CHAPTER 4

STUDY OF

COMPUTERISATION

OF

CUSTOM DEPARTMENT

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4.1 INTRODUCTION:

Customs and Excise Department of Government of India, which functions under Ministry of Finance is the major revenue earner for the government. The customs department handles import and export while the excise department handles the taxation on any goods manufactured in the country. It has been the 'Custom' to levy tax or duty on the goods crossing the frontier of a country. The customs department plays a crucial role in India's economy as it acts both as 'Agency' for collection of revenue and Regulation of Import-Export of goods and also as promoter of Export Trade by distributing cash incentives in the form of 'duty drawbacks' and duty-free import of raw materials.

4.2 FUNCTIONS OF THE CUSTOMS DEPARTMENT:

Laws relating to the levy and collection of customs duties were consolidated and given shape in the form of Sea Customs Act, 1878. This Act was replaced by Custom Act, 1962 to meet the requirements of the changed circumstances in India after independence and introduction of Five Year Plans. This Act is a self contained enactment containing provisions for collection of revenue, enforcing prohibitions and restrictions in import and export of goods; provision for adjudication, appeals, prosecution etc. The Customs Act, 1962 describes and enables the various functions to be performed by the customs department.

The main important functions of this department are:

a) Collection of Import, Export duties under Customs Tariff schedules and other allied Acts.
b) Enforcement of prohibitions and restriction imposed on import and export of goods under Section 11 of the Custom Act and other allied Acts.
c) Prevention of smuggling activities.
d) Collection of Foreign Trade, Revenue statistics etc. enabling the government to formulate proper trade and revenue policies.

4.3 SCOPE OF WORK OF CUSTOMS DEPARTMENT:
4.3.1 In order to levy customs duties and collect the same it is important to have complete control over the movement of the goods and loading and unloading operations. The Customs Act provides that the goods can be cleared for home consumption, and for export only at sea ports, airports, container depots and land customs stations which are declared or notified by the government under Section 7. Landing and loading operations if resorted to at other places than the notified or declared places tantamount to “smuggling”. Such goods and also the transport through which they are brought are liable to confiscation and the person concerned are liable for penal action and prosecution. Section 12 of the Customs Act statutorily empowers the customs department to collect duty on import and export as per Customs Tariff Act, 1975. The Customs Tariff specifies the rate of duties to be charged on the goods imported as per Schedule-I. The second schedule specifies the rates of duties to be charged on export goods. The schedule is based on internationally adopted classification of goods. There are two types of customs duties levied on the goods imported in the country. These duties may be charged/levied in following manner:
i) As a percentage of the assessable value of the goods as ‘Ad-Valorem Duty’.
ii) As a multiple of the quantity of the goods imported knows as 'Specific Duty'

iii) At a rate calculated on the basis of both above types.

4.3.2 BASIC CUSTOMS DUTY: This is also known as 'Standard Duty'. This duty is levied as per the Finance Bill passed by the parliament after presentation of the Budget. The government however does not collect 'Standard Duty' in all cases, but charges numerous lower rates of duty as per exemption notifications issued under Section 25 of the Customs Act. The exemption for levy of lower rate of duty is granted for different types of goods based on the end-use, class of importer etc. Since in most of the cases the duty is levied on the ad-valourum basis, it is important to assess the goods imported for valuation as per Section 14 of the Customs Act, 1962 and customs valuation rules. The value of the imported goods as assessed is known as 'Total Assessable Value' and the duty rate is calculated on such value of the goods.

4.3.3 ADDITIONAL DUTY: This is also referred as 'countervailing' duty and is equivalent to the Central Excise duty leviable as per the Central Excise Tariff. The value determined for the levy of Central Excise duty is the total assessable value plus Basic Customs duty levied.

4.3.4 STATUTORY CONTROL ON THE GOODS IMPORTED: The Customs Act, 62, Sec.30 prescribes filling of 'Import General Manifest' (IGM) as soon as the vessel / aircraft or conveyance carrying goods enter a port area. It is the responsibility of the person in charge of the conveyance or agent of the carrier to account for the goods brought, for
the purpose of levying the custom duties. The main responsibility of paying the customs duties lies with importer who claims the title of the goods imported. The importer or his agent is required to file a document known as “Bill of Entry” (BE) under Section 46 of the Customs Act, for clearance of the goods from customs. This document contains columns for indicating the Description of the goods, Value, Quantity, Port of shipment, Country of origin etc. This bill of entry is supported by the documents like, Bill of Lading, Invoice, Packing list, Import Licenses, Test Reports and Catalogue/literature, if any related to the goods imported.

4.3.5 STATUTORY CONTROL ON THE EXPORTED GOODS: In the case of goods sought to be exported a document known as “Shipping Bill” is required to be filed in the customs house as per Section 50 of the Customs Act. This document states the details of the goods to be exported, such as description of the goods, name of the exporter, quantity, value etc. of the goods. This shipping bill is passed by the assessing officer and original copy along with GR form is retained and numbered in the customs house. The exporter brings the goods in customs area and these are examined by the customs officer with reference to the shipping bill passed. Any duty levied is required to be paid before the goods are permitted for export. After the customs examination, the goods are allowed for stuffing in the container and then loading on the vessel under customs supervision. The master of the vessel or steamer agent in charge of the vessel is required to file EGM (Export General Manifest) within 7 days of the vessel sailing. The customs department grants ‘Entry Outward’ for the ship or vessel when it is ready to lift the cargo. There are different types of
Shipping bill filed to claim the benefits and pay duties. The shipping bill is filed along with invoice, packing list, and G.R. form. The GR form is also known as Exchange control form and is numbered and endorsed and forwarded to the Reserve Bank of India for keeping check on the receipt of the foreign exchange for this export. After the goods are shipped, the various benefits like 'duty-free import' of raw-materials etc. are processed and granted to the Exporter.

4.4 ORGANISATIONAL SET-UP:

4.4.1 The Ministry of Finance is headed by Finance Minister and comprises of three departments.
1) Department of Economic Affairs.
2) Department of Expenditure.
3) Department of Revenue.

4.4.2 The customs department comes under the jurisdiction of Department of Revenue and the administration of the customs department is done by the 'Central Board of Excise & Customs'. The board comprises of 'Members' and headed by a 'Chairman'. Each 'Members' of the Board is assigned certain specific tasks and he looks after the working & enforcement of the Act and Rules. The C.B.E.C. oversees the working of following departments:
Commissionerates of Customs
Commissionerates of Central Excise
Narcotics Commissioner
Directorate of Inspection & Audit
Directorate of Training
Directorate of Statistics & Intelligence
Directorate of Preventive Operations
Directorate of O & M Services
Directorate of Revenue Intelligence
Central Revenue Control Laboratory
Directorate of Publications
Directorate of Anti-Evasion

The customs department has nine commissioners (who were earlier called 'Collectors') heading the various customs houses for controlling the import and export from India covering the whole country. Each customs commissioner controls certain docks and airports. The docks are controlled through customs houses while airports are controlled through air customs. The functional process of dealing with imports and exports is similar at both the places.

4.5 REASONS FOR SELECTION:

4.5.1 In the early eighties there was a quantum jump in the transactions handled at most of the ports and airports. In Mumbai, at the 'Bombay Customs House' which is the largest customs house in India, the number of cases of import had reached a figure of 1100/1200 Bills of entries per day at the docks & about 800 at the airport - which meant scrutiny of thousands of licenses, examination of related documents such as bills of lading, examination of lab reports etc. Although Mumbai customs house had a staff consisting of 75 / 80 group A officers, 250 appraisers (group B officers) & 300/350 examiners yet they could not handle such heavy work load effectively. There was no MIS available to senior officers to
monitor the progress of each bill of entry or locate a particular consignment quickly. Similar situation more or less prevailed at other customs houses such as those at New Delhi & Calcutta.

4.5.2 India's Foreign Trade Statistics is compiled from the data received from various customs houses & air customs. This data is compiled from variety of documents collected before granting delivery of imported goods or permitting export of goods from India. Manual compilation of such large volume of documentation in order to classify this information as per The Revised Indian Trade Classification (RITC), to be done code wise, was a massive manual effort and it resulted into a delay of 5 to 6 months for compilation of various annual statistics. Such completed statistics was sent to Director General of Commercial Intelligence & Statistics (DGCIS) at Calcutta from all over the country. The documentation so received weighed in tonnes. This was further manually sorted and scrutinised leading to some reports being found illegible, some damaged in transit etc. These were therefore sent back for reconciliation which either delayed the compilation or made the compilation inaccurate. The statistics which was generated by DGCIS out of this was not fully accurate and at least 1 to 2 years old. The figures given by Reserve Bank of India, DGCIS & Customs Department to the Finance Ministry related to this activity never tallied.

4.5.3 In the eighties the customs tariff was a complex document. There used to be so many 'restrictions', 'exceptions to restrictions', exemptions and 'alert notices' demanding variety of licenses and permits that even custom officials at times were not confident of knowing everything. The
appraisers, the assistant officers, who scrutinized the various sets of documents accompanying each bill of entry therefore were divided into subject wise and chapter wise group. For example in Mumbai Group 1 handled all cases of imports connected with dry fruits, raisins etc. Group 2 handled pharmaceuticals & chemicals and so on. Each group was expected to maintain their tariffs up to date and keep relevant information such as technical catalogues and dictionaries to identify different items. A slight change in description of some commodities could change their classification from a high value goods to a lower one thereby causing loss of revenue. In view of such large increase in number of restrictions, exceptions, rates of import duties etc. for internal purpose of customs, uniformity in imposition of duty at the docks and airports all over the country became crucial, to avoid unfair trade practices and loss of revenue on this account. Such information was also becoming crucial to anti smuggling and narcotics control departments of customs to further increase their effectiveness.

4.5.4 Due to continuous increase in workload all around and plethora of regulations under which the system was functioning some unscrupulous importers (or their agents) were prone to commit frauds by stamping the bill of entries prepared by them with authentic looking rubber stamps etc. along with false signatures and present the documents directly to cash department for payment of less duty. In a place like Mumbai Customs House where there were 75/80 group A officers & over 250 appraisers having the authority to sign the bills of entries, the cash office at times found it difficult to verify the signatures in every case and accepted these
bills if the whole thing looked authentic. Thus a party could prepare a fraud bill of entry, pay less duty & remove the goods with nobody really knowing what had happened, as such bills may not even go to audit, as in any case they had not followed the proper channels.

4.6 PROJECT PLANNING:

4.6.1 In view of this background and also the fact that computers were being successfully used in western countries like U. K. for overcoming number of drawbacks mentioned in para 4.5; the then Chairman CBEC in consultation with the revenue secretary took a decision to computerise the import export work at various customs houses. The revenue from custom department then was of the order of 25 to 30 thousand crores, while the estimated cost of computerisation all over India was expected to be about 70 crores. Therefore it was decided to take up this project without any cost benefit analysis. A senior officer was sent to Europe and USA to study various system in operation there. On his return to Mumbai he was given the job of conducting feasibility studies of the Mumbai Customs House, which control all imports/exports from Mumbai Port Trust the biggest port in the country. The purpose behind selecting Mumbai, the biggest and the most complex customs house for introduction of this change was that if computerisation worked in such a complex environment it could work anywhere else. The contract for conducting the feasibility study of this project was awarded in May 1984 to Computer Maintenance Corporation (CMC), a public sector undertaking of Govt. of India. To coordinate with CMC, an internal change team consisting of three persons was formed under the senior officer who was associated with this work so far. This
joint study team took 10 months to prepare a detailed department by department, table by table study of every aspect of then existing import & export procedures, documentation involved, cash accounting etc. A voluminous yet exhaustive feasibility report of about 500 pages was submitted to the Ministry of Finance, Govt. of India by CMC in April 85 after approval by collector of customs, Mumbai. The Finance Ministry after study of this report said that this project was a very ambitious plan and therefore the customs department should take up first the Import Assessment Procedure at Mumbai as a pilot project.

4.6.2 Before commencement of the pilot project at Mumbai, the CBEC transferred the senior officer, who had done the ground work of preparing the feasibility report and was fully aware of the nitty-grittys of operations at Mumbai Customs House, to New Delhi in June 1985. He was now to directly report to the Chairman. He was made in charge of implementing this project all over India, while another officer was posted to Mumbai and made in charge of the pilot project at Mumbai. The officer in Delhi was given the responsibility to handle all the aspects of computerisation such as deciding upon the software philosophy, hardware acquisition including import of hardware, site preparation, implementation monitoring, obtaining financial sanction for import of hardware etc. The officer had no infrastructure whatsoever to start his work but he put in exhaustive labour to complete the procurement procedures including firming up on the hardware, the vendor i.e. the supplier of the hardware, the software developer, the software package to be used all by October 1985, in a period of just 6 months.
4.6.3 The main frame computer selected for this purpose was a model manufactured by M/s. Sperry of USA as it had then the best networking features in the world both in local area network (LAN) and wide area networks (WAN). The main frame computers of this company had excellent central processing unit architecture & powerful front end processors. All important airlines, U.S. air force etc. were using similar computers, supplied by this company, without any difficulty. In a main frame computer system, the terminal from which data entry or retrieval is done are spread over a large area and their constant linkage to the main computer center is crucial, hence all care was taken in providing dedicated lines at all places where terminals were to be located, with one connection through microwave and other through satellite with automatic switching facility. Enough stand by arrangements were provided for all systems right from uninterrupted power supply (UPS) - stand by diesel generating sets to spare console panels.

4.7 SOFTWARE DEVELOPMENT:

4.7.1 CMC who had prepared the feasibility report, was not given the job of software development as they gave a time estimate of four years for development and implementation of a software to deliver the desired results. But the Chairman CBEC wanted development & implementation in much shorter time and thus this work was awarded to Operations Research Group (ORG) another software company. ORG unlike CMC had not handled such large work earlier & did the software development with some help from experts from Sperry. Department of Electronics (DOE) the nodal ministry for clearing and monitoring all computer related
projects in government, was also associated with the software development. As far as customs department was concerned the work at Mumbai was supervised by a Joint Director, assisted by four or five officers including a few appraisers and his work was overseen by the coordinating officer at New Delhi who in turn was assisted by a Joint Director & one analyst from directorate of statistics from CBEC. The initial development of software took place at Delhi as well as at Mumbai. The Joint Director at Mumbai; maintained constant communication with the ORG team and the departmental team at Delhi while the coordinating officer at Delhi acted as the link between software development teams and the CBEC. The field staff who did the day to day work at Mumbai Customs House as well as the customs handling agents who were going to be directly affected were never fully associated with the development of software.

4.7.2 In a matter of three months i.e. by June `86, ORG and the team at Delhi with requisite help from Mumbai developed a major amount of software on tapes and floppies including dummy data and programs in COBOL for duplication but on personal computers as the main computer had still not arrived from USA. M/S Sperry the supplier was requested to make a similar computer available somewhere in the world for testing this software. They offered a mini computer model located at Singapore for this purpose. A team of 4/5 persons including a representative of Department of Electronics went to Singapore, where this team worked intensively and ported the entire application on the computer there, creating large dummy data bases having transaction records for 6 months. All the programmes written by the team were tested using this data.
Debugging i.e. process of removal of errors in the software developed was done, to achieve a response time of 5/6 sec per query on the mini system. The software was developed using a dedicated language called MAPPER II. The software developed was christened as ‘Customs Assessment, Retrieval & Evaluation System’ or CARES for short. On successful running of the software in Singapore, DOE gave clearance for this software. Site preparations were started in earnest by liaising with CPWD etc. at Mumbai. By July 86 the Sperry 1100 the computer selected for the pilot project also arrived. Thus the pilot project commenced in Mumbai but only for partial computerisation of the Import Assessment Procedures.

4.8 OLD SYSTEM :

4.8.1 At this stage it would be helpful to look how this procedure was being carried out prior to computerisation. The work of clearing imported goods through customs being a tedious work most of the actual importers get this work done through various shipping lines or cargo handling agents who in turn send their personnel for this work. These are known as Customs Handling Agents or CHA’s. It is these people or their representatives who liaison with the Appraising Officers (A0s). The steamer agents file the Import General Manifests (IGM) for all goods accepted by them for import in India. Each article or consignment in the IGM carries a unique identification code called the IGM no. In the manual system the CHA would first bring his bill of entry (BE) to the inward receipt section for “noting”. The date of ‘presentation’ of the B/E is crucial ‘date for determining the rate of duty applicable and exchange rate
applicable. The inward section checks the BE and enters the correct IGM number on the BE including the number of the articles imported in the country and lying the docks, on the BE and allot a file number known in local jargon in Mumbai as 'Thoka' as the same is embossed on the BE by a hammering process. The CHA then would go to a assistant collector along with all relevant documents such as shipping bills, import licenses etc. The assistant collector then allotted the case to an appraiser in Group 1 to 7 depending upon the type of goods being imported.

4.8.2 An AO from the concerned group did first scrutiny of the documents and if not fully satisfied with the description of the goods given in the bill of lading (shipping bill) of the foreign exporter and the bill of entry, he would send the case for physical examination of the goods by the docks AO. Otherwise he would conduct second scrutiny of remaining documents accompanying the BE. If the value of goods being imported was more than Rs. 50,000 (now it is raised to Rs. 1 Lakh) the case was sent to assistant collector for signature, otherwise the AO signed the BE. He was permitted 48 hours to complete this work as he was expected to refer the Custom tariff; product catalogues; the excise tariff besides various notifications, alert notices issued from time to time. Once the AO had cleared the documents the CHA would go to the ‘computist’ section where the duty required to be paid on the concerned import would be calculated. Then the CHA would go to cash offices, pay the duty and take the documents to the appropriate docks where the goods would be lying. The AO at the docks would physically verify the goods and then clear them for removal. The party then had to approach port authority for payment of port charges, demurrage etc. before actual removal of goods.
At any stage if there was any dispute the same was to be taken up with higher authorities in the customs department. The duplicate copy of B/E on which the examination report was written and 'out of charge' i.e. delivery allowed was mentioned, was forwarded to the Manifest Closing Department. Here the documents were compiled to check whether all the goods brought by the particular vessel have been cleared and duty has been collected. In case of any default notice would be issued to the importer and steamer agent and the duty recovered through sale/auction of the goods if need be. These documents were subsequently audited at a later date by internal audit team and by staff of comptroller and auditor general's office. All statistics of custom department such as budgetary estimates, telegraphic summaries etc. was compiled from these documents subsequently. Figure 4.1 gives the flow chart of the manual process before computerisation.

4.9 IMPLEMENTATION:

4.9.1 Initially the work of assessment of bills of entries for import of goods known as ‘Appraiser Module’ was taken up. This new computerised import assessment module involved addition of a new cadre of workers in the organisation designated as data entry operators (DEO) also called key punch operators (KPO). As this was a new cadre, this staff was recruited and work started at Mumbai under the charge of the joint director who was now called systems manager. While implementation commenced at Mumbai the departmental team at CBEC Delhi kept on developing and adding modules by liasoning with ORG. Some problems faced by staff during implementation were sorted out where ever possible through
negotiations and discussions on logical planes both by the system manager and the team leader at Delhi, while for some situations the staff was ordered to carry out the new procedures without questioning. When actual implementation started at Mumbai Customs House it was noticed that the initial plan for providing terminals to every appraiser was becoming costly. Therefore the majority of terminals were located in a central air conditioned hall on the first floor in the main customs house. Some of the appraisers and data entry operators were put together in these halls sometimes on the same table. This was a major change in the then prevailing working arrangements, some terminals were also provided separately in the inward section and a few terminals were provided at selected points in the docks where physical examination of the goods is carried out and delivery of consignment is given.

4.9.2 Now Customer or CHA first had to go to the inward section, register his document & get IGM number entered from the data entry operator located there. Then go to initial data entry section for "noting" where basic details of the BE would be entered in the system such as name of party, name of ship etc. and then the bill was passed on to the assistant collector who would allot the appropriate group. The AO in the allotted group after first scrutiny of the BE and other documents would enter further details from BE such as type of goods, classification etc. on the terminal. There are three screens to be filled in for every item. If the BE contained multiple items, which often is the case this data entry work was repeated for each item. Then the documents were passed on for concurrent audit to another AO, who independently repeated this exercise. If both
these assessment matched, the paper were signed by concerned AO or AC as the case may be as indicated in para 4.8.2. The documents were sent to computist section for calculation of duty and data entry. Once the duties were calculated the entry was passed on to cash office for collecting relevant duty, the computer also sent a suitable message to the docks terminal. In case there was a difference in the assessments of the two AOs, the case was looked into by appropriate senior officer after the file passed all junior officers. A special entry was made from a nominated terminal accordingly. The CHA after payment of duties took the papers again to data entry section where data required for ‘cash module’ was entered. On arriving at the docks the concerned AO after verification of the good, again did data entry work for the ‘dock module’ before sending documents to port authorities. The documents were collected before physical removal of goods from the docks and sent to Manifest Closing Department where it was microfilmed in a new microfilming section. Now there was no departmental audit but only the comptroller and auditor general’s audit. The off line routines calculated and compiled various statistics and returns. This was generally done at night time. On linking of this system to other centers this center was supposed to create an all India database to assist the officers in their work of correctly valuing the goods being imported. Figure 4.2 gives a flow chart of the new system. The additional steps added by the new system are shown in thick squares. A comparison of this chart with fig. 4.1 will indicate that, this new system instead of replacing the manual system added more steps in it. Now the CHAs had to chase their documents not only with the AOs & the other senior officers but also with the data entry operators in the computing centers.
4.9.3 The AOs were given only a couple of weeks training of
familiarization of various screens in Mapper 11, before being inducted in
the new system. Each appraiser was given an identification code. This
had to be used by AO before doing any data entry work. A number of
AOs, who are gazetted officers, had no experience in typing and could not
cope up with the data entry work they were called upon to perform, they
also thought this work to be below their status. The implementation
therefore was not smooth. A number of AOs also strongly resented
working with the junior staff on the same table. The incentive offered by
administration by way of special pay alone was not of much help to
overcome this resentment. But during implementation there was day to
day monitoring of everyone’s outputs by senior officers including the
collector custom of Mumbai with the result the massive data entry work
was somehow managed at end of the day. The status of all the
transactions handled during the day was printed and printouts displayed in
the Customs House daily for importers to know latest status of their cases.
Prior to computerisation this was a privileged information on which the
CHAs could extract money from clients.

4.10 MAINTAINANCE AND EXPANSION :
4.10.1 After 6 months i.e. by Jan.’87 a review of this project, which was in
reality only a small part of the entire computerization, was taken up and it
was declared as successful. The coordinating officer at Delhi was told to
extend it all major docks and airports in the country. By middle of ’87, the
ordering of hardware etc., was completed for all centers including Mumbai
where a more powerful computer than the one used in pilot project was
procured. This computer model was SPERRY 11/74 which had 140
terminals in Mumbai Customs House and 75 terminals in Sahara Air Cargo complex. By end of 87 all major customs houses at important ports and airports were running some modules of CARES. Four zones were created with Joint Director Computers for each zone. It was responsibility of this person to develop and execute the implementation and give feedback back to the board on progress etc.

4.10.2 At this time that is even before the first module the ‘appraiser module’ was fully implemented even at Mumbai the coordinating officer at Delhi, who was the main architect and force behind this project was transferred to excise department. Soon the chairman CBEC who had fully backed this project retired. His successors were not as decisive as this person with the result this hybrid system of working was never improved upon or withdrawn at any place. As the monitoring by senior officers slipped the impetus to carry out data entry on day to day basis by A0s was lost. A large number of the A0s passed on their passwords to the data entry operators and dumped their work on them. At most of the places the Joint Directors who were put exclusively in charge of this work of addition and implementation of more modules on the system, were given additional work charge by the collectors, with the result the continuous monitoring done in the beginning could not be sustained. Although four zones were made yet there was no coordination between them with the result a lot of time and energy was lost on tackling problems faced at each center which had been already sorted out elsewhere. Thus the progress of addition of modules became tardy.
4.10.3 One important planned feature of the new system was its capability to offer a good decision support system to the appraisers in classification of commodities and to the cashiers in calculation of duties. Terminals were planned in each customs house and also at Delhi in CBEC office for entering tariff updates, notifications and alert notices. In the manual system each appraiser kept his own tariff and other documents and catalogues up to date, any error in his judgment could result in disciplinary action. The classification procedure designed in CARE was quite elaborate and required an interactive process. As long as the classification and the tariff updates were entered regularly the system worked well, so much so that at the time of implementation the AO's were no longer held responsible if the classification was done incorrectly by the computer. But when the pressure from the apex authority to perform reduced after change of senior officer at the top, the tariff revision unit in CBEC refused to take responsibility of entering all corrections to tariff etc. in the computer. So the accuracy of the decision support system so meticulously planned went awry. The appraiser was no more to be exonerated from the responsibility of maintaining manual updates related to his work. M/S Sperry the main frame suppliers had also provided number of personal computers with dumb terminals for use of senior officers at that time such as the collectors, to enable them to monitor the working of staff in the various halls as well as use the data base available on the system for MIS. But adequate training in Mapper 11, the user language and CARE the new system was not given to officers with the result most of these personal computers remained idle and unused for years. Once the work of computerisation at all other major centres namely Delhi, Calcutta and Madras was initiated,
communication links were provided between Mumbai and all other centers to transfer the days' transactions to Mumbai for compiling All India Statistics. As a safety precaution the relevant data was also sent on tapes. This work which was regular in the initial phase also suffered. Either lines were not available for transmitting data or the tapes were not regularly sent and so on. This further downgraded the use of the system as an MIS aid. As time passed the only sustained benefit was the reduction in time and increased accuracy in compilation of various statistics of customs department.

4.11 INDIAN CUSTOMS ELECTRONICS SYSTEM (ICES):

4.11.1 The customs department has been well aware of the limitation of the CARE project which was started in 1985 and had been declared as successful in 1987. A number of departmental reviews have been conducted to eliminate the weak links in this mixed system of handling international trade. Over the years the quantum of work load at various customs houses has also gone up. There has also been remarkable progress in speed and other capabilities of computers. In the meanwhile M/S Sperry of USA was merged with another company called UNISYS Corporation. This company has discontinued the production of Sperry computers and advised the customs department their inability to continue to supply spare etc. for these machines. Therefore a system study was again taken up by CBEC, this time with the help of National Informatics Center (NIC). This is another wing of Department of Electronics which undertakes software development for government departments. This study
was started in December 92 and covered number of major customs houses in the country.

4.11.2 In April 1994 it was decided to take up the import work at Delhi Air Customs as a pilot project. The Joint Secretary, Customs in CBEC who had earlier worked as a joint director for one of the zones in CARES project was made in charge of this project. A new centrally air conditioned complex called New Customs House has been built separately away from the present mixed system. The complex has all modern amenities and computer facilities. Efforts have been done to overcome the weaknesses of the old system. In this system all the regular users of the system have been provided with terminals in their offices, through which they electronically prepare the BE. Anyone not having this facility has been given this help through a service center located at the New Customs House, where this work is done at some cost by a private agency. Each appraiser now has a terminal at his table. Terminals are provided to all other senior officers. The work of cash collections is delegated to a nationalised bank, the Punjab National Bank, which has also been provided with terminals. The entire processing of documents now takes place on line.

4.11.3 Now the documents of a customer need not be entered by data entry operator and AOs. The customer generates all relevant documents through the terminals provided at the service center. This center is manned by another company, which charges some amount for each B.E. generated. This document is then passed on to the document reception center. This center allot a unique customs clearances code and enters the relevant IGM number. This document is then called by the A. C. on his screen and he
allocates case to appropriate group. As soon as an A0 in this group is free, the system sends these documents to his terminal for evaluation. The system has number of data bases with capability of classification, calculation of duties, latest foreign exchange rates etc. so that the A0 has to only press a few keys to complete the assessment and calculate the duties. Once the assessment is complete the computer sends the collection details to PNB terminal for payment of duty. All the documents created by the computer are signed by the party for sake of record. If the party has an account in this bank the duty is directly debited to the party’s account, otherwise the duty has to be paid in the bank. The terminals in delivery hall also have all these details, so that by the time the party arrives for physical delivery there are no delays on this score. This system has been named as ICES for Indian Customs Electronic System.

4.11.4 This new system was commissioned in Dec. 95 in stages beginning with import assessment of only cases falling in some specific chapters of custom tariff to gradually expand to cover the full tariff. This has helped in overcoming the various problems faced during implementation of CARES. Once the implementation phase was complete, the old system was withdrawn completely. Now the entire work of import assessment as well export booking is on line. Today a customer if his documents are in order, can submit his documents in the morning and can take delivery of his consignment in the evening on the same day, a feat considered impossible in the old system. The appraisers and other persons interacting with the system are given adequate training. The system now focuses more on ‘data query’ than ‘data entry’, thereby removing the drudgery of
the old computerised system. The Joint Secretary, Customs at CBEC, the team leader, has continued on the same post during this entire change process. The department now has plans to expand the system to other centers all over India, with Mumbai being the last as it is considered the most complex system.

4.12 REVIEW OF THE MANAGEMENT PRACTICES ADOPTED:

4.12.1 This work activity of the customs department was selected after appropriate scrutiny for introduction of this technological change. The need for it was genuine. The initial work of identification of change and study of the present activity that needs a change was done over a period of about eleven months. A massive report giving a step by step approach was produced detailing the change.

4.12.2 At the commencement of implementation of this project in Mumbai the team leader, who had prepared the feasibility report, was moved to Delhi for coordinating the project from Delhi. No doubt he was given the role of acting as the link between the field and the headquarters, but his continuing in Mumbai would have positively affected the actual designing and implementation phases of the new system. CMC the consultants who had prepared the feasibility report were also changed because they gave a time estimate of four years for full implementation of this change, which involved complete discontinuation of the manual system. The change of both the internal and external change agents at the crucial stages of software development for implementation resulted into basic objectives defined in the feasibility report getting changed under the new set up.

4.12.3 The new system was so designed that the manual system was never planned to be fully eliminated. A comparison of the flow charts for both
systems (fig. 4.1 & 4.2) shows that in this change the concept of creation of the bill of entry the main document on which the entire processing in import department is based became the point of contention. This work in the manual system was being done by the custom clearing agents at their offices which now became the job of staff and officers of the customs department. A large data was filled in by the data entry operators but a lot of data entering became mandatory for the appraisers who thought this work below their status. Now the document had to shuttle between the appraisers and the data entry operators located in the air conditioned rooms. Such to and fro movement means additional time lost in processing. Thus this change created more work for the staff as well as users. As soon as the pressures from the senior officers in the form of day to day monitoring of work on the new system eased off, the new process was put on the back burners. Today hardly any appraiser does this work himself. This has resulted into the appraisers doing the assessments manually as before while computer data entry is being done later. Due to pressure of day to day work the subsequent commissioners have chosen to ‘not rocking the boat’ and thus this the system has been relegated to batch mode and has only fulfilled one of the objectives of the computerisation namely improving ‘off line’ reports like periodic statistics etc.

4.12.4 The objective of ‘CARES’ as stated in the help menu is “To assist the customs officials in the proper classification & assessment of imported goods and also the computation of customs duty and speedy clearance of goods. This is achieved by allowing the entry of only correct data, providing latest information about the customs and central excise tariff and the concerned notification and easily retrievable past precedents of
classification valuation”. However with the data updates and reception of data from other centers becoming irregular this logo, the first to appear on the MPPER 11 screen has become meaningless.

4.12.5 While the initial study of the project to prepare a feasibility report was done in one and half years, the writing and testing of software was done is just about six months i.e. in great hurry and on much smaller computers and with much smaller data bases. This has resulted into sluggishness in the on line response to sometimes even simple queries as the actual data search the computer has to do is much more than what was tested. This has further demotivated the senior officers from even looking at the system.

4.12.6 The keenness to expand the computerisation on all India basis, before even the first module was complete and really ‘stabilized’ at Mumbai Customs House, has resulted into sporadic developments of additional modules and non uniform implementation process at various centers This was due to lack of a coordinating authority at CBEC. For a computer application of such large magnitude, as in the case of railways, there should have been a separate set up in the department with a separate member in CBEC for this work, instead of that even today the Joint Secretary in CBEC who is in charge of the ICES project has been given many other duties. Same is the case with the joint directors at other metropolitan centers. If the chairman who initiated this crucial project had also set up such cell in CBEC with adequate resources and powers, the growth and health of this change would have been far different. (It is only
4.12.7 During designing of the software a new classification system using ‘funneling technique of search’ was designed. This retrieval methodology however was complex. Similarly the other screens also were not simple. This meant an exhaustive hands on training to all users right up to senior officers. But adequate training was never given on sustained basis to anyone. Initially the appraisers were trained for one week and data entry operators were trained for two weeks. But beyond that there were no training programs for senior officers who were to use this system. Even officers who were put in charge of software development for CARES using “Mapper II” were given sketchy training. The vendors gave some training to some AOs which was not adequate for modification work. Some modifications however were still done departmentally as some isolated individual took initiative on one’s own to pick up this work. Today there is only one officer (AO) of the original team in the entire department at Mumbai Customs House who can modify the programs on his own.

4.12.8 During implementation phase one of the benefits to be derived from this system by the AOs was capability of CARES software to classify the commodities and thereby absolve the AOs from being accused for malafide decision making. This however was possible during the implementation phase only as the entry of tariff updates, alert notices etc. from terminals in console was monitored closely. In the final scenario this work was to be done on all India basis through a terminal located in CBEC. With the team
leader being changed at a crucial juncture the centralised updates never took place and later on, no one at the board level was able to decide as to which wing of the board should do the work of tariff updates, with the result the appraisers still have to maintain their own tariffs up to date and are now held responsible if they go by the classification displayed on the screen without verifying accuracy of the same manually.

4.12.9 The headquarters team, at Delhi during writing of software was having only two other persons other than the leader. The development of software at Mumbai was done by another team having one group A officer and few appraisers other than the team leader. In fact the Customs handling agents and the examiners i.e. lower level staff etc. at Mumbai who were also to be the principle users and implementers respectively of this system were hardly involved in this most crucial development phase. The team who developed the new system were unable to transfer the various practical aspects of the work ethos that prevailed at the grass root level. They developed a system with numerous departures from the manual system most of which caused more confusion and added delays.

4.12.10 Low involvement of the AOs in the implementation phase resulted into lack of cooperation from the AOs all over India. They perceived the change as an imposer of additional burden on them instead of reducing it, in spite of the fact that monetary incentives by way of special pay were offered to them, they shied away from the new system at the first opportunity, which indicates that unless the staff understands the system and perceives some benefits from it, incentives like special pays etc. do not necessarily increase efficiency.
4.12.11 In the new system some KPOs were made to sit on the same table of the appraisers so as to reduce data entry delays. This mixing up of the sitting arrangements in the main complex however created a status problem. The appraisers who were gazetted officers did not like to work on the same table with the data entry operators, who were freshly recruited junior clerks. Although this was done with the intention of reducing process time and in an air condition environment yet strongly resented by the AOs. While the customs department spent over 70 crores on the entire system this particular aspect which would have truly increased the effectiveness of the system was given a go by citing economy as a reason for doing this. In the new ICES system at New Delhi Airport this aspect has been taken care of. Here the AOs have no choice but to use the computer terminal for their work.

4.12.12 The initial decision to run the computer system in parallel with the manual system instead of replacing it time has upset the process of change especially the stage of unfreezing. It clearly gave a message down the line about lack of conviction on part of management about effectiveness of this project. Thus the moment the pressures to perform slackened the reversion to manual system became inevitable. In fact over the years this computerisation has become more of a nuisance to everyone which cannot be done away with. ICES is now offering that hope.

4.12.13 Non continuity of team leader or even members of his team is especially detrimental in government, where the new incumbent may not
have the same contacts and approach as the previous incumbent. This can sometimes have a very damaging effect on the progress and success of a project. During the first phase of implementation of the pilot project, the team leader at Delhi could manage inter ministerial coordination, so vital in government projects of this magnitude. Once this officer, who could have taken the final decision to switch to fully automated system went away, none was prepared to take this crucial decision. In fact it has taken this department almost ten years to devise a fully automated ICES system. The departmental committees have detected the lacunas in this system as mentioned in para 4.12.16. This is typical of a government organisation the ‘understanding’ has been there but the ‘will’ was missing. It was only when a notice from UNISYS the computer manufacturers’ who took over from SPERRY that they will soon stop the supply of spares to custom department and that they will no longer be able to maintain the computer installations in India, that the department decided to go for the new system. 4.12.14 The tendency of slipping back in a change is normal and such occurrence in a change which is partially implemented is still more. In large organisations most of the work routines have large inertia owning to their development based on historic precedence. They suffer from an affinity to paperwork. One of the objective of this computerisation was to reduce the voluminous manual record keeping that was done by all divisions in custom department CARES was capable of reducing most of this work, provided regular and accurate data updates were ensured. Once the appraisers started delegating their part of data entry work to others, and the modules did not have any fall back system in case of computer failures or terminal failures, the manual recording of data in registers never ebbed.
An investigation carried out just 3 years after the computerisation found as many as 29 different registers being maintained manually in Mumbai, which could be produced by CARES as off line outputs.

4.12.15 A good system of documentation in terms of flow charts, system logics and working manuals is essential for such large application. Even today there is serious lack of such documentation both in CARES & ICES. In fact there have been such frequent changes in the joint collectors who are in charge of this work at the four centres that no one has been able to contribute much to the improvement of the system and the onus has been left to one or two junior officers.

4.12.16 This non-uniformity and tendency to revert back more and more to the ‘Manual System’ has resulted into number of weakness in this new system which have been pointed out by subsequent departmental investigations. Some of these are as under:
a) ORG designed the initial software by borrowing few software expert from Sperry and managed to develop only a few of the applications relating to Appraising, Exports, Drawbacks etc. With the result till now(1988/89) all software modules as planned in feasibility report have not been implemented as they (ORG) no more possess that expertise.
b) First module that is the Appraising Module which was implemented at all places did not have a fall back procedure to take care of computer down time. Instead of reducing time taken for manual appraising this system increased the time with the result more work is done manually and the data entry steps as planned in original software have been combined to
minimize delays. This has thus vitiating the basic objective of this change, which was to reduce the time of assessments and bring uniformity in assessment procedure all over India.

c) The appraising module is so designed that the data entry for each consignment is very cumbersome requiring repetitive steps and the data bases which have been built up at different sites i.e. Mumbai, Calcutta etc. do not have the same level of details with the result the retrieval modules which were to act as decision support system based on timely data transfers do not function efficiently. The enormous response time especially of the global network and SVT 121 terminals has reduced the usefulness of the system in this respect.

d) The data bases have grown very large, and their management has become deficient. The initial data bases created for the trial runs were of smaller size.

e) In Mumbai alone the actual increase of work has been 80% per annum as against a projected growth of 20%. This has further resulted in appraisers and other officers not relying very much on the support data, as system response has become sluggish, that is the computer now is not able to cope up with the ‘data processing’ loads. A timely upgradation of the computer system could have solved this difficulty.

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