UNCTAD Technical Assistance in Trade Facilitation

This document presents the UNCTAD's technical assistance in the field of Trade Facilitation. It covers activities related to: (1) multimodal transport, trade facilitation and transit issues; (2) the Advance Cargo Information System (ACIS); and (3) the Automated System for Customs Data (ASYCUDA)

The document focuses on the main features of these activities, on their practical implementation, and on the benefits that might be derived from such an implementation.

A. MULTIMODAL TRANSPORT AND TRADE FACILITATION

Background

The United Nations International Symposium on Trade Efficiency was held, at Ministerial level, in Columbus, Ohio, in October 1994. It aimed at the identification of measures to improve the efficiency of international trade transaction and provide a favourable international transport and trade-related environment. Concluding the Symposium, the Columbus Ministerial Declaration on Trade Efficiency[1] stressed that "adoption of trade efficiency measures can significantly lower the costs of trade transactions. Estimates place the costs of trade transactions at 7 to 10 per cent of the total value of world trade". The Declaration put forth a set of practical actions, recommendations and guidelines for Governments, international and national organizations and enterprises. They address six areas which were considered ripe for tangible results for international trade: customs, transport, banking and insurance, information for trade, business practices, and telecommunications.

These practical actions, recommendations and guidelines foster transparency, predictability and uniformity throughout the trade transaction process. The basic underlying principles are:

Laws and regulations must be **harmonized**;
Administrative and commercial formalities, procedures and documents must be **simplified**; and
The **standardization** of means is essential, whether it relates to tangible elements such as: modal infrastructure (including interfaces), vehicles (including unit loads and handling equipment), information technology, etc., or to less tangible ones such as commercial practices and services.

The benchmarks for such an harmonization, simplification and standardization are recommendations that have been agreed on, over the years, by intergovernmental and non-governmental organizations, in the form of conventions (UNCTAD, WCO, IMO, ICAO, UNICITRAL, UN-ECE, GATT/WTO, etc.), international standards (ISO, AEN, etc.) or best commercial practices (ICC, CMI, etc.).

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[1] "Columbus Ministerial Declaration on Trade Efficiency", Report of the United Nations International Symposium on Trade Efficiency, TD/SYMP.TE/6, November 1994.

Main features

International trade requires efficient door-to-door logistics chains, and simple trade formalities, procedures and operations. This implies to improve the quality of international transport and logistics, to adapt commercial practices to international standards and to remove unnecessary trade barriers.

The efficient operation of transport modes and interface facilities - resulting from reduced physical barriers and institutional interference and simplified legal regimes - is a necessary precondition for effective improvement of international trade transactions. However, actions must focus not only on developing appropriate physical features (the "hardware") of the transport networks, but - more importantly - on raising the performance of transport operators and auxiliary services, on changing the commercial behaviour of users, and on introducing innovative relations between public institutions and transport providers and users (the "software") of international trade and transport.

This process requires extensive coordination at many different levels, including institutional, operational and physical development of networks, as well as between the private sector and government agencies. It calls for a thoughtful examination of the common impediments and opportunities facing the national transport and trade-related sectors.

Because of the resulting variety of emerging political, economic, and technological issues, a dialogue between concerned parties becomes essential to elaborate acceptable transport and trade-related policies. The globalization of the national economies, the information and communications technology (ICT) that facilitates exchanges among users, carriers, and government regulators, and the growing relationship between logistics management and multimodal transport have revolutionized the goods transport industry and increased the need for improved policy coordination. This implies that due account is given to the interlinked roles of the three main players closely involved in the trade and transport sectors of a country:

> the **Government** (e.g. Ministries of Transport, Trade, and Finance, including Customs, and related institutions), in designing and implementing national laws and regulations regarding trade and transport;
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> the **Services Providers** (unimodal carriers, freight forwarders, multimodal transport operators, banking institutions, insurance companies, etc.), by offering market-oriented trade and transport solutions within the framework of national and international trade and transport practices ; and
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> the **Traders**, i.e. the transport users (importers and exporters), who can benefit from such solutions in their international trade transactions.

Therefore, to foster a closer relationship between these three groups, a proper consultation mechanism must be set up. This mechanism, as recommended in the UN-ECE/CEFACT Recommendation No.4,[2][2] could serve as a national forum to propose, discuss, consult and reach consensus between commercial parties and governmental authorities on facilitation measures to improve international trade and transport. As a result of a joint public and private initiative, this forum would aim at providing a coordinated, coherent and harmonious environment to

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2 UN-ECE/CEFACT Recommendation No.4 "National Trade Facilitation Bodies" (TRADE/CEFACT/1999/11), March 1999, and its supporting document: "Creating an efficient environment for Trade and Transport" (TRADE/CEFACT/2000/8), March 2000.

enhance the competitiveness and quality standards of a nation's trade and transportation system. In this context, the private sector must not only be seen to play a leading role, it must be the de facto driving force.

With a view to building up a service infrastructure to improve the competitiveness of developing countries and countries in transition in the international market place (para. 148 of the Plan of Action[3] of the Bangkok Declaration[4]), a typical framework for the introduction of trade facilitation could include the following actions:

1. To assess the gap between local practices and internationally agreed [best] practices regarding trade and transport, including issues on modal infrastructure, vehicles, traffic flow management and transport operations, on multimodal transport, as well as on the use of information technology where appropriate;

2. To identify the most suitable combination of measures to be implemented locally through simplification, standardization and harmonization with a view to making local practices conform with internationally agreed best practices, leading to a sound legal and institutional framework together with commercially viable reforms and instruments which will facilitate the development of efficient trade and door-to-door transport logistics operations;

3. To foster local professional associations in the fields of trade and transport, in order to strengthen their negotiation capacity in the national dialogue and to participate actively in international fora where agreed best practices are established; and

4. To prepare the various concerned parties from the public and private sectors to introduce changes and adapt new practices through the establishment of adequate training programmes in international trade and door-to-door transport logistics.

Under this framework, technical assistance projects would globally lead to an improved use of existing trade and transport infrastructure and, as such, would complement the implementation of large donors' financed transport infrastructure projects. Furthermore, they would create awareness of practical and commercial measures to foster foreign trade and would assist in identifying new market opportunities.

Implementation strategy

In the area of multimodal transport, trade facilitation and transit issues, the UNCTAD technical assistance takes a comprehensive and cross-sectorial approach towards improved efficiency in international trade and transport-related transactions.

The implementation strategy of the technical assistance aims at the full transfer of know-how in order to assure long term sustainability of the recommended changes. It caters for continuous progress evaluation and adjustment. The activities are carried out in the three phases: the pre-project phase (Phase I); the preparatory phase (Phase II); and the implementation phase (Phase III).

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3 Plan of Action (TD/386), Bangkok, February 2000.

4 Bangkok Declaration: Global Dialogue & Dynamic Engagement (TD/387), Bangkok, February 2000.

PHASE I - THE PRE-PROJECT PHASE.

When UNCTAD receives a request from a country for technical assistance, it will make a preliminary assessment of the existing conditions in that country as regards trade facilitation, transport logistics, as well as Customs procedures and business information. This assessment encompasses a review of the existing trade and transport regulations, documents and procedures, an identification of the possible measures to be introduced and the determination of intervening institutions and critical path for consequent administrative reform. This phase will reconcile the various measures on trade and transport already recommended in other projects and will obtain appropriate feedback from a national consultation body (e.g. a Trade Facilitation Committee) on possible means for their immediate implementation. It will also prepare the introduction of modern transport/trade-related technologies (EDI, ACIS, ASYCUDA, etc.).

A workshop on international trade and transport (Project Mobilization Workshop - PMW) will be organized to create awareness, among theses Officials and executives, on the strengths and weaknesses of the local economy and on the opportunities and threats of present global trends such as globalization of production and liberalization of services. This brainstorming workshop will lead to the identification of the main areas in which changes in present practices are required. It will also set the basis for the establishment of a National Facilitation Committee.

Further, UNCTAD will ascertain the level of commitment and resources that the Government and the private sector will dedicate to a possible project. An outline of the proposed changes will be included in a draft project proposal explaining the activities for Phases II and III. Subject to final agreement of the project between the Government, the donor and UNCTAD, the project proposal will be finalized into a full Project Document and presented to the Government.

This phase will have an estimated duration of 3 months between the approval of the project and the submission of the revised Project Document. In addition to the participation of one UNCTAD staff, it will require the participation of an international consultant specialized in international trade and transport issues, for a period of two weeks.

PHASE II - THE PREPARATORY PHASE

When the Project Document has been approved and funding obtained, UNCTAD will proceed with the implementation of the second phase of the project. Phase II will complete the assessment initiated in the Phase I, i.e. a more detailed study of the procedures, operations and relevant legislation will take place. It will lead to the design of specific/basic measures, related to the best use of existing infrastructure and the development/strengthening of trade-related services, which can be reasonably implemented within the local context. Assistance will be provided in the preparation/drafting of new regulations, documents and procedures regarding trade and transport. Proposals will be made to carry-out the suggested administrative changes through existing or exceptional channels. Assistance will also include the preliminary analysis and actions for the installation of modern technology, if deemed necessary. Finally, the necessary environment for the changes to become effective will be identified in the form of human resource development and training programmes.

The areas covered will, *inter alia*, be: institutional and legal frameworks in accordance with modern international commercial practices, the introduction of international codes, the streamlining and simplification of commercial procedures, the review of existing Customs clearance procedures and corresponding

recommendations for improvement, and the alignment of forms to the United Nations Lay-out Key. Consideration will also be given to the relationships between traders, transport intermediaries and transport providers, the modernization of national transport regulations and Customs law to conform to modern transport conventions, the Kyoto Convention and other Customs and transit conventions, the commercial and practical application of technological developments and modern decision-making tools for logistics users and providers (e.g. ACIS), etc.

While some reforms can be achieved and introduced early on in the project, others need amendment to laws and may therefore take much more time to be implemented. Follow-up of such reforms will be made in Phase III.

Under the supervision and backstopping of UNCTAD staff, Phase II will be carried out by international consultants specialized in the fields of transport/freight forwarding, trade facilitation, and trade and transport law. To complement locally the work of the international consultants, national professionals will be recruited. On the basis of the international consultants' and national professionals' reports, UNCTAD will prepare a synthesis of the recommendations resulting from Phase II. These recommendations will be presented and discussed during a seminar, the conclusions of which will serve as a basis to review and finalize the activities to be carried out during the third and last phase of the project. A work plan for the implementation of the recommendations introduced in Phase II will be elaborated together with an estimate of the resources required. This Phase II might last approximately five to six months.

PHASE III - THE PILOT IMPLEMENTATION PHASE

This phase relies on the effective functioning of the National Facilitation Committee. It covers the implementation and execution of the proposals on trade and transport formulated in the previous phase, including the establishment of institutional and legal frameworks, the design of modern procedures and regulations, and the assistance to traders and logistics service providers on trade and transport issues, as well as the installation of any particular computer hardware and related equipment, the initial operation of these systems and the start-up of any training/human resource development package. A substantial training programme for traders and transport intermediaries/providers staff will be delivered during this Phase.

It is only at the end of Phase II that the required tasks for Phase III will be clearly identified and costed. Phase III might take approximately nine to twelve months. Although the precise expertise required will come out from the conclusion of Phase II, it is expected that this expertise will cover the same areas, for a duration to be determined.

The three phases have a total duration of 18-24 months and will only succeed with strong political commitment and support from the highest levels and with the full-time availability of competent and motivated National Counterpart Teams.

Potential benefits to be derived from technical assistance in Trade Facilitation

The simplification of trade procedures has potential for considerable savings in time, money, as well as in human and other resources and could result in substantial benefits for all economies. The savings potential through enhancement of trade facilitation can be a considerable portion of the value of the goods traded, often exceeding the costs of tariffs and other duties and charges. Unlike the latter, costs incurred through inefficiencies in the transaction chain do not have redistributive effects, but are dead-weight losses for the economy.

Trade facilitation is benefiting all actors in an economy: importers and exporters through time and money savings, producers through cheaper availability of intermediate products, consumers through lower prices, administrations through increased efficiency, enhanced control effectiveness, and the availability of accurate statistics, enabling governments to carry out appropriate economic forecasting and base their policy choices on such information.

An improved administrative framework for trade transactions would benefit especially small and medium-sized enterprises (SME's), as these are usually at a disadvantage in coping with opaque trade procedures and would, as a result, often opt to stick to their traditional markets. The introduction of trade facilitation measures can thus expand trading opportunities for these companies, and help increase the number of their potential trading partners.

Trade facilitation is a critical element in any country's economic infrastructure. In an age of 'just-in-time' manufacturing and distribution, a facilitative environment for imports and exports not only benefits a country's trade, but is increasingly an important factor in the investment decisions of the private sector.

Trade facilitation reduces the costs involved in the trade process and enhancing trade opportunities, and is thus benefiting all countries. Trade facilitation consequently does not present a situation necessitating the exchange of mutual concessions, but presents a 'win-win' situation in which all countries stand to gain. Furthermore, the simplification of trade procedures will strengthen the functioning of the multilateral trading system as a whole.

Recent UNCTAD technical assistance projects in Multimodal Transport and Trade Facilitation

The most recent projects executed by UNCTAD in the area of Multimodal Transport and Trade Facilitation were located in Mozambique and in Nepal.

In Mozambique, UNCTAD's assistance was requested in the framework of a major World Bank financed infrastructure project: the Road and Costal Shipping Project (ROCS). UNCTAD's contribution was carried out in 1994, for an amount of approximately USD 200.000.

In early 1998, His Majesty's Government (HMG) of Nepal initiated the implementation of an infrastructure development project (contruction of three inland clearance depots at the border with India). To complement this project and to secure the best use of the future installed capacity, HMG requested UNCTAD to execute a USD 3 million technical assistance project aimed at the promotion of the trade and transport sector of Nepal. UNCTAD's contribution -which will terminate at the end of 2001- covers the implementation of trade and transport measures, as well as the installation of ACIS and ASYCUDA.

The particular context of landlocked developing countries

The importance of efficient transit systems for land-locked countries, has been emphasized in a number of studies, reports and other publications over the last 30 years. There is a general understanding that, in spite of what has already been achieved to facilitate transit, national and international efforts and resources are still required to eliminate existing physical bottlenecks - e.g. inadequate port facilities and rail or road infrastructures, poor transport equipment, insufficient telecommunication facilities - and any remaining non-physical barriers to the smooth movement of transit goods. These bottlenecks result in high transit transport costs and long,

unpredictable transit times, major disadvantages undermining the competitiveness of landlocked developing countries and economies in transition.

Since the mid-1970s UNCTAD has offered technical assistance to help land-locked developing countries and their transit neighbors to intensify their cooperative arrangements for the development of transit infrastructure, institutions and services in order to facilitate faster movement of goods in transit. UNCTAD's approach is to emphasize the importance of effective and close cooperation and collaboration between landlocked developing countries and their transit neighbours, at regional, subregional and bilateral levels. Indeed, the shared recognition that transit transport cannot occur efficiently without cooperation among neighbouring countries has led to the establishment of a broad range of transport instruments. Countries which have taken concrete measures to harmonize their transport policies and adopt common technical standards and legal principles have experienced a significant overall reduction in transport costs. The complexity and multilateral nature of transit transport require appropriate intergovernmental machinery to monitor and review progress in the implementation of international agreements and programmes. Moreover, maintaining and improving common programmes and arrangements require considerable financial resources and technical capacity as well as political commitment on the part of Governments.

Priority areas of work where achievements have been made include: assistance in negotiating and/or implementing bilateral and regional transit agreements and arrangements; streamlining and harmonizing administrative and customs and administrative procedures and documentation; assistance in implementing policies and procedures to reduce transit costs; assistance in institution building and human resource development in the transit sector, and development and implementation of customs and transport information systems.

Much of UNCTAD's earlier technical assistance support work was concentrated in Africa, but more recently, assistance has been extended to other countries and regions, notably, the newly independent and developing states. In Central Asia, in cooperation with the Economic Cooperation Organization (ECO) a Transit Transport Framework Agreement was adopted (1998). A similar agreement between the People's Republic of China, Mongolia and Russia is currently being negotiated with assistance from UNCTAD. This agreement establishes the basis of a sub-regional regulatory framework that would make transit operations in North-East Asia efficient and cost effective, thus promoting the external trade of the sub-region and bolstering its economic growth. It covers technical issues such as customs procedures, vehicle dimensions and maximum vehicle weights.

UNCTAD continues to work closely with regional integration groupings (ECOWAS, COMESA, SADC, ECO etc.), which play a major role in promoting regional standards, procedures, documentation and practices designed to facilitate faster movements of goods in transit.[5]

In Southern Africa, for example, the six landlocked developing countries and their transit neighbours acting under the auspices of COMESA and SADC, have made significant progress in transit facilitation. This includes: the operation of harmonized axle load limits; adoption of COMESA carrier licensing; and the application of a regional third-party motor insurance scheme. In particular, UNCTAD is providing assistance to Zambia and the United Republic of Tanzania for implementing a SADC

[5] For more information, see the recent UNCTAD studies on transit transport issues in Africa: "Review of progress in the development of transit transport systems in West and Central Africa" (UNCTAD/LDC/102) of 15 June 1999 and "Review of progress in the development of transit transport systems in Eastern Africa" (UNCTAD/LDC/103) of 15 June 1999.

commitment on development of Road Traffic Information Systems in Member States. The systems adopted in each country should be able to communicate with each other to assist in law enforcement.

B. THE ADVANCE CARGO INFORMATION SYSTEM

Background

In the mid eighties UNCTAD studied the situation of the transport chain components of some developing country transport systems and identified the physical and non-physical obstacles to improving such systems. One major conclusion was that there was a need for a programme of action to monitor cargo movements.

That programme of action developed into establishing a transport logistics information system called the **Advance Cargo Information System (ACIS)**. It is a computer-based system, tracking transport equipment and cargo, based on high-powered software developed by UNCTAD, using computer and telecom equipment purchased according to UN regulations and installed within user transport operators.

Main features

ACIS is a generic name given to a 'tool box' of computer applications designed to produce management information to address cargo and transport equipment issues on all modes and at interfaces. Each application is independent of the other but is designed with a modular approach to enable all to 'co-habit' and freely exchange data in an industry accepted standard form.

ACIS comprises compartments corresponding to the different modes and interfaces, each having standard computer applications, called modules; their aim is to track transport equipment and cargo in and out of ports (PortTracker), within railways (RailTracker), on lakes (Lake/RiverTracker) and possibly on roads (RoadTracker). The port and rail tracking modules are developed and already installed in several Asian and African countries. The modes are customized to a country's needs and can be connected together through the so-called Backbone Information System (ACIS-BIS).

ACIS is designed to provide an information network linking the physical points along various surface transport routes at which decisions are taken. It uses practical and proven implementation methodologies and down-sized field-tested solutions and employs solutions applicable in difficult environments, e.g. readily available micro-computer technology and such telecommunications facilities as are available.

ACIS is a real time proactive system providing transport operators and ancillaries with reliable, useful and immediate data on transport operations giving the whereabouts of goods and transport equipment; this enables transport operators to improve day to day management and decision making. As a result, ACIS contributes to increasing the actual capacity of a transport corridor. ACIS also produces regular statistics and performance indicators which, at the operator level, enable management to remedy deficiencies and, at the national and sub-regional levels, provide data for macro-economic planning.

ACIS can play an important role in the development of trade relations and above all in reinforcing sub-regional integration because it enables all operators who belong to the system to communicate, through modes and interfaces and over borders, the vital information which is required by them to improve transport efficiency; thus the

costs of the carriage of goods is reduced because ACIS, as a management tool, provides the required data to operators, enabling them to make full use of existing infrastructure and equipment capacity. Such accumulated data, on a sub-regional scale, enables macro-economic transport planning to foster the optimal modal distribution patterns and foresees infrastructure investment.

Status of implementation of ACIS projects

ACIS PortTracker and RailTracker modules have been installed 20 countries and the system is currently being implemented in 5 more countries. Project documents are presently under negociation with a number of other countries (Sri Lanka, Mongolia, Vietnam, Thailand, Pakistan, Nigeria, Brazil, and Central America). Installation in the Port of Bandar-Abbas in the Islamic Republic of Iran, after an international meeting in Tehran, could constitute the first step to an extension to ECO countries.

In 1999, there were 7 on-going projects with expeditures amounting to around USD 800.000 (plus HGM/Nepal for USD 1 million, covering ACIS, ASYCUDA and Trade Facilitation).

Benefits from the implementation of ACIS projects

The benefits reported in this Brief are based upon several independent assessments made by consultants designated by the funding agencies and by the user railways themselves.

The ACIS Appraisal Report undertaken by TRANSMARK in November 1993, at the behest of the European Union, concluded, inter alia:

> *"ACIS provides appropriate technology and is technically sound? ACIS will also serve as a foundation for many other added value systems?. ACIS is designed to change transportation culture by promoting 'business partnerships' between those involved with cargo transits, whether these be operators or clients both on a national and international level. As such private and public sectors will be brought together with transportation clients to all be aware of the reasons for delay and lack of quality in the transportation of consignments. ACIS is a necessary 'enabler' to provide information on the progress of the consignments so that market pressures can be applied to identify and cure the causes for delay and other problems. Currently, without ACIS, too many operators hide behind a 'wall of silence' caused by lack of information to shield inefficiency and bureaucracy."*

The Final Report of the "Needs Assessment, Feasibility Study and Conceptual Design for a Rolling Stock Information System for SADC Railways" submitted by Morrison Knudsen Corporation in February 1996, at the request of USAID, stated that:

> *"ACIS is a relational database. Data can be designated on keys and utilized to process records in various ways. A substantial benefit of this architecture is that it permits data types to be linked across file structures without requiring the user of the architecture to do the linking. Consequently, simple to complex relationships can be established within the data itself from very simple inputs. The inclusion of a "plain language" query permits the user to create new relationships in order to answer questions phrased in such easy-to-understand English sentences as "Tell me the number of wagons on my railway now*

moving containers holding chemicals."

An independent Assessor, commissioned by the European Union to evaluate the System's results in the Eastern African countries where it has been implemented, had general and specific comments on RailTracker installations in Tanzania, Uganda, Zambia and Kenya (May 1997).

The overall assessment was as follows (quotes):

1. The RailTracker system is a perfect tool to improve railway performance in a competitive environment.
2. The ACIS system? provides advance, real-time operational and statistical data on the movement of cargo from the point of loading to its final destination.
3. RailTracker software is extremely well developed and has proven its success and stability in the field. Some developments are still ongoing: the new version of RailTraffic is under development; the completion of this version will considerably enhance the RailTracker system and provide many of the functions offered by systems in place in Europe.
4. RailTracker is very advanced in terms of ease of use, reports generation and allows easy external access.
5. The Statistical module is nearly completed and the results produced are very satisfactory. The Statistics module offers the possibility to link RailTracker with the OSCAR costing programme thus enabling the railways to feed OSCAR with reliable data.
6. The adequacy of the technology selected for ACIS in African countries – the use of PCs, LANs using proven software and a simple data transmission architecture – is unquestionable and the stability of the computer system and network installed is impressive.
7. The Consultation module enables a railway customer to directly access the RailTracker system by modem.

Quantitative results: RailTracker brought numerous advantages to the railways that can be directly quantified – an overview:

> *Comprehensive data is now on-line available for traffic and other managers. This includes such information as the position of wagons on the network, number of sick wagons, wagons loaded for more than 3 days (stranded), wagons in workshops, foreign wagons on network, etc? and daily reports.*
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> *Weekly/monthly reports for various managerial levels within the railways can be generated easily? they include such information as weekly loading data, customer/commodity performance, commodity supply/demand performance, average wagon loading, average locomotive km, fuel issued, train transit time, transit/domestic loading, etc.*
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> *Customer information has also drastically improved. In the past it took about 45 days to inform a customer about the whereabouts of his wagon, now this information can be provided instantaneously. Large customers have a direct access to RailTracker via a dial-up facility. Information is restricted to their cargo only. Customers are extremely satisfied with RailTracker. Rail transport again became an alternative to road transport.*
>
> *The internal railway reports (daily, weekly and monthly) provide information that is necessary for any railway to operate efficiently in a*

competitive environment.

With regard to detailed comments, a comprehensive evaluation was undertaken in 1999 by Tanzania Railway Corporation (TRC) to measure the usefulness of RailTracker between the day it was installed in 1994 and 1999, i.e. over 5 years. The results are reported below. They are valid for all the railways which use ACIS RailTracker today:

REDUCTION OF: (in days)

1.	Average wagon turnaround time	18 to 13
2.	Average consignment transit time	15 to 3
3.	Average wagon detention time in terminals	8 to 4
4.	Average dwell time of foreign wagons	28 to 12
5.	Average daily interchange balance (wagons)	203 to 108
6.	Average dwell time of wagons in repair shops	150 to 80

INCREASE OF:

1.	Average locomotive utilization (kms/day)	280 to 380
2.	Average wagon utilization (kms/day)	73 to 120
3.	Average wagon productivity (loadings/year)	20 to 28

As a result, improvements in Service and benefits to customers were:

1. Wagon movements closely monitored so that cargo is delivered on schedule (agreements with customers– or targets),
2. Ability to inform customers on status and whereabouts of their cargo 'live',
3. Ability to trace/control wagons means that the supply of wagons to customers is more reliable,
4. Possibility to detect wagons not paid for,
5. Possibility to calculate daily revenue,
6. Availability of daily freight loading statistics.

Training

Human resource development is a major component of the ACIS Programme.

ACIS will only function reliably and efficiently if data is rigorously and accurately recorded at major points in the transport chain. Managers must be able to interpret and act on the information and performance indicators generated by ACIS. To ensure that these tasks are properly performed requires a competent and trained workforce. The installation of ACIS includes human resource development at all levels of user operations.

A fundamental objective of the ACIS training strategy is that any user who comes into contact with the system is trained for those tasks which relate to ACIS as part of the overall package delivery. This comprehensive approach will ensure that managerial, supervisory, technical and clerical staff is trained to use the system correctly and efficiently.

Sustainability

The sustainability of the project can be gauged at several levels. At the country level the project's aim is to make the heavy infrastructure and rolling stock investments in the transport sector profitable by providing operational data which improves management of the entire logistical chain per principal itinerary.

At the global level project activities will be sustained by:

1. Promoting the use of standards at the information systems level by following a unified design strategy and by use of standard operating systems, development languages, and off-the-shelf packages, where appropriate. Human interaction with the system is via pre-defined, standardised presentation of data, messages, etc. across all modules of ACIS.

2. Promoting transport information standards by using XML or Electronic Data Interchange (EDI) and the UN/EDIFACT message formats (Electronic Data Interchange for Administration, Commerce and Transport) wherever possible. The UN/EDIFACT standard is achieving rapid worldwide acceptance for electronic handling of transport and financial data.

3. Using system design features which are automated procedures to overcome limitations caused by the environment, the initial lack of sufficiently trained human resources, and to permit remote support. The unified design methodology and automated procedures help to ensure that local professionals will be able to operate and support the system, on a national and sub-regional basis, following project completion.

4. Training of trainers from Railway/or Port staff to ensure continuous "after-project" training.

With regard to local management, it is important that nationals of Member States can support the ACIS system once it is implemented. The concept of reinforcing local expertise introduced here does not refer simply to a mechanical transfer of technology to local staff. Rather, the technical capabilities of local professionals will be enhanced through various means, including on-the-job training relevant to ACIS. The concept of reinforcing local expertise is also meant to give concrete meaning to the institutional arrangements outlined below.

Finally, sustainability is enhanced through maintenance contracts between the various operators and UNCTAD.

Conclusions

ACIS is funded from multi- and bilateral sources (European Union, French and German Cooperation, and the World Bank) and increasingly from national operators themselves. The system can be installed in any country requesting it provided that the appropriate trust fund is set up within UNCTAD. ACIS offers the opportunity to exchange information between the various parties involved in the different transport modes and therefore should act as a catalyst to the introduction of both logistical chains and multi-modal logistics. The current inability to 'talk' between the various operators results in limitations in the responsibility extensions necessary to provide efficient logistics chains and therefore results in market segmentation. ACIS through its system uniformity can provide the necessary data so that parties can see the cargo as a through movement and therefore one where they can offer extended responsibilities. This has significant cost advantages in that one operator is seeking to make a profit on the total movement, rather than a variety of parties all attempting to obtain a return on their individual segments. ACIS is capable of functioning within a developed transport environment as well as within a developing market. It therefore meets today's needs as well as those of tomorrow.

C. THE AUTOMATED SYSTEM FOR CUSTOMS DATA

An efficient customs administration is essential for a country's good governance policy. Customs departments have a wide area of responsibility in the application of the government policies regarding international trade. The main aspects of this activity are customs clearance of the imported or exported goods, revenue collection, fraud struggling and the provision of statistical trade data for government analysis and planning. For a variety of reasons many administrations are unable to comply with their responsibilities and many areas are often neglected or poorly handled.

The **Automated System for Customs Data (ASYCUDA)** programme is primarily involved in the modernisation of customs, including the automation of the customs processes and procedures. It aims to achieve trade facilitation by accelerating the clearance process through the use of information technology. This implies simplification of the requested documentation and the reduction of the necessary processing steps. Another essential aspect is the uniform application of the law throughout the whole customs territory. It aims to increase revenue through the automatic assessment of duties and taxes including the computerization of customs tariff. As a complementary and important by-product of processing customs data, the system provides the government with both reliable and timely trade and fiscal statistics.

ASYCUDA technical assistance projects are designed to be implemented in the shortest possible time and within the specific institutional and environmental circumstances of each administration. Project implementation activities include a comprehensive training package that allows for the transfer of ASYCUDA know-how and skills to national staff, thus ensuring that the programme can be sustained by the national administration.

Main features

ASYCUDA is a computerized customs management system covering all import and export procedures, as well as other recognized customs regimes, including transit and warehousing. It takes into account international codes and standards established by ISO, WCO and the United Nations.

It offers the core features, i.e system administration, national configuration, tariff and control tables maintenance, cargo manifest handling, declaration processing and accounting. In addition, it now offers to users a number of important new features such as transit monitoring and a selectivity module for the automated control of declarations

The concept of direct trader input (DTI) offers important advantages to Customs brokers who can directly lodge their declarations on the Customs server for processing. The concept of direct shipper input (DSI) offers similar advantages to shippers who can enter the manifest information in their offices and transmit it to the Customs server for processing.

ASYCUDA can exchange data with external systems such as banks or carriers, through standard UN/EDIFACT or ad hoc developed messages.

A modern and user friendly tariff language has been developed. It enables Customs to maintain tariff rules and calculation algorithms without the need to perform any programming or to recompile any parts of the system. This language is very flexible as it can access all declaration data elements and link them into formulas using standard logical and mathematical operators and functions.

A flexible selectivity module provides Customs with a powerful tool to significantly accelerate the goods clearance process while improving its control capacity. The consignments can be selected for inspection through selection criteria (including a

random rate) which can be maintained at national, regional and local levels. Full audit ability of the transaction files provides an additional tool to tighten the functional security of the system.

A module to handle transit procedures

In May 1997, UNCTAD called an expert meeting on the use of information technologies to make transit arrangements more effective. The meeting's recommendations highlight that *"UNCTAD should work towards developing a transit module, in the context of ASYCUDA"*. Furthermore, *"the transit module could cover all functions of Customs control and transport monitoring of transit goods from the beginning to the completion of the transit operation, including the release of guarantees where appropriate... "*.

As a result of the expert meeting, ASYCUDA now includes a new module for the management of transit procedures (the MODTRS module). This module handles three transit documents, namely the T1, the TIR carnet and the First Identification Procedure (FIP). It is usable for all the types of transit as defined in the Kyoto convention, covering movements from the:

- border office of entry to an inland office (import transit);
- border office of entry to a border office of exit (through transit);
- inland office to a border office of exit (export transit);
- inland office to another inland office (internal transit).

The three documents are different and present specific features but all apply the following principle. The system allows for data capture by the traders using the DTI module and/or by the customs officers. Upon validation of the document a message is automatically transmitted to the office of destination using the appropriate ASYCUDA software, A++ GATE, (ASYCUDA Global Access to Trade Efficiency), through the national telecommunications network. This message informs the office of destination that a cargo should arrive within a given time delay. When the cargo arrives at the destination the transit message is retrieved, closed and a release message automatically broadcast to the office of departure. This feature gives customs complete and timely information on all operations.

The module works satisfactorily at a nationwide scale and it has been recently enhanced by the development of new functions such as rerouting (changes of the office of destination). As customs receive the complete and accurate information on all the operations prior to the arrival of the goods, and there is no need for re keying at the office of destination the processing delays are tremendously reduced at the border, thus facilitating trade.

The system is technically designed for future extensions to cover the international transit operations (data exchange of messages between countries).

Implementation of ASYCUDA

The ASYCUDA Implementation Strategy has been developed and refined on the basis of 10 years' experience. It has been developed to respond to the customs automation programme and is structured in three phases to ensure a low-risk, cost-effective approach that provides for national long-term sustainability.

The first, pre installation phase, requires a complete assessment of the current state of customs procedures, including their legal aspects, tariffs and infrastructure. In the second phase, the system is configured in accordance with national regulations and installed at one or two selected pilot sites, where national configurations and procedures are tested, together with the training of staff and the trading community.

In the third phase the system is extended to other customs offices, in ports, border stations and free zones. The use of the system developed in the second phase at the remaining sites ensures that data flowing from operational sites to headquarters, and from headquarters to end-users, such as the Statistical Office and other government departments, is functioning correctly.

The first two phases take approximately 18 months and the final phase between 6 and 12 months, depending on resources and the number of sites to be installed.

ASYCUDA++ migration

As part of the programme to ensure existing ASYCUDA users upgrade to ASYCUDA++, which offers enhanced functionality and modern architecture, a number of short-term ad hoc studies were undertaken by programme staff. These studies are in accordance with the *Manila Declaration*, para 18 concerning the requirements for an in-depth review of the entire customs business process and the subsequent introduction of appropriate reform activities is a prerequisite for the implementation of ASYCUDA. As a result of these studies a number of ASYCUDA++ migration rojects commenced in 2000 and similar projects been designed to start in 2001/02.

In Bangladesh a migration study was undertaken in May 2000 and a project document was signed to migrate to ASYCUDA++. The system will be installed initially at five sites and the project will also provide for training and technical support. It is expected that the implementation will be concluded within 15 months.

Impact of ASYCUDA projects

The impact of ASYCUDA projects can be assessed by various institutional and trade facilitation benchmarks, including increased revenue, improved trade facilitation and clearance times, and the availability of reliable trade data. Some projects are more successful than others; an important factor is the commitment to change and to obtain the full support of the Government. Certain projects do not realise the full benefits of automation mainly because of resistance to the institutional and procedural reforms that the programme requires.

In 2000, there were 49 operational ASYCUDA projects with expenditures totalling US$ 6,737,000. The ASYCUDA programme remains the largest technical cooperation programme within UNCTAD with over 80 countries and 4 regional projects. In 2000, 5 new projects were signed and commenced in Bangladesh, Bolivia, Bosnia Herzegovina, Cape Verte and Venezuela. In addition, at the request of countries and donors, a number of ad hoc pre-automation feasibility studies were undertaken.

Project Evaluation

As part of normal ongoing project activities, ASYCUDA projects were evaluated in a number of countries in 1999/2000, including Jordan, the Islamic Republic of Iran and Romania. In these countries ASYCUDA had been installed in the customs headquarters and in one or two pilot sites. The purpose of the evaluations was to assess the achievements under the initial implementation phase and to make recommendations for phase two, in which the system is rolled out to the other customs offices.

In **Jordan**, Phase I of the project started September 1997 as a pilot project to computerize three project sites, namely Customs Headquarters in Amman, Queen

Alia International Airport and Amman Customs House. The evaluation team found the following success indicators, among others:

Time of release:	The green lane declaration takes on average two hours.
Revenue collection:	The revenue has stayed constant despite significant reductions in duty rates.
Trade statistics:	Trade statistics are more complete, accurate and up-to-date.
Procedures:	Simplification and increased transparency through: integrated customs tariff; single administrative document; risk management techniques; DTI, i.e. electronic lodgement of customs declarations.

The evaluation formed the basis for Phase II of the project including roll out of ASYCUDA to eight major sites in Jordan.

In **The Islamic Republic of Iran**, the ASYCUDA project started in 1997 with the objective of computerizing customs data processing at the headquarters of the Islamic Republic of Iran Customs Administration and at the Mehrebad International Airport in Tehran. This was fully achieved in the 1999, and the main purpose of the evaluation was to identify and describe areas for further modernization of customs procedures. The evaluation team made several strategic proposals concerning the organizational structure, customs procedures and the IT systems. These proposals were taken into account for the roll-out phase covering 12 Customs offices throughout the country.

In **Romania,** the evaluation report indicated that the customs automation project, with ASYCUDA++ as its core, had been very successful with the objectives of the project being fully met. The system has been introduced in over 100 locations as part of a structured wide area network. The Evaluation Team found there had been a significant improvement in the quality and timeliness of statistical data and an appreciable reduction in the clearance times for goods.

The Evaluation Team considered the project suitable as a model for replication elsewhere assuming the necessary dedication of senior customs officials and government. Based on the findings and recommendations of the report, the Donor is prepared to support the project for a second phase to build upon and maximize the potential benefits of the system.

UNCTAD support to ASYCUDA

The technical and Customs support to ASYCUDA is provided by the Geneva-based ASYCUDA teams and the regional support centres.

Support from UNCTAD Geneva

UNCTAD retains overall responsibility for all aspects of ASYCUDA development. The
ASYCUDA programme comprises two units based in UN Headquarters in Geneva:

ATDI - Technological Development and Implementation Unit:
Responsible for system design and development as well as technical implementation and training.

PISA - Project Implementation and Support for ASYCUDA
Responsible for negotiation and formulation of project documents, Customs implementation activities and follow up on progress and reporting.

Regional Support Centres

With the increasing number of user countries, regional support centres have been established in Lomé, Togo, Lusaka, Zambia; and Kuala Lumpur, Malaysia. A regional centre will soon be set up in the Caribbean. These centres will assist in pre-project analysis, and drafting of preliminary project documents . They also provide first-line technical support, and coordinate and deliver functional and technical training. Regional centres are essential for the sustainability of projects as they are close to the user countries and thus able to provide quick assistance.

Another major task of regional support centres is assistance towards the elaboration and introduction of regional standards, such as a common Single Goods Declaration document or common clearance procedures.

Programme information

In order to provide information relating to *e-commerce and customs* a series of high level regional meetings were held in 2000. The first meeting was held in Abuja, Nigeria, for sub-Saharan African countries, which was attended by over 25 countries and a second meeting was held in Kuala Lumpur for countries from the Middle East and Asia and the Pacific. The meetings were well received and provided an excellent opportunity to inform participants and exchange ideas and views regarding the impact of e-commerce on customs and the trading community.

During 2000, discussions took place to ascertain the need and to determine the requirements to enhance and strengthen the presence of UNCTAD technical support staff in the various regions. With the increasing number of countries migrating to ASYCUDA++ and the demand for technical support and training on a regional basis, consideration is being given to provide support in the regions in a faster and more cost-effective way. It is expected that new regional centres will be created in 2001 in Latin America, for the Caribbean as well as the Middle East. Existing regional centres in Africa are planned to be strengthened in order to transfer the know-how and skills for ASYCUDA++ to local staff.

ASYCUDA Home Page

The programme has established its homepage: www.asycuda.org It provides a comprehensive overview of ASYCUDA++, the functionalities and benefits to be achieved by the governments concerned. The web site offers the latest news in terms of customs computerization and a status, editorial and pictorial, of the ASYCUDA projects world wide. It also has links to all related organizations such as the WCO and WTO and provides for a secure page for ASYCUDA User countries to access the *technical zone* which contains information relating to technical aspects of the system.

D. UNCTAD'S COOPERATION TOWARDS TRADE FACILITATION

UNCTAD is cooperating closely with a number of national and international institutions towards the implementation of technical assistance projects in Trade Facilitation.

World Customs Organization

UNCTAD's Trade Facilitation efforts, which date back to the early 1970s and the

ASYCUDA programme have a long-standing history of close cooperation first with the Customs Coordination Council and now with the WCO. ASYCUDA's functional design is based on the Kyoto Convention and ASYCUDA continues to be an efficient tool supporting the use of the Harmonized System which is being supplied to the user countries as first option for the base tariff.

World Bank and International Monetary Fund

Both the World Bank and the IMF are strongly supporting the implementation of Trade Facilitation measures and the use of ASYCUDA to reform, and modernize Customs administrations and automate the clearance procedures. UNCTAD staff from the Trade Facilitation Section are participating in many World Bank loan appraisal missions to cover the field of Customs and Trade Facilitation. In a number of cases this has led to the establishment of common projects. Joint missions are also organized with the Fiscal Affairs and Statistical departments of the IMF. In many countries the World Bank and the IMF can now use data available from ASYCUDA for their analytical work.

Regional development banks

Regional development banks are playing a major role as a source of funding for national ASYCUDA projects. Most projects in Central America have funding components from the Inter American Development Bank. The Caribbean Development Bank has contributed to projects in that region, while the Asian Development Bank, jointly with the World Bank, is funding a national Multimodal Trade Facilitation and ASYCUDA project together with an Advance Cargo Information System (ACIS) project in Asia. Furthermore, the Islamic Development Bank has shown interest in a large joint ESCAP/UNCTAD trade and transport facilitation project.

European Commission

The European Commission (EC) has been an active supporter of many ASYCUDA projects around the world. So far it has provided funding for regional activities in West Africa, Eastern and Southern Africa and the Caribbean. In Hungary, Romania and Slovakia the EC finances the hardware, the system software and related support services for the ASYCUDA projects and in the Former Yugoslav Republic of Macedonia the entire project is funded by the EC.

There is also a close working relationship with the EC's DG TAX UD with a view to assuring that ASYCUDA projects in countries likely to join the EU in the future work towards full EU compatibility in all legal, procedural and documentary aspects.

Other regional intergovernmental organizations

UNCTAD is cooperating with a number of regional organizations such as the Andean Community, the Latin American Association for Integration (ALADI), or the Association of South East Asian Nations (ASEAN). This cooperation focuses on trade facilitation issues (including the creation of National Trade and Transport Facilitation Committees and the elaboration of Plans of Action for trade and transport facilitation), on harmonization of laws and regulations on multimodal transport, as well as on training in the field of trade and transport practices.

National Customs administrations

Close cooperation with a number of national Customs administrations exists through the provision of experts who implement national and regional projects and others who work with the ASYCUDA Team in Geneva. A large and continuously expanding training programme is an integral part of the ASYCUDA projects which further expands UNCTAD's cooperation with national Customs administrations.

E. PROJECT FUNDING

1. International donor agencies

In the 1980s ,most UNCTAD technical assistance projects, including ASYCUDA projects, benefited substantially from UNDP funding out of the national or regional IPFs. As the availability of UNDP funds decreased, UNCTAD looked increasingly for contributions from other international donor agencies. Thus there is now a growing number of projects which are either partially or totally funded from the World Bank, the International Monetary Fund and Regional Development Banks. UNDP still remains involved in many cost sharing arrangements.

2. Bilateral donors

From the beginning contributions from bilateral donors to ASYCUDA activities for national and regional projects as well as for the central activities have played an important role. In most cases such contributions were provided *in kind*, ie. a donor country would provide a Customs expert, a part of the

hardware or some of the training resources through their own national development agencies directly to the projects. Such parallel funding has also been forthcoming from the EC in form of PHARE and TACIS tenders for ASYCUDA hardware, commercial system software and related installation services.

3. Government contributions

To each national project the beneficiary country contributes, as a minimum, the required office space, provides a full time National Project Team, as well as telecommunications and maintenance charges. The government may also contribute to or completely pay for other costs (international experts, training, travel, equipment, etc.).

Funding for national project implementations is provided by national resources and aid programmes offered to the beneficiary country. Such funding is generally available once the Government has decided to implement a Trade Facilitation and Customs reform and modernization programme, including automation, using ASYCUDA as the Customs management information system.

Regional support centres are financed from extra-budgetary contributions to UNCTAD, which may be supplemented by contributions from user-countries. When there is no or insufficient other funding available, regional support centres have also been funded from contributions from user-countries in that region.

F. HOW TO OBTAIN ADDITIONAL INFORMATION ON UNCTAD TECHNICAL ASSISTANCE

For more information on **Multimodal Transport and Trade Facilitation**, please contact:
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