	64.94	65.89	0.00	0.00	64.94	65.89	24.52	2.00	64.94	65.89	34.91
Order	181.66	184.10	185.05	214.57	138.01	184.10	185.05	170.92	82.45	184.10	185.05	115.36	110.77	184.10	185.05	143.68	121.17	184.10	185.05	154.08
Arguments	142.76	145.21	146.16	175.67	99.11	145.21	146.16	132.02	43.56	145.21	146.16	76.47	71.88	145.21	146.16	104.79	82.28	145.21	146.16	115.19
Evidence	196.30	198.74	199.69	229.21	152.65	198.74	199.69	185.56	97.09	198.74	199.69	130.00	125.41	198.74	199.69	158.32	135.81	198.74	199.69	168.72
Judgment	130.98	133.43	134.37	163.89	87.33	133.43	134.37	120.24	31.77	133.43	134.37	64.68	60.09	133.43	134.37	93.00	70.49	133.43	134.37	103.40
List of Witnesses and Documents	148.46	150.91	151.86	181.37	104.81	150.91	151.86	137.72	49.25	150.91	151.86	82.16	77.57	150.91	151.86	110.48	87.97	150.91	151.86	120.88
Total Time	**916.24**	**933.37**	**940.00**	**1146.61**	**610.70**	**933.37**	**940.00**	**841.07**	**304.12**	**933.37**	**940.00**	**468.67**	**445.73**	**933.37**	**940.00**	**650.41**	**499.72**	**933.37**	**940.00**	**723.19**

Appendix VIIb: Estimates of Average Judicial Time (Minutes) for cases related to KMC Act-1976

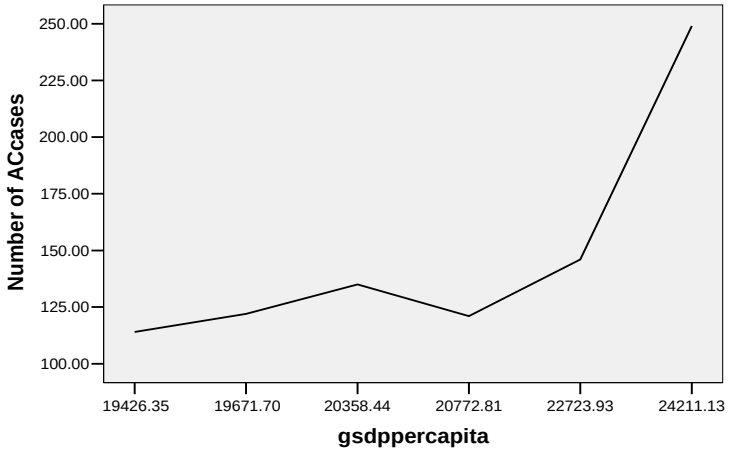
	Case year 2003				Case year 2004				Case year 2006				Case year 2007			
Stage value		The case asks for an injunction	The case is related to financial transaction	Case is related to Tax matters		The case asks for an injunction	The case is related to financial transaction	Case is related to Tax matters		The case asks for an injunction	The case is related to financial transaction	Case is related to Tax matters		The case asks for an injunction	The case is related to financial transaction	Case is related to Tax matters
Summons	103.43	33.26	100.93	27.70	105.59	33.26	100.93	29.86	19.02	33.26	100.93	0.00	42.61	33.26	100.93	0.00
Order	142.26	72.09	139.76	66.53	144.42	72.09	139.76	68.69	57.85	72.09	139.76	0.00	81.44	72.09	139.76	5.71
Arguments	161.11	90.93	158.60	85.38	163.27	90.93	158.60	87.54	76.70	90.93	158.60	0.96	100.29	90.93	158.60	24.56
Notice	37.71	0.00	35.20	0.00	39.86	0.00	35.20	0.00	0.00	0.00	35.20	0.00	0.00	0.00	35.20	0.00
Evidence	169.05	98.88	166.55	93.32	171.21	98.88	166.55	95.48	84.64	98.88	166.55	8.91	108.23	98.88	166.55	32.50
Judgment	235.52	165.35	233.02	159.79	237.68	165.35	233.02	161.95	151.11	165.35	233.02	75.38	174.70	165.35	233.02	98.97
Issues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Time	**849.09**	**460.50**	**834.06**	**432.73**	**862.04**	**460.50**	**834.06**	**443.53**	**389.32**	**460.50**	**834.06**	**85.26**	**507.27**	**460.50**	**834.06**	**161.74**

Appendix VIII Average number of cases filed and disposed in a year in City Civil Court, Bangalore

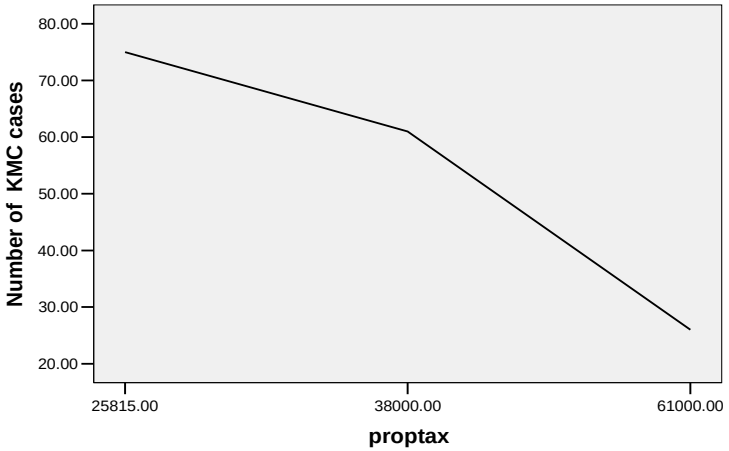
Case Types	Average Number of Cases Filed	Average number of cases Disposed	%Disposed
Arbitration Cases	5.67	1.67	29.45
Arbitration Suits	68.14	13.14	19.28
Arbitration Application	108	16.29	15.08
Appeal	1	0	0.00
CRIMINAL CASES	1.33	0	0.00
Company Applications	20.14	8	39.72
Company Petitions	1	0	0.00
CRIMINAL APPEAL	1162.57	184.71	15.89
CRIMINAL MISC.APPEAL	1	0	0.00
CRIMINAL REVISION PETITIONS	551.29	271.29	49.21
Caveat	1	0	0.00
Crime Case	182.5	1.25	0.68
CRIMINAL MISC.CASES	3263.71	1647.57	50.48
Education Appellate Tribunal C	1.5	1	66.67
ELECTION PETITIONS	3.5	1.5	42.86
Execution Petition Under Order	2189.71	717.29	32.76
Petitioner For Final Decree pr	108.43	19.86	18.32
Appointment Of Guardian, Other	60.57	12.57	20.75
Insolvency Cases	30.71	9	29.31
Land Acquisition Cases	262.29	34.86	13.29
Miscellaneous Appeals	84.14	30.57	36.33
Accident Claim Cases u/r M.V.	4659	0	0.00
Appeal Under Education Act	21.14	2	9.46
Miscellaneous Cases	897.71	319.14	35.55
Original Suit	8811.29	1939.29	22.01
Petition For Succession Certif	220.14	58.43	26.54
PRIVATE COMPLAINTS	4	1.67	41.75
Petition Filed Indigent Person	42.43	4.86	11.45
Small Cause Suit	6.5	0	0.00
SESSION CASES	846.43	151.86	17.94
SPECIAL CASES	228.43	59.71	26.14
Total	**23845.27**	**5507.53**	23.10

Appendix IX: The number of cases filed against various measures

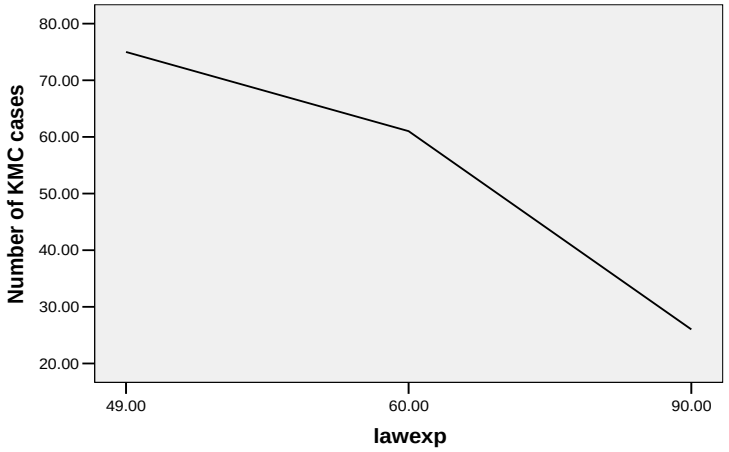
Number of AC cases against per Capita GSDP



Number of KMC Cases Against Property Taxes



Number of KMC case against Law Expenses



Appendix X: Models for prediction using the secondary data

Model for predicting the number of cases filed against Arbitration and Conciliation Act – 1996, using square of GSDP

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.626(a)	.392	.291	81.826

a Predictors: (Constant), GSDP2
b Dependent Variable: ACCase

ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25920.697	1	25920.697	3.871	.097(a)
	Residual	40173.178	6	6695.530		
	Total	66093.875	7			

a Predictors: (Constant), GSDP2
b Dependent Variable: ACCase

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-52.467	121.331		-.432	.681	-349.352	244.419
	GSDP2	1.94E-012	.000	.626	1.968	.097	.000	.000

a. Dependent Variable: ACCase

Appendix XI: The Regression Model used to predict the judicial Hours

Model for Arbitration and Conciliation Act -1996

Dependent Variable: Judicial time

Number of Observations Read 1266
Number of Observations Used 1266

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	18	23930556	1329475	105.43	<.0001
Error	1247	15724670	12610		
Corrected Total	1265	39655226			

Root MSE 112.29426 R-Square 0.6035
Dependent Mean 117.61374 Adj R-Sq 0.5977
Coeff Var 95.47715

Parameter Estimates

Variable	Label	Description	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept		1	14.24849	26.26612	0.54	0.5876
Col2	i_ind	Number of Individuals as litigants	1	2.77804	1.56689	1.77	0.0765
Col6	Case_year 2003	Case filing year	1	-20.5528	12.18208	-1.69	0.0918
Col8	Case_year 2005	Case filing year	1	-64.2023	12.18073	-5.27	<.0001
Col9	Case_year 2006	Case filing year	1	-119.761	10.79244	-11.1	<.0001
Col10	Case_year 2007	Case filing year	1	-91.4392	11.09967	-8.24	<.0001
Col11	Case_year 2008	Case filing year	1	-81.0415	16.04366	-5.05	<.0001
Col13	case_type_ID A.S.	Case is Arbitration Suit	1	32.91011	9.45884	3.48	0.0005
Col15	i_finance_tr	The case is related to financial transaction	1	-17.1584	10.11834	-1.7	0.0902
Col20	i_appeal	The case is an appeal	1	-18.1062	8.99021	-2.01	0.0442
Col21	doc_size	The size of the judgment/ order given	1	0.00207	0.000329	6.27	<.0001
Col22	case_count	Number of cases filed during the life of the case	1	0.000334	0.000213	1.57	0.1176
Col25	stg1_e	Summons	1	12.48163	7.73958	1.61	0.1071

Variable	Label	Description	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Col26	stg26_e	Hearing	1	21.3821	7.21933	2.96	0.0031
Col27	stg28_e	Order	1	140.5446	8.5827	16.38	<.0001
Col28	stg6_e	Arguments	1	101.6527	7.68322	13.23	<.0001
Col30	stg5_e	Evidence	1	155.1848	14.56408	10.66	<.0001
Col32	stg7_e	Judgment	1	89.86792	17.78792	5.05	<.0001
Col34	stg4_e	List of Witnesses and Documents	1	107.3497	34.51156	3.11	0.0019

Model for KMC Act-1976

Dependent Variable: judicial time

Number of Observations Read 589
Number of Observations Used 589

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	17	11581093	681241	82.56	<.0001
Error	571	4711849	8251.92544		
Corrected Total	588	16292942			

Root MSE 90.84011 R-Square 0.7108
Dependent Mean 178.84720 Adj R-Sq 0.7022
Coeff Var 50.79202

Parameter Estimates

Variable	Label	Description	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept		1	-21.5609	18.02405	-1.2	0.2321
Col6	Case_year 2003	Case filing year	1	32.98728	11.54906	2.86	0.0044
Col7	Case_year 2004	Case filing year	1	35.14646	12.13955	2.9	0.0039
Col9	Case_year 2006	Case filing year	1	-51.4264	13.58448	-3.79	0.0002
Col10	Case_year 2007	Case filing year	1	-27.8346	15.91864	-1.75	0.0809
Col13	i_finance_tr	The case is related to financial transaction	1	30.48222	15.14357	2.01	0.0446
Col15	i_injunction	The case asks for an injunction	1	-37.1889	14.24252	-2.61	0.0093
Col16	i_tax	Case is related to Tax matters	1	-75.7305	10.89597	-6.95	<.0001

Variable	Label	Description	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Col19	doc_size	The size of the judgment/ order given	1	0.00216	0.00107	2.01	0.0445
Col21	disposed_count	Number of cases disposed during the life of the case	1	0.000978	0.000532	1.84	0.0669
Col22	i_relief_length	Length of the text of relief Claimed	1	0.07202	0.04686	1.54	0.1249
Col23	stg1_e	Summons	1	49.51516	11.45539	4.32	<.0001
Col25	stg28_e	Order	1	88.34328	8.80518	10.03	<.0001
Col26	stg6_e	Arguments	1	107.1901	11.12366	9.64	<.0001
Col27	stg10_e	Notice	1	-16.2131	8.92983	-1.82	0.07
Col28	stg5_e	Evidence	1	115.1352	16.05877	7.17	<.0001
Col30	stg7_e	Judgment	1	181.6057	15.46087	11.75	<.0001
Col31	stg3_e	Issues	1	-134.119	92.6805	-1.45	0.1484