

MODERNISATION OF
INTELLECTUAL PROPERTY OFFICES IN INDIA
IDEAS FROM THE EXPERIENCE OF THE JAPAN PATENT OFFICE

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The views expressed in this report are personal, except where cited. The views need not necessarily reflect the official view of the agency the fellow is working for or the agency that has sponsored the fellowship.

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List of Abbreviations

AIPPI-Japan	International Association for the Protection of Intellectual Property of Japan
AOTS	Association of Overseas Technical Scholars
APIC	Asia Pacific Industrial Property Centre
CGPDTM	The Controller General of Patents, Designs and Trademarks, India
ECLA	European Classification System
EPO	European Patent Office
F term/FI	An internal classification system used by JPO in parallel to IPC classifying technical fields more minutely.
FY	Financial Year with respect to India and Fiscal Year with respect to Japan
IIP	Institute of Intellectual Property
INPIT	National Centre for Industrial Property Information and Training (formerly NCIPI)
IPCC	Industrial Property Cooperation Centre
IPDL	Industrial Property Digital Library
IPER	International Preliminary Examination Report
IPO	Intellectual Property Office
IPSHq	Intellectual Property Strategy Headquarters, Government of Japan
IPRs	Intellectual Property Rights
IPSP	Intellectual Property Strategic Program, Japan
ISA/IPEA	International Search Authority/ International Preliminary Examination Authority
ISR	International Search Report
JAPIO	Japan Patent Information Organisation
JICA	Japan International Cooperation Agency
JIII	Japan Institute of Invention and Innovation
JIPA	Japan Intellectual Property Association
JPO	Japan Patent Office
METI	Ministry of Economy, Trade and Industry, Government of Japan
MEXT	Ministry of Education, Culture, Sports, Science and Technology, Government of Japan
NIF	National Innovation Foundation, India
NIIPM	National Institute of Intellectual Property Management
NRDC	National Research and Development Corporation, India
PAPC	Patent Application Processing Centre
PCT	Patent Cooperation Treaty
PFC	Patent Facilitation Centre of TIFAC
PIS	Patent Information System, India
SIDO	Small Industries Development Organisation, India
SOFTIC	Software Information Centre
TIFAC	Technology Information Forecasting and Assessment Council, India
USPTO	United States Patents and Trademarks Office
WIPO	World Intellectual Property Organisation

Chapter - 1

Introduction

1.1 Modernisation of Intellectual Property Administration

Intellectual Property (IP) infrastructure, legal and physical, is considered one of the key components of economic infrastructure in a country. Other than the legislations governing IPRs, the infrastructure generally includes human resources, examination system, administrative structure, databases for storage and retrieval of IP information, mechanisms for training, etc. This infrastructure varies vastly from country to country.

Some objective and subjective parameters are often used to assess the infrastructure and services of IP Offices, which might include first action pendency period, stability of the patent, level of computerisation, ease in using IP databases, transparency of procedures, user-friendliness in accessing status of applications and the like. Increasing IP activity in recent years has been posing work load challenges to the most advanced IP offices as well. Expectations from many quarters for swift processing of applications create pressure on existing IP infrastructure and administration.

Modernisation, especially computerisation helped IP Offices in addressing the challenges to certain extent. This is by equipping the IP Offices with versatile and multiple-terminal computer systems, databases, data processing & retrieval systems. Modernisation of IP administration, besides computerisation, generally aims at augmenting human resources, strengthening of training infrastructure for in house personnel, redesigning of work practices, etc. Creating IP awareness among stakeholders as well as public and building of IP human resources outside the IP Offices are also important components of modernisation schemes.

At a next level, the IP Offices might be entrusted with some responsibilities to act as facilitator to economic development by contributing to the dynamics of national innovation systems. This actually appears to be the case. As observed in the WIPO Intellectual Property Handbook¹, *Industrial Property Offices in recent years have become much more active in the promotion and delivery of services related to the role of industrial property information as important factors for technological development, in addition to carrying out of the traditional functions of search and examination related to the granting of industrial property rights.*

IP Offices are resource centres for highly qualified and trained personnel. These offices are repositories of published IP information, especially patent information, containing valuable knowledge about inventions. For non-specialists, systematic retrieval of the

¹ WIPO (2004), Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E)

information might not be easy. This creates a gap in knowledge dissemination. The IP offices with their vast resources might be able bridge the gap by facilitating the access to IP information which is useful for economic development in the country.

Then modernisation will be a quest in expanding the role of IP Office in the national spectrum, from an office that has a limited role to examine applications and grant rights to a full fledged national centre facilitating development by contributing more to dissemination of knowledge through proactive initiatives. There are a number of IP Offices which have been doing this. For other IP Offices this is very much possible, but in stages.

The IP system in India has been undergoing a paradigm shift from being a reactive system to a proactive, service-oriented and efficient system to cater to the national economic needs and aspirations of the user community. The Indian industry is making its presence felt all over the world by standing to global challenges by swiftly adopting to research-based and invention oriented development as an integral part of its business strategy. At this juncture, modernisation of IP administration is a priority as well as an imperative for India.

The IP administration has been utilising all available technological tools and reached certain level in the past few years. Modernisation is a continuing process and there is more that needs to be done in order to achieve a higher level of user friendly system by taking calibrated steps targeting a system that is more expedient, quality-oriented, credible and efficient.

The Japan Patent Office (JPO) is one of the major and well modernised IP Offices playing a vital role in the economic development perspective of the country. It is a good opportunity to understand IP administration of JPO and learn about the best practices. The study is expected to provide focussed information for use in modernisation of IP Offices in India.

1.2 Objective of the present Study:

The objective was to draw ideas for modernisation of IP Offices in India based on the study of

- (i) IP administration of JPO and the role played by agencies associated with it;
- (ii) best practices adopted by JPO in IP administration and the measures taken for expeditious and quality examination; and
- (iii) the IP strategies of Japanese companies and the use and importance of patent databases for companies and researchers.

1.3 Methodology:

Analytical study has been made regarding the role played by Japan Patent Office and other agencies in IP administration in Japan to establish the role played by each in the overall system. For collecting the information,

- (i) questionnaires have been administered to JPO and companies;
- (ii) interviews were conducted with resource persons in JPO, various IP related agencies and companies;
- (iii) documents like annual reports, brochures, monographs published by Japan Institute of Invention and Innovation, literature on the website of WIPO and other agencies were reviewed; and
- (iv) various expert lectures conducted at Asia Pacific Industrial Property Centre and weekly seminars at the Tokyo Institute of Technology were attended in addition to formal and informal discussions with resource persons in JPO, JIII and APIC .

1.4 Outline of the Report

The report starts with a brief introduction to the IP administration in India and the Government Departments that are responsible for the administering various legislations. The status of Modernisation of IP Offices in India has been outlined along with the achievements of modernisation. Brief introduction has been given to the role played by some agencies in India that are actively involved in IP facilitation. In the background of the achievements, the need for further modernisation has been analysed.

Most of the discussion in the report has been dedicated to the understanding of the administration of JPO in the areas of expeditious and quality examination, computerisation, human resource development, dissemination of IP information, international cooperation and awareness creation. The role played by various agencies associated with JPO in its activities and in dissemination of IP information has been described in brief.

In the fourth chapter, the IP strategies of Japanese companies have been outlined. Case studies describing specific cases of IP strategy of companies have been given based on the understanding of the fellow from the interviews/presentations of the resource persons of the Intellectual Property Departments of these companies. Due to paucity of time, collecting and analysing more data on IP management from a larger sample could not be materialised. The use of IP information by the companies and the role of IP Offices to provide the same has been established. The need for IP offices to have constant interaction with the user community has been indicated with the example of the Japan Patent Office.

In the fifth chapter, a brief account of the importance of IP information, methods of its analysis has been given. Brief introduction to topics of current research interest in Japan with respect to Patent information has been given with a view to establish the importance of Patent databases for companies and research. As demonstrated in the previous chapter, the role of IP Offices in providing dependable Patent databases has been reiterated.

From the understanding of the role played by the Japan Patent Office and other agencies in economic development perspective in Japan, the ideas that worked for JPO have been described and various other suggestions have been made from the experience of JPO. These could be suitably incorporated and implemented in modernisation of IP offices in India.

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Chapter 2

Intellectual Property Administration in India and Modernisation of IP Offices

2.0 Introduction:

This chapter seeks to introduce the IP administration in India with special emphasis on the status of modernisation of IP Offices. An introduction to the role and activities of some other agencies which facilitate IP related activities at various stages has been given. An attempt has been made to demonstrate the need for further modernisation and the possible components of the next phases of modernisation.

2.1 Administration of major IPRs in India:

India is a contracting party to the following international conventions and treaties as regards Intellectual Property Rights: the Agreement on Trade-Related Aspects of Intellectual Property Rights, the Paris Convention for the protection of Industrial Property, the Patent Cooperation Treaty, the Berne Convention for the protection of Literary and Artistic works, the Universal Copyright Convention, the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure, Nairobi treaty, etc.

The major intellectual property rights and the Ministries, Departments responsible for administering the legislations concerning these rights are as per the table give below:

Nature of IPRs	Concerned Ministry/Department/ Organisation
Patents, Designs, Trade Marks & Geographical Indications	Ministry of Commerce and Industry, Department of Industrial Policy & Promotion The Office of the Controller General of Patents, Designs and Trade Marks
Copyright and related rights	Ministry of Human Resource Development, Department of Higher Education Office of the Registrar of Copyrights
Semiconductor, Integrated Circuit Layout Design Rights	Ministry of Communications and Information Technology Department of Information Technology SICLD Registry
Protection of Plant Varieties and Farmers' Rights	Ministry of Agriculture, Department of Agriculture and Cooperation Protection of Plant Varieties and Farmers' Rights Authority

2.1.1 Legislative Framework:

Recognising the importance of intellectual properties for scientific, technical and industrial development and as a strategic response to globalisation and liberalisation of Indian economy, Government of India has revised intellectual property related legislations concerning patents, trademarks, geographical indications and industrial designs. These legislations are in conformity with India's international obligations. For

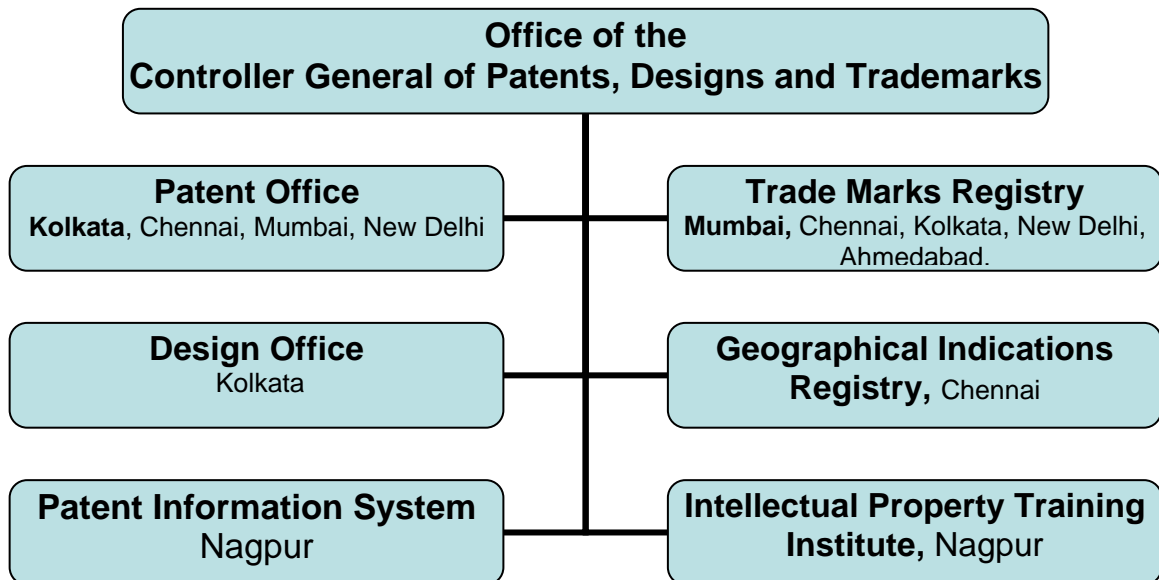
streamlining and rationalising of certain procedural aspects regarding acquiring of patent rights, Patent Rules have also been amended.

The legislations governing the Industrial Property Rights are:

- The Patents Act, 1970 as amended by the Patents (Amendment) Act, 2005
- The Trade Marks Act, 1999
- The Geographical Indications of Goods (Registration and Protection) Act, 1999
- The Designs Act, 2000

2.1.2 Organisational Framework of IP Offices:

The organisation of the IP offices and the locations are as per the figure given below²:



The Office of the Controller General of Patents, Designs and Trade Marks:

The Office of the Controller General of Patents, Designs and Trade Marks is a subordinate office of the Department of Industrial Policy & Promotion, Ministry of Commerce and Industry. The Office is responsible for administering all the legislations related to Patents, Designs, Trade marks and Geographical Indications. The Patent Information System and the Intellectual Property Training Institute also come under the administrative purview of this office.

The Patent Office: The Patent Offices in India are located at Kolkata (Head Office), Chennai, Mumbai and New Delhi, with geographical jurisdiction³. They perform the statutory function of administering the patents legislation in accordance with the provisions of the Patents Act, 1970 as amended by the Patents (Amendment) Act, 2005

² Annual Report http://ipindia.nic.in/cgpdtm/annual_report_2004_2005.pdf

³ Details available at <http://ipindia.nic.in/ipr/patent/patjurid.htm>

and the Rules thereof. The Patent Office also provides policy advice to the government on various issues of national and international importance.

In addition to registering and protecting of new inventions through grant of Patent rights, the activities of Patent Offices include, offering preliminary advice to inventors and applicants, preparing search materials, maintaining register of patents, compilation of annual statistics⁴, publication of the Patent Journal⁵, etc.

The Trade Marks Registry: The Trade marks Registry is located in Mumbai (Head Office) with branches at Chennai, Kolkata, New Delhi and Ahmedabad. The main function of the Registry is to administer the Trade Marks Act 1999 and Rules there under. The Trademarks registry provides policy advice to the Government by closely monitoring the developments in the field.

In addition to registering and protecting of Trade Marks, the Registry also provides preliminary advice to applicants and public. The Registry also compiles annual statistics and publishes Trademarks Journal⁶, etc.

The Design Wing: The Design Wing of the Patent Office performs administration from Kolkata branch of Patent Office. Filing of design applications can be done at any of the four branches of Patent Offices. The Design Wing of the Patent Office administers the Designs Act, 2000.

In addition to registration and protection of designs, the Design Wing provides guidance, preliminary advice, compilation of statistics, etc.

The Geographical Indications Registry: The registry is located at Chennai. It administers the Geographical Indications of Goods (Registration and Protection) Act, 1999 which protects well-known Geographical names of goods. The Controller General of Patents, Designs and Trade Marks is also the Registrar for Geographical Indications Registry.

Patent Information System (PIS): PIS was established in 1980 at Nagpur and maintains a comprehensive collection of patent specifications and patent related literature, on a worldwide basis and provides technological information contained in patents or patent related literature through search services and patent document supply services. The purpose of PIS is to provide information and documentation for users in R & D establishments, Government organisations, industries, independent inventors and others.

Intellectual Property Training Institute (IPTI)⁷: As part of modernisation of IP Offices, IPTI was established in Nagpur in 2001 for providing training to the personnel of

⁴ http://ipindia.nic.in/cgpdtm/annual_report_2004_2005.pdf

⁵ http://ipindia.nic.in/ipr/patent/journal_archieve/journal_2007/patent_journal_2007.htm

⁶ http://ipindia.nic.in/tmr_new/default.htm

⁷ http://ipindia.nic.in/ipr/patent/IPTI_booklet.pdf

Intellectual Property Offices and for conducting awareness programmes. The major activities of the institute include conducting of induction training programmes for examiners and refresher courses for officials of IP Offices, preparation of training materials and conducting of other training programmes for specialists as well as public.

Intellectual Property Appellate Board (IPAB)⁸: Intellectual Property Appellate Board has been constituted by the Government to hear appeals against the decisions of the Registrar under the Trade Marks Act, 1999 and the Geographical Indications of Goods (Registration and Protection) Act, 1999. The Intellectual Property Appellate Board has its headquarters at Chennai and shall have sittings at Chennai, Mumbai, Delhi, Kolkata and Ahmedabad. The object of setting up the Appellate Board is to hear and decide appeals from the order or decision of the Registrar of Trade Marks which till now were under the jurisdiction of the High Courts. The Appellate Board can also entertain original applications for rectifications of the register of trade marks under relevant sections of the above Act. It is provided that similar matters arising under the Geographical Indications of Goods (Registration and Protection) Act, 1999 shall also be heard and decided by IPAB.

Staff strength of IP Offices: The sanctioned staff strength of IP Offices at the end of FY 2004-05 is as under⁹:

Nature of employees	Number
Technical Personnel for Patents & Designs (Examiners & Controllers)	257
Technical Personnel for Trademarks (Examiners & Registrars)	83
Technical Personnel for Geographical Indications (Examiners & Registrars)	3
Administrative & Support Staff	495
Total Staff	838

The expenditure for IP Offices during the financial year 2003-04¹⁰ was around US \$ 2.3 million¹¹.

2.2 Modernisation of IP Offices:

To complement the legislative initiatives with respect to IPRs, Government has undertaken the project for modernisation of Intellectual Property Offices comprising the Patent Offices including Designs Wing, the Trade Marks Registry and the Geographical Indications Registry at a cost of about US \$ 35 million¹². It also aims to enable IP offices

⁸ <http://www.ipab.tn.nic.in/>

⁹ Source: Annual Report of the Office of the CGPDTM
http://ipindia.nic.in/cgpdtm/annual_report_2004_2005.pdf

¹⁰ @ 1 US \$ = 44.00 Indian Rupees

¹¹ Annual Report of Office of the CGPDTM, *ibid*.

¹² Source: http://pib.nic.in/release/rel_print_page1.asp?reid=23630

to adopt the global best practices for providing services in an efficient and user-friendly manner.

2.2.1 The major components of modernisation

A. Infrastructure Development:

- Construction of modern, integrated office buildings
- Networking of offices

B. Human Resources Development

- Augmenting the strength of technical and administrative support personnel in the IP Offices

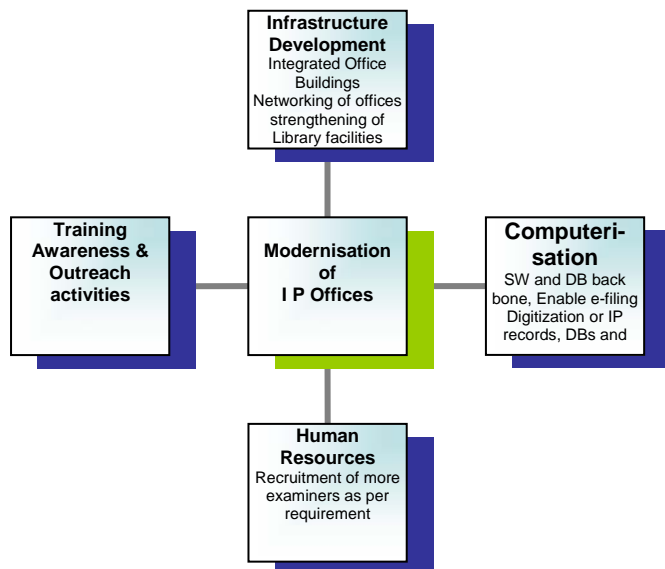
C. Computerisation

- Computerisation of all work practices including examination
- Automation of procedures from front desk to grant
- Automated gazette publication
- Enabling e-filing
- Digitisation of records
- Strengthening of library and novelty search facilities
- Independent website

D. Training, awareness and outreach activities

- Training of newly recruited examiners
- Refresher training for senior examiners and controllers
- Conducting training programs for awareness creation
- Dispatching of experts to regional areas for participating in seminars
- Conducting workshops in association with other national agencies

The present scheme of Intellectual Property Office Modernisation in India is as under:



2.2.2 Achievements of Modernisation:

2.2.2.1 Achievements in the four components

The modernisation so far has yielded demonstrable results. Modernisation has significantly improved IP administration in terms of creation of physical infrastructure, efficiency in functioning, clearance of backlog and computerisation. Some of the achievements are mentioned below:

Infrastructure Development

- Four integrated Intellectual Property Office building for housing the Patent Office, Designs Wing, Trademarks Registry and Geographical Indications Registry together have been commissioned at New Delhi, Kolkata, Chennai and Mumbai.
- Modern facilities and communication infrastructure like LAN, WAN connectivity have been provided.
- Well equipped libraries have been provided.

Human Resources

- More than 200 additional posts of technical personnel have been sanctioned for the Patent offices in all fields of technologies including the emerging fields of technologies.
- The personnel at the Trademarks Registry have also been strengthened through recruitment of 30 Examiners of Trademarks.
- Manual of Patent Practice and Procedure, which provides guidelines relating to the practice and procedure to be followed in examination of patent applications to establish a uniformity and homogeneity in the processing of the applications in patent offices, has been revised.

Computerisation

- Initial level of computerisation, including provision of internet facilities has been completed.
- Process modules have been developed and are in the testing phase.
- Comprehensive computerisation of operations so as to facilitate on-line processing of applications is under implementation.
- Digitisation of records of Patents, Designs and Trademarks is in progress for establishment of IP Database.
- A website of IP office, namely, www.ipindia.nic.in, was launched. The website hosts the Patents and Trademarks journals which are published on line and details on the latest developments in IP administration in India. The website is also the channel for inviting public opinion and comments on proposed amendments in legislation and procedures.
- Online search facilities have been established and all the IP Offices have been provided with facilities to ensure uninterrupted and streaming connectivity. Improved novelty search in patents is being ensured through connectivity to international databases. Certain databases in CD-ROMs have been acquired for this purpose and library and Information facilities strengthened.

Training and Awareness and Outreach Activities:

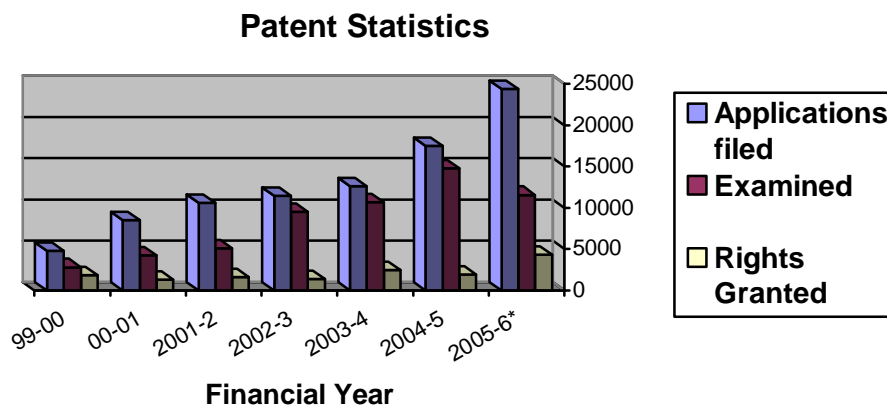
- Intellectual Property Training Institute (IPTI) was established at Nagpur.
- The programmes conducted by IPTI include, induction and refresher training for examiners and other IP office personnel including special training programs in new and frontier areas of technology.
- IPTI is also actively involved in conducting training programs for inventors, professors, researchers, IP-professionals, lawyers, IP managers in industry sector, etc.
- A number of awareness programs for IP users have been conducted.
- IP Offices, in association with various industry associations, are engaged in promotion of the culture of innovation by disseminating information about the advantages and benefits of IPR system.
- With the help of local business associations, chambers of commerce etc., potential IP users are being educated by organising workshops on benefits of using IP to industry and universities particularly IITs and technological training centres and also by organising national and international symposia/seminars.
- Information brochures on Patent law, Trademark law, Design law and GI Law have also been prepared for use by public.

2.2.2.2 IPR Statistics

The performance of the IP offices during the recent years¹³ when modernisation of IP Offices and efforts in awareness generation has been very active is represented by the statistics given below.

Patents

- The filing of patent applications has increased from 4824 in the year 1999-2000 to 24,415 applications in the year 2005-2006*.
- The number of applications examined has gone up to 11,569 in 2005-06* against the figure of 2824 in the year 1999-2000.



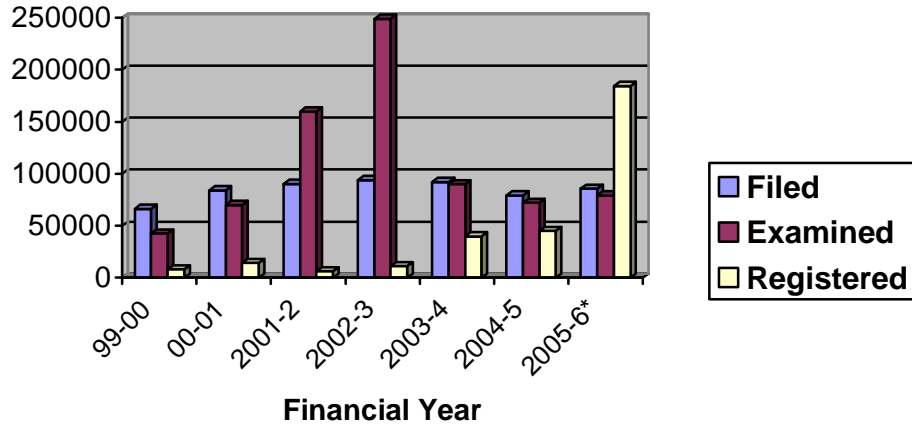
Trademarks

- The backlog of unexamined applications of approximately 500,000 cases at various stages in the Trademarks Registry (TMR) has been brought down to zero corresponding to the stages of issue of allocation number, examination, publication of advertisement and issue of TMR certificates.
- Renewal of Trademarks certificates is being done instantly in clear cases and new applications are examined within one week from the filing date. As against only 8,010 trademarks registrations in 1999-2000, 184,325* registrations have been done in the year 2005 – 06.

¹³

The statistics for 2005-06, indicated by asterisk mark wherever possible, are provisional.

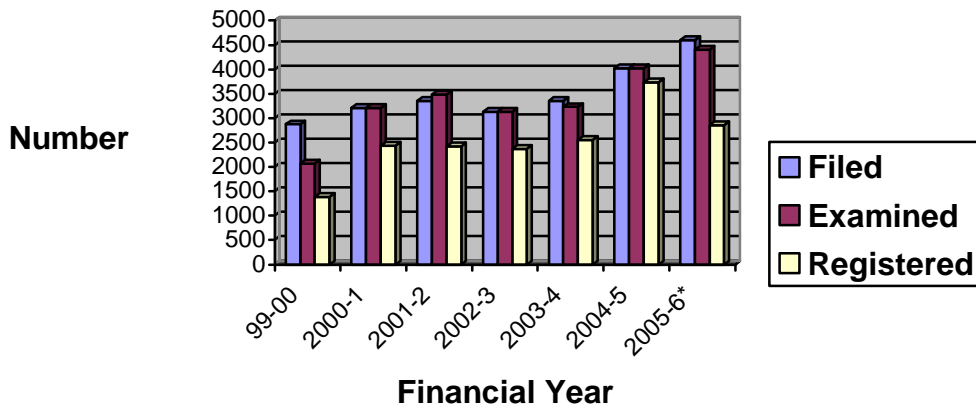
Trademark Statistics



Designs

- The filing of applications for Design has increased from 2874 in 1999-2000 to 4603 in 2005-06*.
- The number of applications examined has also gone up to 4400 in 2005-06 against the figure of 2607 in 1999-2000. Similarly, number of Designs registered has also increased from 1382 in 1999-2000 to 2852 in 2005-06*.

Design statistics

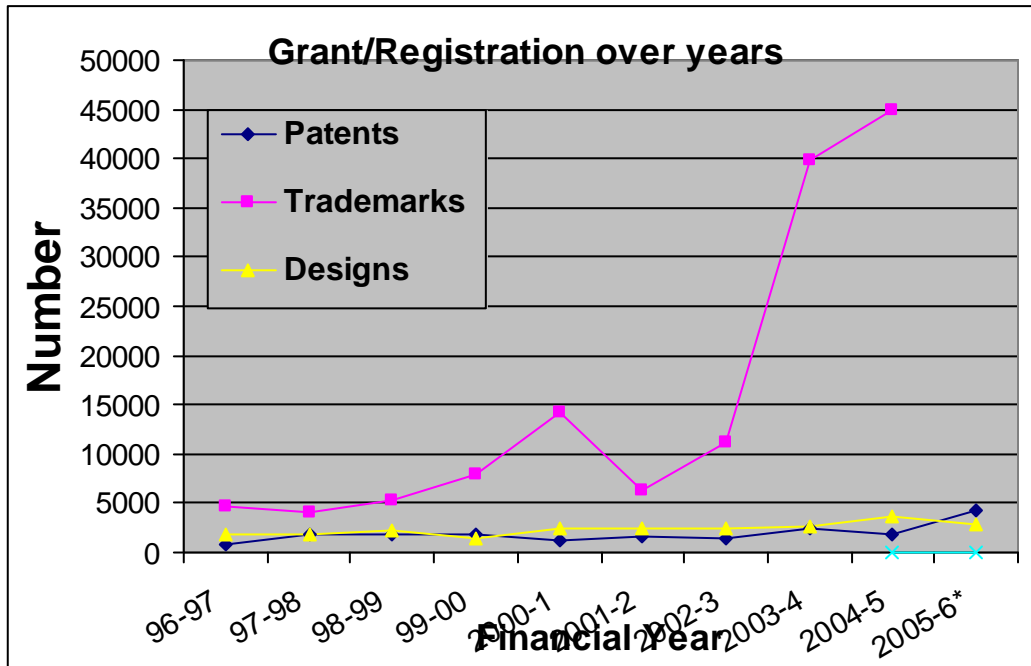


Geographical Indications

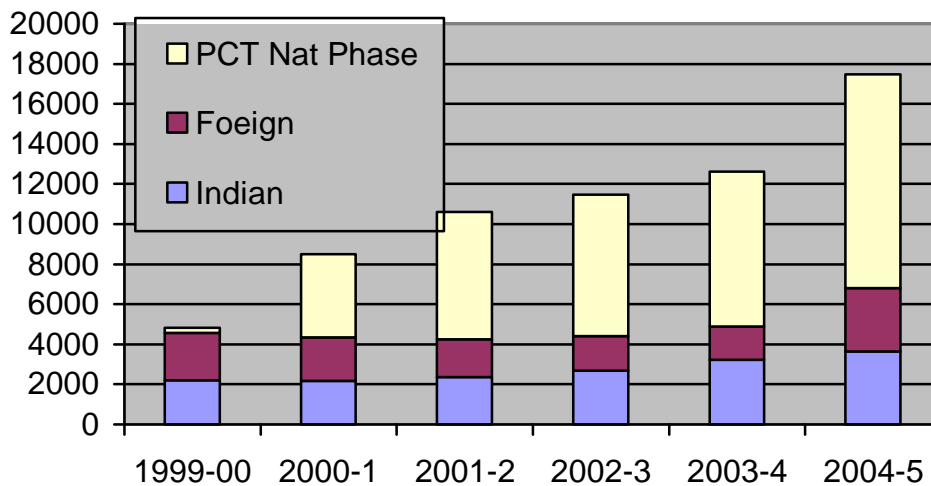
- The Geographical indications Registry was established on 15 September, 2003 and so far 27 Geographical Indications products have been registered.

Trends of IPRs Granted/Registered: Following are the trends in grant of various IPRs in India during the past 10 years.

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06*
Patents	907	1844	1800	1881	1318	1591	1379	2469	1911	4320
Designs	1765	1879	2219	1382	2430	2426	2364	2547	3728	2852
Trade Marks	4686	4120	5300	8010	14202	6204	11190	39762	45015	184325
GIs									3	24



Patent Applications Indian and Foreign¹⁴: The graph below shows the proportion of patent applications by origin - Indian, foreign and PCT national phase - in the past six years (India became member of PCT in 1998).



¹⁴

Source Annual Report 2004-05 of Office of the CGPDTM.

2.3 IP Facilitation Activities of other Agencies

In a large country like India, popularisation of intellectual Property rights related information is not possible without the consistent and complementary effort of various agencies. Besides various Government Ministries and Departments administering the IPR legislations, a number of agencies are involved in popularisation of culture of Intellectual Property rights, advice to inventors in regional areas and institutional facilitation for filing applications and commercialisation of the rights.

A non-exhaustive list along with activities of such agencies involved in Intellectual Property Rights facilitation is given below.

2.3.1 Patent Facilitation Centre¹⁵:

Patent Facilitating Centre (PFC) under the Technology Information Forecasting and Assessment Council (TIFAC), Department of Science and Technology was established in 1995 with the following objectives¹⁶:

- Introducing patent information as a vital input in the process of promotion of R&D programs
- Providing patent facilities to scientists and technologists in the country for Indian and Foreign patents on a sustained basis.
- Keeping a watch on developments in the area of IPR and make important issues known to policy makers, scientists, industry etc.
- Creating awareness and understanding relating to patents and the challenges and opportunities in this area including arranging workshops, seminars, conferences, etc.

PFC has played an important role at all stages of IP developments in the country from creating IP awareness, protection of IP, use and exploitation of IP, keeping watch on developments around and policy and law making. PFC has become a national referral point for industry, universities, government agencies, NGOs, foreign embassies and individual scientists, innovators and consultants for information and advice on IPR related matters especially for up to date patent information. PFC was instrumental in generating critical inputs including conceptual framework, actual patent data, analysis, etc. for decision making, policy formulation and future planning at the national level in the area of IPR and related matters¹⁷.

PFC brought out “Ekaswa A” and “Ekaswa B” databases on the patent applications filed in India. The databases with value addition for easy accessibility are available on the internet and in the form of CD-ROMs.

¹⁵ <http://pfc.org.in>

¹⁶ For more information, please see: <http://www.tifac.org.in>

¹⁷ TIFAC Annual Report, 2005-06

PFC has also set up Twenty Patent Information Centres (PIC) all over the country¹⁸.

A women scientist scholarship scheme for training women scientists in the areas of patent searches, patent information and drafting, IPR laws including patent laws, preparing technology scan reports based on patent searches and other data using different patent databases, international treaties related to IPR, IP licensing and so on is conducted by PFC in association with other government agencies and attorney firms dealing with IP matters¹⁹.

2.3.2 National Innovation Foundation²⁰:

National Innovation Foundation (NIF) of India was established by the Government in 2000, with the main goal of providing institutional support in scouting, spawning, sustaining and scaling up grassroots green innovations and helping their transition to self supporting activities.

NIF provides an institutional platform for the knowledge-rich, economically poor people. It is committed to making India innovative by documenting, adding value, protecting intellectual property rights of the contemporary unaided technological innovators, as well as outstanding traditional knowledge holders on a commercial as well as non-commercial basis.

2.3.3 National Research and Development Corporation (NRDC)²¹:

NRDC is a technology service enterprise whose business is to be the identifier, the carrier and the pilot of technology transfer.

NRDC's activities include the following:

Commercial

- Commercialisation of laboratory know-how
- Licence indigenous technologies to industry both in India and abroad
- Provide Technology Development Loans for setting up pilot plants to prove/scale-up laboratory processes.
- Participate in equity to facilitate formation of new ventures using indigenous technologies
- Develop technologies in priority areas

¹⁸ <http://www.pfc.org.in/workshop/workshop.pdf>

¹⁹ TIFAC news, Annual issue, 2006

²⁰ <http://nifindia.org/about.html>

²¹ <http://www.nrdcindia.com/>

- Design and engineer laboratory processes to commercial scale
- Provide techno-commercial financial support to entrepreneurs commercialising NRDC technologies
- Execute turnkey projects abroad based on indigenous technologies
- Licensing of foreign know-how to Indian clients
- Assist export marketing of products of licensee companies

Promotional

- Promotion and Commercialisation of Inventions
- Development and Promotion of Rural Technology
- Export of Technology
- Dissemination of Information on Technology and its transfer to Industry

2.3.4 Patent Facilitation Cells of State Governments:

Many State Governments have Patent Facilitation Cells which are endowed with the responsibility of technical, legal, administrative and financial support to inventors for protecting and commercialising their intellectual property rights.

2.3.5 SIDO - India's SME Development Agency²²:

The Small Industries Development Organisation (SIDO) is the national SME Development Agency of India under the Ministry of Small Scale Industries. SIDO provides services to small scale industries by implementing a broad spectrum of activities and services including Entrepreneurship Development, Tool Room Services, Testing Centres, Extension Services, R&D Services, Consultancy Services and Policy Development.

SIDO operates an IPR Cell with the primary task of disseminating information on IPRs to SMEs with a view to enable them to get a better understanding of how IPRs impact upon business strategy and success in the marketplace. Through seminars and focused training programs SIDO is making efforts in creating IPR awareness for enhancing the competitiveness of Indian SMEs in a globalising marketplace. Other components of services include upgrading technology, superior infrastructure, adoption of quality systems, marketing support and credit facilitation.

2.4 Need for Further Modernisation of IP Offices

In general modernisation is a continuous process as there will always be scope for further improvement. The activities taken up under modernisation of IP Offices in India have created a basic platform for IP administrative infrastructure and facilities in the

²² Extracts from http://www.wipo.int/sme/en/best_practices/india.htm

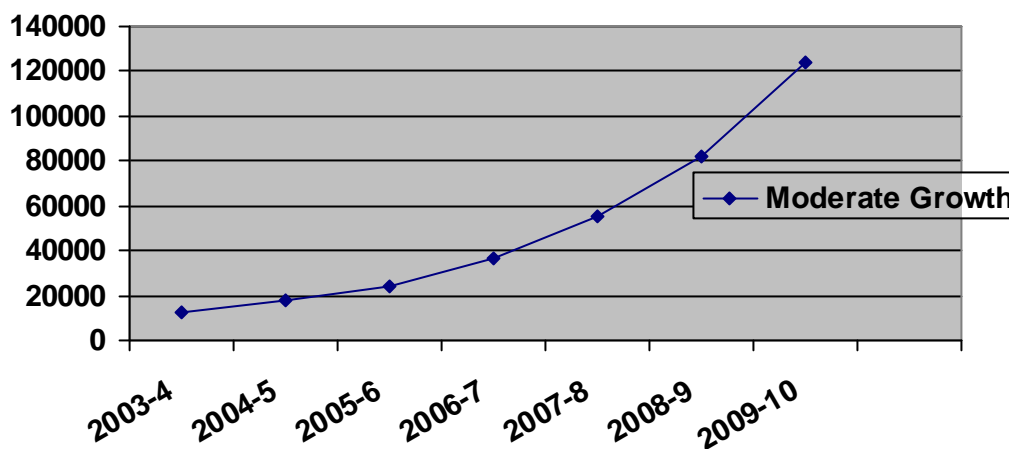
country which is to be built up on to achieve higher targets. There is need for further strengthening of IPR infrastructure including nurturing of human resources not only within the IP Offices but also among all the stake holders. As indicated earlier, the role of IP Office is increasing with the increase in awareness regarding protection of IP and the demands posed by the new economic scenario in India. In the circumstances, modernisation of IP offices will enable the IP office to play a catalytic role in economic development.

From a general point of view, the following requirements need to be addressed.

- (i) **Increasing number of applications:** With the increased awareness about need and use of protecting of IP, the number of applications filed at the IP Offices has been constantly increasing and this growth necessitates further creation of capacity to deal with the applications without compromising on quality.

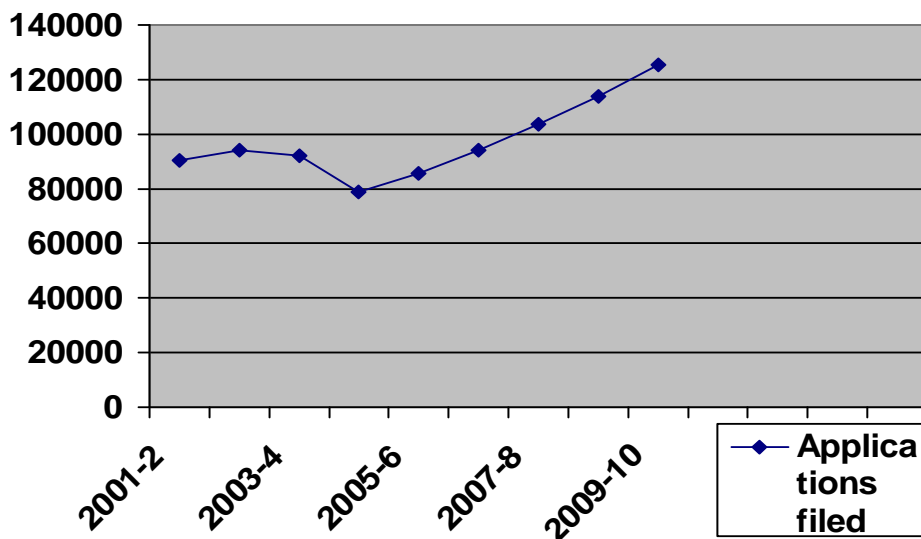
The Projection of Patent applications in the next 5 years presuming that the growth rate of filing of applications remains at least at the same level. Further, no other factors have been considered in making the estimate.

Financial Year	Applications Filed	Percentage Increase
2002-03	11466	
2003-04	12613	110.0
2004-05	17466	138.5
2005-06	24415	140.0
2006-07	36623	150
2007-08	54935	150
2008-09	82403	150
2009-10	123605	150



Similarly the projections of Trademarks Applications have been made presuming the existing level of growth rate in filing of applications.

Financial Year	Applications filed	Percentage increase
2001-2002	90236	
2002-03	94120	104.3
2003-04	92251	98.01
2004-05	78996	85.6
2005-06	85605	108.3
2006-07	94166	110
2007-08	103583	110
2008-09	113941	110
2009-10	125335	110



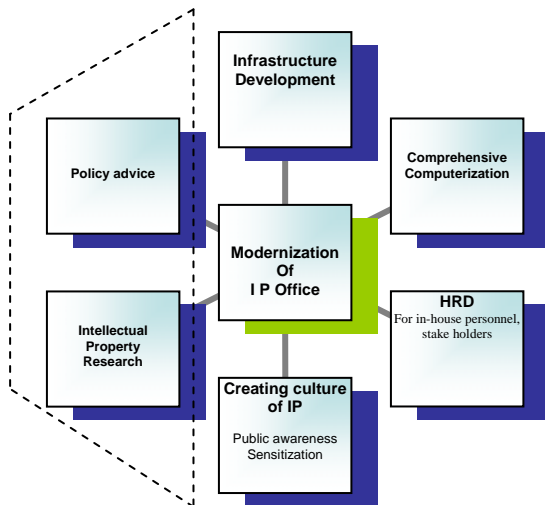
- (ii) **Human Resources Development:** With the increase in the number of applications, there will be imminent requirement to recruit more number of qualified examiners for Patents as well as Trademarks. They are to be suitably trained. The patent examiners are also to be trained in the frontier and upcoming fields of technologies like nano technologies, sub branches of biotechnologies, information technologies, etc. This leads to the requirement of strengthening of training infrastructure for sustained development of human resources.
- (iii) **ISA/IPEA Requirements:** As Indian Patent Offices desire to be recognised as International Search Authority and International Preliminary Examination Authority under the Patent Cooperation Treaty administered by World Intellectual Property Organisation, certain steps are to be taken to strengthen infrastructure including acquiring of necessary databases of patent and non-patent literature. The ISA/IPEA recognition is viewed as an international quality standard.
- (iv) **Comprehensive computerisation:** While much ground has been covered in the initial phase of modernisation in terms of computerisation of many activities, there is still much more to be done, including complete digitisation of patents, designs and trademarks records for construction of respective databases.

- (v) **Revamping of IPTI as NIIPM:** A need has also been felt to revamp the activities of Intellectual Property Training Institute to upgrade it to the level of a national institute for not only training but also management of all issues related to IP. This institute is being envisaged to take care of training requirements of in house and outside IP professionals, act as a think tank for policy advice to government, as a research centre on issues of IP and as a centre for dissemination of IP knowledge through awareness programs and outreach activities. This requires development of physical, computer, human resource, and other infrastructure required for such a national institute.
- (iv) **Infrastructure Development:** There is a need to assess the existing facilities and develop physical infrastructure depending up on further requirements of IP Offices.

2.5 Conclusion:

The need for further action towards upgrading the systems and infrastructure appears to be imminent in order to cope up with the future requirements.

There appears to be a need to strengthen the existing facilities as well as to make efforts to enhance the role of IP Offices in areas such as IP research, which could lead to policy advice. Then the scheme of modernisation of IP Offices would be broader and more dynamic. The scheme of modernisation is as indicated below.



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Chapter - 3

IP Administration in Japan: Role of the Japan Patent Office and Other Agencies

3.0 Introduction:

In this chapter a brief introduction has been given to the IP administration of Japan Patent Office (JPO). The steps being taken by JPO in the light of the Intellectual Property Strategic Program and the achievements in the past three years have been briefly described. Further, the IP administration of JPO and its associated agencies has been discussed with reference to the basic role of JPO as an IP Office, computerisation of activities, human resource development, dissemination of IP information, activities related to awareness generation and international cooperation.

IP Administration in Japan

The major IPRs and the Ministries/Departments and Agencies administering the legislations and regulations in Japan are as under:

Rights	Ministry / Agency
Patents, Designs, Utility Models, Trademarks	Ministry of Economy, Trade and Industry, Japan Patent Office
Copyrights	Ministry of Education, Culture, Sports and Science & Technology, Japan Copyright Office; Software Information Centre (registry for copyrightable programs)
Plant Varieties	Ministry of Agriculture, Forestry and Fisheries
Circuit Layout of Semiconductor Integrated Circuits	Ministry of Economy, Trade and Industry, Software Information Centre

The Legislations governing Industrial Property Rights:

According to the publication by AIPPI-Japan, following are the Japanese laws governing industrial property²³:

- (i) The Patent Law (Law No. 121 of 1959) as amended in 2005;
- (ii) The Utility Model Law (Law NO. 123 of 1959) as amended in 2005;
- (iii) The Design Law (Law No. 125 of 1959) as amended in 2005;
- (iv) The Trademark Law (Law No. 127 of 1959) as amended in 2005;
- (v) The Law concerning International Applications, etc. pursuant to the Patent Cooperation Treaty
- (vi) Law for Repression of Unfair Competition (Law No. 47 of 1993) as amended in 2005;
- (vii) Basic Law on Intellectual Property (Law No. 122 of 2002).

²³

AIPPI-Japan (2006), Japanese Laws relating to Industrial Property.

3.1 Recent Initiatives in IP and Role of JPO

Before describing the IP administration of JPO, it is intended to introduce the recent initiatives in national IP Strategy and the role of JPO in this context.

In Japan, there has been an increased thrust on Intellectual Property beginning with the policy statement by the Prime Minister of Japan (February, 2002) setting out creation of IP, its strategic protection and exploitation as one of the national goals.

The enactment of the basic law in 2002 was the first significant step towards achieving the goal of making Japan an Intellectual Property based nation²⁴ which has the *objective of realising a dynamic economy and society that is based on the creation of added values through the creation of new intellectual property and effective exploitation of such intellectual property*²⁵. The law also established the Intellectual Property Strategy Headquarters (IPSHq) in order to promote measures for the creation, protection and exploitation of intellectual property in a focused and planned manner. The Prime Minister of Japan is the Director General of IPSHq.

The IPSHq prepares an annual Intellectual Property Strategic Program (IPSP). The first IPSP was declared in 2003, specifying action points for various Departments to act up on to achieve the goals. The measures in the IPSP are revised annually by the Intellectual Property Headquarters. The IPSP-2006²⁶ issued on 8th June, 2006, for instance, consists of about 370 action points in five categories, namely, creation of IP, protection of IP, exploitation of IP, creation of a culture for use of content and development of human resources.

The first three are part of the famous Intellectual Property Creation cycle: Creation » Protection » Exploitation » Creation²⁷ as envisaged in the report. The target is to move the IP creation cycle more speedily and dynamically by revising the laws related to use of content to make Japan a world-class content superpower and to develop human resources to create a pool of IP experts as well as improving public awareness.

The Japan Patent Office which is an agency of Ministry of Economy, Trade and Industry (METI) has a major role in implementation of the action points. The IPSP-2006 requires JPO to pursue targets²⁸, *inter alia*, towards -

- (i) Strengthening of protection of IP by taking action for expeditious and efficient patent examination,
- (ii) Improving access to IP information via IPDL,
- (iii) Promoting foreign patent applications.

²⁴ IPSP 2006, http://www.kantei.go.jp/jp/singi/titeki2/keikaku2006_e.pdf

²⁵ Basic Law on IP, http://www.kantei.go.jp/foreign/policy/titeki/hourei/021204kihon_e.html

²⁶ Page 21 of IPSP 2006, *ibid*.

²⁷ Page 20 of IPSP 2006, *ibid*.

²⁸ Complete list of priority measures for 2006 is available at page numbers 29-48 of IPSP 2006, *ibid*.

Further, JPO has a role in encouraging exploitation of innovation and commercialisation by facilitating technology transfers, supporting SMEs and venture companies, human resources development and awareness generation, as per IPSP.

JPO's Annual Report 2006 outlines the measures that have been taken during the past three years based on the strategic program and the results thereof. These are:

- Amendment to Patent Act to incorporate provisions of remuneration for employee's inventions;
- Establishment of a program for promotion of expeditious patent examination and other measures to shorten examination periods;
- Establishment of IP High Court specialising in lawsuits related to IP;
- Amending various IP laws incorporating stricter criminal punishments for infringements;
- A system to provide prior art search assistance to SMEs and Venture Companies;
- Amendment of Trademark Act to allow faster registration of trademarks consisting of a region's name and a product name as regional collective trademarks;

3.1.1 Action Plan for Expeditious and Efficient Patent Examination:

One of the issues of concern for JPO has been surge in the number of applications filed and the first action pendency. IPSP requires JPO to achieve a first action pendency of 11 months by 2013, with a medium term goal of less than 30 months by 2008. The eventual goal is to achieve zero-month first action pendency. As in 2005 it is 26 months.

Following an amendment in the law reducing the time period to request for examination from 7 years to 3 years (from date of filing), there has been an increase in number of requests for examination. The backlog of patent applications reached 790,000 by the end of Financial Year 2005²⁹. According to JPO the trend is expected to continue until 2008.

The backlog and increasing requests for examination have necessitated an Action Plan for expeditious and efficient patent examination which was adopted on 17th January, 2006 by the Headquarters for Expeditious and Efficient Patent Examinations headed by the Minister of METI (Ministry of Economy, Trade and Industry). The Action Plan has four components, namely,

- (i) efforts by the examination authority,
- (ii) efforts by the industrial sector,
- (iii) support to efforts by industry and patent attorneys; and
- (iv) considerations to SMEs.

²⁹ JPO Annual Report, 2006

In summary, the strategy is to utilise the abilities of regular examiners and fixed term examiners to the fullest extent and also by increasing the outsourcing of prior art searches. Further, the applicants have also been encouraged to review the true need for filing/request for examination, including the possibility of withdrawing their applications. JPO has been offering partial refund of fees (with effect from April 2004) and full refund (with effect from August, 2006) to applicants who withdraw or abandon their application prior to first action by JPO.

The measures further include improvement of efficiency of examination operations and streamlining training without sacrificing examination quality standards. For fiscal year 2006, the target for first examination was 28 months³⁰.

3.1.2 Further Plans to Accelerate Examination:

The Headquarters for Expeditious and Efficient Patent Examination has unveiled a plan of action for accelerated examination in October, 2006, called the AMARI Plan (Advanced Measures for Accelerating Reform toward Innovation Plan in Patent Examination)³¹ with about 20 measures categorised in to four major components, namely,

- (i) Prompt and global-scale acquisition of IPR and higher level of IP protection;
- (ii) Further efforts towards expeditious and efficient patent examination;
- (iii) Promotion of Strategic management by Companies; and
- (iv) Support for local SMEs in IP Utilisation.

The revised AMARI Plan for patent examination³² dated 25th January, 2007, estimates the backlog of applications at the end of FY 2006 as 860,000. It is also noted that the examination environment is becoming severe at JPO due to (i) applications becoming complex and advanced in terms of technologies, (ii) increase in number of claims per application (to 9.5, an increase of 17.3% over a period of five years), and (iii) increase in number of applications for international search reports under the PCT system. The revised AMARI Plan outlines various measures to be taken for achieving the goals.

These being the recent initiatives, brief description of the IP administration of JPO is given in subsequent sections.

3.2 Overview of IP Administration at JPO:

Japan Patent Office (JPO) is one of the three major IP Offices (trilateral patent offices) in terms of number of applications received, infrastructure facilities and elaborate arrangements for IP administration. JPO has a full spectrum of activities built around a

³⁰ JPO Annual Report 2006.

³¹ Annexure to New Basic Patent Policy by the Headquarter for Expeditious and Efficient Patent Examination. <http://www.meti.go.jp/english/report/downloadfiles/061110AmariPlan.pdf>

³² <http://www.meti.go.jp/english/report/downloadfiles/AMARIPlan2007.pdf>

vibrant intellectual property system with enough future perspective and resilient mechanisms.

JPO has associated a number of agencies focussing on specific and complementary activities to assist in performing its activities. The activities of these agencies range from sharing certain aspects in examination, development of human resources, policy research and advice, dissemination of IP information, creation of awareness, etc. Therefore, while discussing the IP administration of JPO, the role of other bodies involved at various stages has to be described.

The agencies that are intended to be mentioned here are National Centre for Industrial Property Information and Training (INPIT), Patent Application Processing Centre (PAPC), Industrial Property Cooperation Centre (IPCC), Japan Patent Information Organisation (JAPIO), which are more or less directly involved in examination related aspects. A brief introduction to agencies is given below:

INPIT, which was established in 2001, is entrusted with the responsibilities of periodic gazette publication, collecting and maintaining library for use by examiners and public, conducting training programs for the examiners, etc. Since January, 2007, the responsibilities related to Information Systems Affairs and Human resource Development have also been transferred from JPO to INPIT.

PAPC was established in September 1990 as the designated data processing organisation for setting procedures for electronic applications and transforming paper documents into electronic data. PAPC digitises the applications that are filed in paper format.

IPCC was created in 1985 for catering to search the documents and to classify them. IPCC used the F-term database capable of analysing about 15 million documents. Since 1990, IPCC has been designated as an organisation to carry out and prepare prior art search reports for JPO examiners. IPCC employs retired examiners or very senior technical personnel involved in research activities or experienced in private industry, so the quality of prior art examination is generally very high.

JAPIO was established in 1985 to offer comprehensive patent information services. Maintenance of databases, prior art search for trademarks are the responsibilities entrusted to JAPIO.

Some other agencies, namely, Japan Institute of Invention and Innovation (JIII), Asia Pacific Industrial Property Centre (APIC), Institute of Intellectual Property (IIP), International Association for the Protection of Industrial Property of Japan (AIPPI-Japan), Japan Intellectual Property Association (JIPA), Japan Patent Attorneys Association

(JPAA), etc. are contributing in dissemination of IP information, research, awareness generation activities in addition to what JPO is doing in this regard.

The role played by associated agencies is given in **Annexure – I**.

The main purpose is to describe the activities of JPO. For the sake of convenience the activities of JPO are discussed under the following categories:

- (i) Basic role as an IP Office;
- (ii) Computerisation and Use of Information Technologies;
- (iii) Human Resource Development;
- (iv) Dissemination of IP Information;
- (v) International Cooperation;
- (vi) Awareness Creation;
- (vii) Miscellaneous IP related Activities.

3.2.1 Basic Role as an IP Office:

JPO has seven departments, namely, General Affairs, Trademark, Design and Administrative Affairs, First Patent Examination, Second Patent Examination, Third Patent Examination, Fourth Patent Examination and Appeal Department. The organisational chart of JPO is available on its website. Further, the General Affairs Department has several divisions like Personnel, Budget & Accounts, Technology Research, Patent Information and International Affairs. Similarly, the Examination Departments are divided into divisions and each division into groups. Each group conducts examinations of applications in a specific technical field.

3.2.1.1 Profile of JPO in 2005³³:

The volume of work handled by JPO and its human resources as highlighted in the following statistics. In the FY 2005,

- JPO received 427,078 Patent applications, 396,933 requests for examination. First action was taken on 243,548 requests and 122,944 patents were granted.
- The number of subsequent examinations³⁴ was 173,830. This is in addition to the first actions.
- The ratio of decisions for grant of a patent was almost fifty percent in 2005, 49.5% to be specific.
- The backlog of examinations at the end of Fiscal Year 2005 reached 790,000 and is estimated at 860,000 the end of FY 2006.

³³ JPO Annual Report, 2006.

³⁴ When the applicant submits written argument or written amendment in response to a reason for refusal and the examiner conducts a re-examination.

- First action pendency at JPO in 2005 was 26 months. In case of USPTO and EPO, the first action pendency during the year was 20 months and 22 months respectively in 2004.
- JPO in its capacity as ISA/IPEA under the PCT system has issued 23,587 International Search Reports and 3,328 International Preliminary Examination Reports.
- The appeal rate, challenging the decision of examiner, was 21% of all cases of refusal.
- As regards Trademarks, the number of applications, first actions and registrations were 135,776, 122,858 and 94,439 respectively.
- The number of Utility Model applications and registrations were 11,386 and 10,569 respectively.
- The number of applications for Designs, first actions and registrations were 39,254, 39,651 and 32,633 respectively.
- The average time taken for first action on applications was about 26 months, 7 months and 6.6 months in respect of Patents, Designs and Trademarks respectively.
- The staff composition of JPO in 2005:

Nature of employees	Number
Examiners of Patents/Utility Models	1468
Design Examiners	51
Trademark Examiners	149
Appeal Examiners	386
Clerical Staff	662
Total Staff	2716

- The annual expenditure of JPO in the FY 2006 was about US \$ 990 million³⁵.
- The percentage of Non-resident applications for patents to the total number of applications was 13.84% in 2005.
- Applications originating from India during 2005 were: Patents:154; Trademarks:30 and Designs:4.
- The rights granted/registered to applications of Indian origin in the FY 2005 for Patents, Designs and Trademarks were 8, 7 and 25 respectively.

3.2.1.2 Measures for expeditious and quality examination

3.2.1.2.1 Measures for expeditious examination:

As stated earlier, one of the priorities set by the IPSP is to expedite grant of rights. Besides the recent initiatives in the form of action plan for expeditious and efficient

³⁵

@ 1 US \$ = 119.350 JPY

patent examination, a number of measures have been taken by JPO for expeditious examination of applications. Some of these are listed below:

- (i) **The system of recruitment of fixed-term examiners:** JPO had employed around 100 fixed term examiners during each of the years 2004, 2005 and 2006 and has plans to continue to recruit the same way till 2008, in addition to increasing the number of regular examiners³⁶. The criteria for recruitment of fixed term examiners has been that the candidates should have four or more years of experience at companies and research institutes so that they could develop themselves as examiners at a rapid pace. The term of appointment will be for 5 years initially, which could be extended to up to 10 years³⁷.
- (ii) **Outsourcing of Prior Art Searches to Registered Search Organisations:** Part of the prior art search work has been outsourced by JPO, gradually increasing the quantum of outsourcing year by year. As of July 2006, four organisations, including two private companies, are registered search organisations for JPO. There have been constant efforts to improve both the registration criteria for outsourcing companies as well as in the reporting pattern of search results. To ensure quality of examination, JPO has been promoting a shift from a report-type to dialogue-type³⁸.
- (ii) **Incentives to applicants withdrawing their applications:** With effect from October 2004, JPO has introduced a system for refund of 50 percent examination request fees deposited by the applicants, in case of voluntary withdrawal or abandonment of such requests prior to the first action. This encouraged the applicants to review and reconsider the need for getting the application examined or the rights granted, for that matter. Since August, 2006 the system of full refund of examination request fee was introduced initially for a period of one year. As per the statistics given in the JPO annual report, 2006, the number of such withdrawals which was around 1000-2000 increased to 6,340 in 2004 and 5,239 in 2005.
- (iv) **Circuit Examination:** JPO deutes examiners to regional areas for conducting circuit examinations for SMEs, venture companies, universities and TLOs that lack opportunities for direct opinion exchange with Examiners.
- (v) **Consolidated Examination:** Under the system, a series of applications that are closely related to each other technically are examined in one lot by systematically understanding the technical details through explanations or interviews with the applicants. Consolidated system is also used while examining related appeal cases by the collegial body of appeal examiners.

³⁶ JPO Annual Report, 2006

³⁷ Extracted from JPO's reply to questionnaire.

³⁸ The report-type is where the search organization prepares a report of its search result and submits it to the JPO and the dialogue-type is where the person who conducted the search explains the results directly to examiner and receives advice, such as the need for additional searches in face to face meetings.

- (vi) **Patent Prosecution Highway/ Tri-way:** Patent prosecution highway is a trilateral proposal for sharing search results in case of overlapping applications, to avoid duplication of effort. Between the trilateral offices overlapping applications are as many as 210,000³⁹. The system is called “mutual exploitation project” and is being implemented between JPO and USPTO on a pilot basis for one year since July, 2006. Similar PPH is also proposed between Japan and Korean Intellectual Property Office.
- (vii) **Trilateral Document Access:** The system for mutual reference of dossiers (file wrappers including documents submitted by applicants and notifications of reasons for refusal, etc.) among the trilateral offices is under active consideration.
- (viii) **Expeditious Appeal Settlement:** The appeals department takes measures like use services of outside experts, questionnaire to appellant using the report of examiner, etc. so that the counterargument of the appellant could also be simultaneously heard while conducting appeal trial.

3.2.1.2.2 Measures for quality examination:

JPO has a backlog of 790,000 applications and it is interesting to know how a balance between quantity and quality is struck. JPO has been by far successful in achieving the standard in quality of examination⁴⁰. The appeal rate challenging the decision of examiner was 21% of all cases of refusal in 2005. As per the statistics of JPO, the appeal denial rate is 52% in 2005⁴¹. That is to say more than half the appeals were dismissed. The steps taken by JPO for achieving quality in examination are:

- (i) Detailed examination guidelines aiming at fair and efficient examination of applications including guidelines for examination of computer-software related, biological and medicinal inventions;
- (ii) An elaborate training program for the assistant examiners, examiners and appeal examiners is in place. An assistant examiner is supervised and guided in his work for four years after completion of the basic training. The examiners with certain years of experience may opt to work as appeal examiners for a fixed term and are to come back as substantive examiners. This also provides the necessary exposure for examiners as regards the typical cases;
- (iii) JPO utilises a vertical-line structure, that is, the conducting of multiple inspections in a vertical chain of command. Examiners have consultations with other examiners inside the examination division. Group leaders, who are in charge of all group issues, supervise the work of group members and advise them as

³⁹ JPO Annual Report, 2006.

⁴⁰ Quality refers to sustainability of the decision in examination (grant or refusal), which was not challenged by the applicant or not required to be reversed on appeal or by judgment in the court of law.

⁴¹ JPO Annual Report 2006 defines appeal denial rate as the percentage of appeals Department’s decisions holding the appeal invalid and decisions/rulings to dismiss the appeal to the total number of its decisions and rulings.

- needed. If decision to grant a patent has been made, the Director conducts a final inspection of the examination process and the corresponding decision⁴².
- (iv) JPO also utilises a cross-sectoral structure with four committees with members from all the examination Departments prepare/revise examination guidelines. The committees also ensure quality of examination in all technical fields. A committee for training human resources provides examiners with the support necessary to maintain and improve their knowledge and ability.
 - (v) The databases, search engines, library of patent and non patent literature are automated and well integrated with the examination system under the Paperless project of JPO;
 - (vi) Use of cluster search with F-term, FI, CS-term, ECLA, USC, Keyword, Full-text in three databases, namely, domestic patent database, foreign patent database, non-patent literature database⁴³.
 - (vii) Examiners could request for expert advice or opinion in certain cases. In case of selected areas of technology annual technology development reports get prepared for guidance.
 - (viii) In respect of searches, maintenance of a directory of 'search strategy files', helps as an aid to all in choosing the suitable strategy depending on the occasion;
 - (ix) Circuit examination system: The system of face-to-face interview based examination on request by the applicant in case of local SMEs, venture companies, TLOs and Universities, is also helpful in clarifying the nature of invention and more qualitative examination;
 - (x) The examination guidelines provide that the applicants can request for an interview with the examiner and that the examiner should positively respond to such request⁴⁴. This is aimed at improving the understanding between the applicant and the examiner. For transparency in such occasions, the interview is to be recorded and stored in electronic format. In case the mode of communication is telephone or facsimile, a record of the same should be made and these are open to public scrutiny.
 - (xi) The prior art examination is outsourced to IPCC and other agencies. Besides, making available the expertise of very experienced prior art searches through the agencies, JPO has been encouraging a dialogue type feed back of the prior art examination rather than report type to further improve the quality of prior art examination;
 - (xii) JPO forms project examination groups in certain typical cases involving inventions in multiple technological fields, such as Hybrid vehicles. The groups consist of examiners from different technical fields to examine the applications.
 - (xiii) Consolidated examination on the request of applicants in case of closely related inventions besides being useful for achieving expeditious examination also helps

⁴² Extract from JPO QMS Report 2006.

⁴³ Lecture notes and observation tour of JPO.

⁴⁴ Examination guidelines, http://www.jpo.go.jp/tetuzuki_e/t_tokkyo_e/Guidelines/PartIX.pdf

in qualitative examination as it gives an opportunity to understand the nuances of the invention more comprehensively and therefore clearly establishing the criteria of patentability.

3.2.1.3 Measures to support the IP Activities of SMEs, Venture Companies and Universities:

JPO is implementing the following measures for the benefit of SMEs, Venture companies and university inventors.

- (i) Promoting use of Accelerated Examination System: If JPO is satisfied with the explanation of circumstances described by the applicant as to the need for accelerated examination, including the applications of SMEs and Technology Licensing Offices of Universities and public research institutions, JPO conducts accelerated examination of such applications. In 2005 about 6,560 such requests were received at JPO.

Similar accelerated examination is also conducted in case of urgent need to register a trademark, when the following conditions are fulfilled⁴⁵:

- (i) the applicant himself or a licensee has already started to use the trademark in the application or made preparations for using it to a significant degree for the designated goods or services; and
- (ii) there is an urgent need for registering the trademark.

The number of such requests in 2005 was 365.

- (ii) Accelerated Examination in case of certain National Phase-PCT applications: Since April 2006 the accelerated examination is adopted in case of PCT international applications that designated Japan and have entered the national phase quickly without waiting for the international publication.
- (iii) JPO facilitates prior-art searches free of charge for small and medium sized enterprises, with the objective to assist them in making a decision regarding request for examination.
- (iv) A system of reduced fee for TLOs, SMEs and venture companies is in operation. Support is also given to private sector intermediaries that aim to assist firms in the patenting and licensing processes.

⁴⁵

3.2.2 Computerisation and Use of Information Technology

3.2.2.1 Introduction:

Information Technology impacts all the areas of IP business processes regardless of the region, size of IPO, resource/skill capacity, volume of IP transactions, database size and workflow complexity, like the following⁴⁶:

- (i) Re-engineering of all work procedures;
- (ii) Simplification and streamlining of procedures;
- (iii) Business procedures knowledge for those inside the system;
- (iv) Reduction/elimination of manual and repetitive work;
- (v) e-filing greatly reduces data capture requirements at office;
- (vi) Staff profiles.

The full fledged utilisation of Information Technology which grew simultaneously with the development of the IP Systems can be seen in all the business operations of JPO.

3.2.2.2 Paperless System

The Paperless system plan was initiated by JPO in 1984. The system has been designed to computerise all the operations from filing of applications to examination and distribution of patent information to the public. It aims at achieving operational efficiency by promoting digitisation from filing of applications to registration of rights perfectly.

The system has three subsystems, namely, (i) Electronic application and administrative processing system; (ii) Comprehensive document database system and (iii) Document retrieval system⁴⁷ aiming at the following operational goals:

- (i) Contraction of pendency period;
- (ii) Expansion of industrial property right information services;
- (iii) Efficiency in operation procedures; and
- (iv) Cooperation with information exchanges for industrial property rights.

The paperless system is also aimed at comprehensively and systematically managing IP data compiled by JPO or other IP Offices in order to create environment for public to utilise the IP information freely and effectively.

The paperless system operates on a large scale and uses state-of-the-art computer technology. The complexity of the system is understandable, given the size of the database of approximately 2 tera bytes (2000 GB)⁴⁸.

The planning period for the Paperless system project was from 1984 to 1990, the utilisation of IP information and establishment of the project was from 1990 to 2000, the

⁴⁶ Inayet Syed, Director, IP Office Services Support Division, WIPO, Presentation on "Impact of IT on IP Business Processes (November 8, 2006).

⁴⁷ JPO website http://jpo.go.jp/torikumi_e/hiroba_e/papere.htm

⁴⁸ JPO website, *ibid*

phase of international harmonisation using the XML format was from 2000 to 2005 and since 2005 it is the optimisation phase⁴⁹.

3.2.2.3 e-filing:

The hallmark of JPO paperless system has been its e-filing functionality, which has a direct interface with the applicants. E-filing has been introduced in phases for trademark, design and patent applications. The mode of e-filing has also passed through various stages, i.e., starting with filing using ISDN line to filing through PCs and finally through the internet. E-filing of patent applications through the internet was launched in October 2005. Internet filing began when technology for security was established in addition to popularisation of computers⁵⁰.

Since July, 2003, JPO changed its format from JPO specific format to XML format for ease in international cooperation and data exchange. And in order to facilitate the applicants, JPO exchanges priority documents with USPTO, EPO and KIPO electronically.

The e-filing services are available 24 hours through out the year. For e-filing via the internet, the user has to download free software from JPO website, which provides for user registration, personal identification and certificate import. E-filing requires use of a digital certificate conforming to Government Public Key Infrastructure. Elaborate protection measures enable security of the transaction.

The online services that are made available through the e-filing application software are: filing of applications, request for priority number, decisions of registration/refusal, dispatch of notifications of reasons for refusal, demand for trial/appeal against decision of refusal, international applications under PCT, perusal of file wrapper/registration documents prepared through online applications, and various inquiries about fee payments, change of user profile, etc⁵¹.

JPO has achieved tremendous filing rates through e-filing during the years. The percentages of applications filed through electronic means in 2005 were 97%, 83% and 90% for patents/utility models, trade marks and designs respectively. In respect of JPO's operations as PCT-DO the e filing rate is 99% and for appeals, it is 98%. Filing by other means is like an exception and JPO charges additional fee for the purpose of digitisation of the applications filed through other means than e-filing.

The success of e-filing was made possible because of the efforts made by JPO for spreading the understanding of merits of e-filing and building familiarity by way of

⁴⁹ Lecture notes on Outline of JPO Paperless Computer System, JPO/JIII Training program, 26th February, 2007

⁵⁰ Extracted from JPO's response to questionnaire on the subject.

⁵¹ JPO lecture notes on e-filing via the internet, November, 2006.

nationwide seminars to public, patent attorneys, distribution of brochures, etc⁵². Further, the companies which make majority filings were persuaded in meetings.

Paperless system enabled all the processes at JPO from entrance to exit are carried out in the electronic format. For example, while the rate of e-filing at JPO being the highest in the world; the rate of automatic formality examination is also very high. In case of Patent/Utility Model, Design and Trademark applications the percentages are 90, 65 and 80 respectively⁵³.

Since January, 2000, the paperless system is extended to appeals and trials also. In inter-parte trials, drafting and approval are also in the paperless form. As part of the System Optimisation program formulated in October 2004, JPO is further digitising the process of appeal/trial process for timely and high quality examinations.

Chronology of major milestones of Paperless system is given in **Annexure – II**.

3.2.2.4 Overcoming Obstacles:

Over the years JPO has been updating the system and resolving numerous technical problems arising in the process of computerisation, such as formatting, communications, database, construction, etc. and legal issues concerning the introduction of the on-line filing system and the associated application fee payment procedures, etc⁵⁴.

The initial issues that were to be dealt with while planning and implementing the project were non-existence of a precedent of such a system world over, legislative amendments to enable electronic filing and e-commerce and the then immature communication and database related computer technology⁵⁵.

To overcome the obstacles from time to time and to succeed in implementing the paperless system, JPO set up a task force comprising of senior officers and established a system that enabled related divisions to collaborate with one another.

Other factors that contributed to success include:

- (i) Establishing a decision making mechanism to decide on what developments should be made, etc.
- (ii) Gathering and analysis of comments of external users in the planning stage and translated them into actual implementation;
- (iii) Efforts made to popularise the system by offering seminars to external users.

⁵² Presentation by Yasuhiro Suto, *ibid*

⁵³ Lecture notes of JPO training dated November 14, 2006.

⁵⁴ JPO website, *ibid*.

⁵⁵ Outline of JPO Paperless Computer System, *ibid*.

Though one of the main goals of the paperless system was contraction of pendency period, due to various factors, the time taken for First Examination has been on the increase. While the pendency was 22 months in 1996 (the first time when the data was publicised), it reached 19 months during 1998 and 1999 and since then constantly rising. As in 2005 the time taken for first action was 26 months. One of the main reasons for this phenomenon, as mentioned in an earlier section, has been the amendment in time period for filing request for examination, reducing it from 7 years to 3 years in 2001.

3.2.2.5 New Developments:

The effects of Paperless system project have been manifold. Besides contributing to prompt and accurate examination, it has contributed to the following, closely complying with the operational goals:

- (i) effective internal administrative procedure;
- (ii) increase in user friendliness;
- (iii) upgrading of information provision services; and
- (iv) International collaboration and support for computerisation in developing countries⁵⁶.

The expansion of the system in the last 20 years, according to JPO, resulted in higher cost of operations. JPO has developed a Strategic Plan for Optimised Administrative Operations and System Development which aim at:

- (i) Improving convenience for applicant and their proxies as well as enhancing information services;
- (ii) Establishing a foundation for an examination system ranking the highest in the world for its speed and precision and
- (iii) Drastically reforming services as well as reducing system costs.

The plan will enable the promotion of system reforms adopting the newest information technologies used to drastically re-evaluate both systems and operations and further improve services while becoming even more efficient and cost-reduced⁵⁷. By 2011, the target is to introduce the reformed administration system and by 2014 to introduce new search system.

Many more developments in adopting Information technologies in JPO operations appear to be targeted in the near future. These are also expected to reduce the complexity of the system and the operational costs of the system.

3.2.2.6 Growth of other Agencies:

The start of the paperless Project in 1984 necessitated the creation and nurturing of a number of agencies directly related to JPO at various stages of the project. These

⁵⁶ Yasuhiro Suto, JPO, Presentation made by at a WIPO Workshop, Bangkok, Thailand.
⁵⁷ IPR handbook 2005-06, JPO/APIC.

agencies have developed to be functionally independent entities serving the purpose for which they were created.

As detailed in the monograph on the Role of Bodies supporting the development of Industrial Property System published by JPO and APIC, JIII⁵⁸, two agencies were created in 1985 for solving two initial problems associated with e-filing system, namely searching the documents to classify them and to develop document database. The organisations were (i) Industrial Property Cooperation Centre (IPCC) and (ii) Japan Patent Information Organisation (JAPIO) respectively.

IPCC used the F-term database capable of analysing about 15 million documents. JAPIO constructed a patent document database for storing patent documents and secondary documents.

Since 1990, IPCC has been designated as an organisation to carry out and prepare prior art search reports for JPO examiners. Details about the system of prior art outsourcing has been discussed elsewhere in the report.

After the introduction of e-filing through Floppy Discs, for capture of data from non-electronic documents, Patent Application Processing Centre (PAPC) was established in 1991.

3.2.3 Human Resource Development:

The selection of examiners is through a national test conducted by the National Personnel Authority and interview by JPO to test the aptitude of candidates for examination. Examiners are recruited in four broad technical fields, namely, physics, machinery, chemistry and electronics & Information engineering. English is one of the subjects in the first level of national public servant recruitment examination. JPO regards English ability as an essential element in recruitment of its staff⁵⁹. There is no lateral recruitment at higher levels and after acquiring the necessary qualifications, the examiners are promoted to the posts of chief appeal examiners and managers. The fixed term examiners are selected by JPO the qualifications for the post being at least four years of experience in companies and research institutes.

3.2.3.1 Training for examiners and administrative staff of JPO:

JPO formulates the training plan, structure, method and schedule for training based on the basic principles of training and the training guidelines. These basic principles and guidelines set forth the basic matters regarding training of examiners, appeal examiners

⁵⁸ Shin-Ichiro Suzuki, 2001, The Roles of Bodies Supporting the Development of Industrial Property System, JPO/JIII publication.

⁵⁹ JPO report under PCT ISA/IPEA guidelines dated 28th December, 2006.

and other officials, including the objectives of training, qualification for attending the sessions and the criteria for completion of training⁶⁰. INPIT, which is the designated organisation to carry out the training activities for the examiners and other personnel of JPO, determines the specific training method and schedule based on this and implements the training.

The objectives of the training for examiners and appeal examiners are:

- (i) to develop trainees into talented and knowledgeable examiners and appeal examiners qualified by law, who have specialist knowledge about the examination and appeal examination of industrial property right-related applications;
- ii) to develop trainees into officials who have necessary knowledge including that required to work as a specialist in support to SMEs, formality check and appeal examination, information system and international affairs, thereby improving the quality of officials engaged in the intellectual property administration and facilitating the administration⁶¹.

Training includes lectures and on job practice. The lecturers for various themes generally are from Professors in Universities, Patent Attorneys and employees of the JPO. The Language training is being provided to JPO staff in English, French, German, Chinese and Korean. INPIT adopts a questionnaire feedback mechanism to survey about the usefulness of the programs it conducted, examines the results and improvises the training content based on the feedback.

More details about the various training programs conducted by INPIT are given in **Annexure – III**.

3.2.3.2 Training for others:

INPIT also conducts training programs for searchers (Prior art search) who are catering to a main function in the examination process.

Besides lecture type training programs, INPIT implements simulation training for SMEs and venture companies regarding the infringement of patent rights to ready them to successfully respond to real life incidents.

INPIT also implements a project to promote effective use of standard text books on industrial property rights. The participating high schools and colleges conduct research on the desirable instruction and teaching methods for IPRs and submit research reports to INPIT.

⁶⁰ JPO's Response to questionnaire

⁶¹ JPO's response to questionnaire.

INPIT provides comprehensive IP e-learning material that have been developed with JPO's knowledge, experience and expertise and hosted on the internet for wider public use⁶².

3.2.3.3 Training Statistics:

As per the training records in the fiscal year 2005, the number of examiners, appeal examiners those attended the training programs was 1,006. Expert training has been given to other officials of JPO in the areas of legal, technical, business, high technology and personal computer so as to prepare them to better respond to globalisation, computerisation, etc., and the number of participants at the trainings was 4,881 in FY 2005. In the training program for searchers, the number of participants was about 100.

Similarly, in the training programs for development of search experts and intellectual property experts, the participants were 33 and 60 respectively. In the training for SMEs and Venture companies and for IP experts of administrative agencies the participants were 113 and 268 respectively⁶³. In all the number of participants were about 6000 JPO officials and about 600 others. The number is exclusive of dispatch training administered and conducted by JPO directly. In addition to 420 in-house lecturers including the Commissioner of JPO to Examiners, lecturers invited from outside of JPO were 303 in number⁶⁴.

As part of the activities transferred to INPIT in January, 2007, JPO has entrusted the responsibilities relating to human resources development in the following categories:

- (i) Development and distribution of educational materials on industrial property rights
- (ii) Dispatch of intellectual property management advisers, etc. to universities

3.2.4 Dissemination of IP Information for use by Industry and Public:

JPO's IP information dissemination services are aimed at satisfying diversified user needs and JPO has been expanding these services every year.

3.2.4.1 Industrial Property Digital Library:

Dissemination of IP information is done through Industrial Property Digital Library (IPDL) managed by INPIT. IPDL is one of the most comprehensive IP databases offering around 55.5 million documents of patents, utility models, designs and trademarks and the relevant information that has been published since the end of the 19th century. Information on file histories and the text of communications from the JPO to applicants (file wrapper) dating from July 2003 onwards has also been made available on IPDL.

⁶² http://www.ncipi.go.jp/jinzai/ipe_learning/index.html

⁶³ JPO Annual Report,2006

⁶⁴ Takao Kondo, Lecture notes on the training system of the JPO, September 20, 2006.

The information disseminated by IPDL is primarily used by companies, research institutes, universities and others to prevent expenditure on duplicate research, promote R & D using existing technologies, avoid patent infringement and to identify market trends for products and services, etc. IPDL offers FI/F-term search as well as keyword search to gather information by technical field. FI /F term are developed and still implemented by JPO for classification of inventions, though JPO uses IPC classification as well. Some universities and companies collect information in a certain technical field and build relevant databases to utilise it in their research and development. The number of users of IPDL has been increasing every year and in the fiscal 2005 the number of searches conducted on IPDL was 65.3 million.

IPDL also offers patent map⁶⁵ guidance through F term or FI term inquiry. The IPDL system development and operations have been outsourced by INPIT.

3.2.4.2 License Promotion Activities:

As per JPO data on patenting activity-2003, out of the existing patents in Japan in 2002 (1,000,000), a mere 29% were utilised by the holder for own product development. About 8% were licensed and as many as 63% were not used by anybody, called the sleeping patents⁶⁶. To promote the use of these sleeping patents and also to facilitate licensing, JPO and INPIT are taking the following measures:

- (i) Dispatch of experts, who help support the promotion of patent licensing, called the patent licensing advisors, to mediate, offer consultations, and provide training on patent licensing and technology transfers. For encouraging patent licensing, INPIT holds comprehensive seminars on these business operations, called "Seminar for Encouraging Patent Licensing", in various parts of Japan.
- (ii) Offer ideas on how licensable patents may be used by providing information and by providing examples of licensable patent utilisation.
- (iii) Between 2001 and 2005, INPIT published patent maps on select areas of technology.
- (iv) INPIT also dispatches Patent Information Advisors to help small and venture businesses in the regional areas to introduce patents by using patent information.
- (v) Organising of training programs and international seminars.
- (vi) INPIT in collaboration with other agencies in Japan organises an annual International Patent Licensing Seminar, which offers a common platform for technology transfer experts from Japan and overseas who have first-hand experience in the practicalities of technology transfer. The seminar provides a platform to exchange ideas on technology transfer and a forum for participants to establish networks with technology transfer experts in Japan and overseas. The

⁶⁵ The patent map is discussed in detail elsewhere in the report.

⁶⁶ Yoshitoshi Tanaka, 2006, Role and function of technology management offices, at WIPO Seminar

seminar for 2007 was conducted on 21-22 January for the eighth consecutive year.

The number of licensable technologies registered in the patent distribution database was 57,019 as of end of December, 2006. The number of searches for license information stored in the database was 160,701 during the fiscal 2006, which indicates the popularity of the facility.

The total number of licensing agreements reached between 1997 and 2005 was about 7,500. The popular technical fields which used the channel were Mechanical engineering (17%), Food and Biotechnology (17%), Chemical and Medicine (14%), Electronics (13%), etc⁶⁷.

3.2.5 International Cooperation Activities of JPO⁶⁸:

In the Asia Pacific region, JPO is the largest sponsorer of IP related cooperation programmes targeting the developing countries. These activities are in the field of human resource development, cooperation in computerisation and information processing, cooperation in examination, and organising of workshops.

3.2.5.1 Cooperation in HRD:

- Dispatch of IP Experts and seminar instructors, especially in areas of examination practices, computerisation, etc.
- Organising training programs: The training programmes are conducted for participants from APEC economies and Non-APEC economies. Typically in the Fiscal Year 2005, as many as 213 participants from 20 countries were invited.
- As part of WIPO Funds-in-Trust/Japan and also JPO's Human Resource Development Project, JPO has been sponsoring the long study-cum-research fellowship for participants from the region. Between FY 2001 and 2005, about 19 trainees availed of the opportunity to study the topic of their choice in the broad realm of Intellectual Property;

3.2.5.2 Cooperation in Information Processing:

Assistance is also provided to developing countries for modernisation of IP offices, preparation and provision of Patents Abstracts of Japan (PAJ) and Electronic Data processing for IP Information. In the projects facilitated by JPO, activities in some or all of the four stages have been carried out:

- (i) A system for IP Application processing and administration;
- (ii) A system for dissemination of IP Information similar to IPDL of JPO;

⁶⁷ Yoshitoshi Tanaka, 2006, *ibid*.

⁶⁸ Details available at http://www.jpo.go.jp/rireki_e/index.htm and http://www.jpo.go.jp/torikumi_e/kokusai_e/pdf/ipcoop_asia-pacific_e/2006wto.doc

- (iii) A system to facilitate search in substantive examination by examiners;
and
- (iv) A system enabling e-filing.

The details of the projects carried out or being carried out by JPO in various countries are given in **Annexure – IV**.

3.2.5.3 Cooperation in Examination:

JPO supports substantive examination process for design applications. As of now such assistance is provided to Thailand and Vietnam in respect of registered designs for which applications were also filed in Japan.

Through Advanced Industrial Property Network (AIPN), JPO provides access of results of examination (machine translated to English) in respect of applications first filed with JPO and then with IP Offices of other countries. This is to reduce the duplication of work at IP Offices overseas and also to expedite the acquisition of rights at these offices in respect of corresponding patent applications. Results of examination can be accessed by search using various options.

Through AIPN, information on legal status, documents cited, patent family information corresponding to Japanese patents and File wrapper information (containing details about filing of documents, office actions, search reports, amendments and Examiner's notes) are provided to overseas patent offices through the internet. As of September 2006, AIPN services are being availed by 24 countries/organisations, including, USPTO, UKPO, EPO, WIPO, KIPO, etc.

3.2.5.4 Cooperation to conduct Workshops:

Support is given to conducting of seminars and work shops at various locations under WIPO Funds in trust/Japan and JPO's Human resource development project.

3.2.5.5 Japan's Assistance through WIPO:

As informed by the Japanese delegation in the WIPO General Assembly meetings held during September-October, 2006⁶⁹, Japan's cooperation assistance during the year 2006 through WIPO has been as under:

- (i) Provided 2.5 million Swiss francs per year as WIPO Funds-in-Trust.
- (ii) Invited Directors of IP Offices of 40 countries from around the world, including developing countries, to Tokyo for a co-sponsored meeting with WIPO, in order to form a common understanding on the importance of IP.

⁶⁹ Report of the WIPO General Assembly 2006:
http://www.wipo.int/edocs/mdocs/govbody/en/wo_ga_33/wo_ga_33_10.doc

- (iii) Hosted the WIPO Japan Office, starting from September, to conduct empirical research, regarding IP and economic development, which would be applicable for developing countries around the globe.

According to its Director Mr. Allan Roach the WIPO Japan Office carries out, *inter alia*, the following activities⁷⁰:

- Coordinate and plan research;
- Assisting in explaining and disseminating the results;
- Assist WIPO in using the research recommendations and results in the design of future technical assistance programs, where appropriate;
- Keep abreast of new trends and challenges facing the IP systems and those who use them and those who abuse them;
- Make efforts to keep all IP stakeholders informed.

3.2.6 Activities for Awareness Creation

Many of the services and activities of INPIT and JPO described earlier broadly cover the initiatives taken for awareness creation. However, the following measures are worth mentioning to add stress and to give more details.

3.2.6.1 General Measures

- (i) Strategy for supporting nationwide IP education: The promotion of IP education in four categories ranging from elementary education, vocational education, seminars for Universities and venture business managers and orientation for business persons in general⁷¹.
 - (a) At the elementary school level, the focus is on encouraging inventive minds and to cultivate originality and creativity through a number of activities, like naming a picture book, coining new words by joining two words, etc. At the Junior high school level basic knowledge of IPR system and necessity of IPR protection are inculcated through text books covering history of IPR system through cartoon stories. At the high school level the role of patent system in industrial development is taught. The interactive educational materials also include anime video on patents and trademarks. In FY 2005 the number of copies distributed at the school level was about 400,000. The teaching methods are developed through guidebooks, explanatory meetings, model lectures, etc. for teachers.
 - (b) For the students who major in science/engineering, an IPR standard text book on patents and for students who major in commerce, IPR text book

⁷⁰ Training text book on Intellectual Property Research and Developing Countries, JPO/JIII.

⁷¹ Kouichi Watanuki, JPO, Lecture notes on 'Strategy for supporting nationwide IP education', September, 2006

on trademarks are provided by the JPO. The books are planned by JPO and published by JIII. Similarly, books on Industrial Design, Technology Transfer have been published by JPO/JIII.

- (c) A number of seminars targeting University students and faculty are conducted on how to acquire patent rights, seminars for venture business managers on how to use TLOs, etc.
- (d) Orientation programs for the business community are conducted outlining IPR system, administration, examination criteria, PCT system, IPC classification, and revision in relevant laws, etc.
- (ii) Support for IP Education - Tokai Model: Since 2001, JPO has entrusted a research project to Tokai University to suggest on how to bring the IP education in to the present educational system. In this context, the University developed the Tokai model with the motto, 'IP Education as Education in Creativity'. The purpose is to foster humanistic people who are creative and able to contribute to building a more affluent and peaceful society. The University has developed an IP education model for students from kindergarten level⁷².
- (iii) A manual for guidance of the enterprises, especially SMEs on 'IP Management for companies' is under preparation by JPO⁷³.
- (iv) Other programs include holding of seminars for SMEs and venture companies, advocacy on IP management, technical consultancy, training for patent attorneys, other IP professionals, etc.
- (v) JPO has been organising various training programs, some country specific (China, Indonesia), through WIPO funds in trust as well as in co-sponsorship with JICA or AOTS and also through sponsoring of Long term fellowships.

3.2.6.2 Creation of Awareness against Counterfeit goods⁷⁴:

- (i) Collaboration with industry: Public private partnership efforts through International Intellectual Property Protection Forum, which was established in 2002 to promote cross-industry cooperation to reinforce anti-counterfeiting measures in collaboration with the Government;
- (ii) JPO has been providing training to local authorities, including customs, police and the courts, in some countries where counterfeiting is serious;
- (iii) One of the programmes conducted for overseas participants through WIPO Funds in trust/Japan is for enforcement officials;
- (iv) JPO conducts and publishes survey reports on losses caused by counterfeiting. Manual on measures against counterfeits has also been published by JPO;
- (v) JPO conducts seminars for Japanese companies in Japan and elsewhere regarding the measures against counterfeits;

⁷² Harushisa Uchida, Professor, Tokai University, lecture on "IP Education in the educational system of Tokai University", December 14, 2006.

⁷³ International Patent Licensing Seminar, 2007, Inaugural speech by Commissioner, JPO.

⁷⁴ JPO brochures and JPO annual report 2006.

- (vi) The other activities in the anti-counterfeit campaign include: posters, magazine advertising, internet banner advertising, and booklets.

3.2.7 Miscellaneous IP related activities

- (i) Publication of Major Judicial Precedents⁷⁵: The JPO has been publishing a report on the major judicial precedents in the field of “business method-related inventions,” and this has been useful for companies to anticipate the results of examinations, appeals and trials. Major judicial precedents in the field of “biological inventions were also compiled by JPO.
- (ii) Intellectual Property High Court: Intellectual Property High Court (IPHC), as a special branch of the Tokyo High Court, was established in April, 2005 to ensure timely settlement of disputes and to better respond to the requirements of technical expertise. The cases handled by the IPHC are similar to those previously handled by the IP Division of the Tokyo High Court. Appeals against the decisions of JPO’s Appeals Department lie with the IPHC.
- (iii) A nationwide directory of intermediaries has also been created to enable development of private-sector IP intermediary businesses. A number of seminars have also been organised to provide opportunities for intermediaries to exchange information.
- (iv) Encouragement to Commercialisation of Open Patents: Open patents are those patents which the patent-holders prefer to be used by others. Of more than 1 million patents in existence in Japan, approximately one third (300,000) are estimated to be open patents⁷⁶. JPO has been promoting the creation of new businesses using open patents. Acting on the mandate given by JPO, the Japan Technomart Foundation has developed a database of open patents and is working to facilitate technology transfer by dispatching patent distribution advisors with knowledge in the area.
- (v) For facilitating mutual understanding between companies and capital markets, the Ministry of Economy, Trade and Industry has issued reference guidelines for voluntary disclosure of Intellectual Property Information on Patent and Technology⁷⁷. The guidelines encourage businesses to disclose information in 10 areas⁷⁸, which include a number of IP Management issues:

⁷⁵ JPO website.

⁷⁶ Experience of Japan, 2001, Publication by Institute of Intellectual Property.

⁷⁷ Reference Guidelines for Intellectual Property Information Disclosure available at METI website: www.meti.go.jp/english/information/downloadfiles/cIPP0403e.pdf

⁷⁸ Yukata Tozaki, Chief of IP Policy Office, METI, in Managing Intellectual Property- Japan IP Focus, 2005 available at: <http://www.managingip.com/includes/supplements/PRINT.asp?SID=503865&ISS=15442&PUBID=199>

- Core technologies and business models.
 - R&D segment and business strategy orientation.
 - R&D segment and **IP** overview.
 - Analysis of marketability and market advantages of technologies.
 - Organisation of R&D and **IP**, and information about R&D alliances.
 - **IP** acquisition and management, trade secret management, and policies to prevent the loss of technological know-how.
 - Significance of licensing activities to the company's business.
 - Significance of the **patent** portfolio to the company's business.
 - Policies on the company's **IP** portfolio.
 - Information on risk management.
- (vi) Patent evaluation system: JPO created a "Strategy Index for Intellectual Property Rights" to enable companies to objectively evaluate their own IP strategy. A "Patent Right Evaluation Index" was drawn up to enable companies to objectively evaluate patent rights which are to be transferred, distributed, or used as security for a loan⁷⁹.
- (vii) In order to develop and exploit the knowledge and skills of patent attorneys in the field of human resource development, amendments to patent attorney law have been made in 2002 and 2005 extending the range of activities of patent attorneys:
- enlarge their role in Alternate Dispute Resolution;
 - allowing them to act as intermediaries and agents in concluding IP transaction agreements;
 - allowing them to act as procedural representatives in specified infringement suits under certain circumstances.

3.3 Other Agencies Supporting IP System in Japan

As indicated in the earlier sections, a number of support agencies focussing on specific activities are working together for the IP system in Japan. The support agencies are broadly in two categories. First category is those directly related to the main functions of JPO, that is, examination of applications and grant of rights and the other to complement the efforts of JPO in its wider role as a facilitator of national development.

As such, much has already been indicated about INPIT, PAPC, IIPC and JAPIO. A brief on the history and other activities of these agencies is give below. Further, the activities of JIII, APIC, IIP, AIPPI-Japan, JIPA, JPAA are also discussed in brief.

⁷⁹ http://www.jpo.go.jp/shiryoushou/toushin_e/kouenroku_e/speech4.htm

3.3.1 Agencies Supporting Activities of Japan Patent Office

3.3.1.1 National Centre for Industrial Property Information and Training (INPIT)

The National Centre for Industrial Property Information and Training (abbreviated as INPIT since January, 2007) is an independent administrative institute endowed with the responsibilities much central to the activities of an IP Office such as provision of official gazettes, digital library, training of examiners, administration of information system affairs, etc besides other functions.

INPIT was established on April 1, 2001 with almost 100% subsidies from JPO. INPIT also generates some income on its own. Since October, 2004 the activities of Intellectual Property Training Institute (IPTI) were transferred to INPIT. And since January, 2007, JPO has transferred the administration of information systems affairs, human resource development for utilisation of information to INPIT.

The activities of INPIT are quite large in number, such as the following⁸⁰:

- (i) Provision of patent gazettes and other IP information;
- (ii) Gather and Manage reference material library;
- (iii) Dissemination of IP information (IPDL Services);
- (iv) Implementation of training for JPO examiners, trial examiners, development of human resources engaged in industrial property services;
- (v) Providing consultations on industrial property;
- (vi) Encouraging Patent Licensing through use of licensable patents;
- (vii) Administration of Information System Affairs and Human Resource Development (transferred to INPIT in January, 2007).

Some of the activities have been discussed in earlier sections. The others in detail are given below:

(i) Patent Gazette Publication: INPIT publishes the patent gazettes in electronic format. The data is extracted and transmitted according to the four aspects concerning scheduling, formality, examinations and trials.

(ii) Library Function:

Gazettes Library: INPIT collects patent gazettes issued in Japan as well as other IP Offices and makes them available to the general public.

⁸⁰ Response provided by JPO to questionnaires and INPIT website.

Reference Materials Library: INPIT also collects and stores books, technical papers and other documents that the Japan Patent Office needs for conducting examinations and judgments. It also makes such documents available for use by public.

(iii) Industrial Property Digital Library: Discussed earlier under activities for dissemination of IP information.

(iv) Training of JPO Examiners and other officials: Discussed earlier under activities for human resource development.

(v) Consultation on Industrial Property System: A consultation counter is operated by INPIT for providing general guidance/instructions and consultations on industrial property. The queries could be regarding procedures on filing applications for patents, new utility models, designs, and trademarks. Responses can be obtained to inquiries sent in by post, telephone, e-mail and other means.

(vi) License Promotion Activities: Discussed earlier under activities for dissemination of IP information.

(vii) Administration of Information Systems Affairs and Human Resource Development⁸¹: As indicated earlier, since January, 2007, JPO has transferred the responsibilities related to administration of information systems affairs, human resource development for utilisation of information to INPIT. These are:

- (1) Information systems affairs: To make best use of its flexible budget control and swift organisational operation, INPIT is expected to develop and manage the information systems necessary for providing information services. The components of Information systems affairs include:
 - (i) Affairs relating to systems for providing information
 - Development, management and diffusion of electronic filing software
 - Development and operation of the JPO website
 - Development and management of the official gazette system
 - Master data management
 - (ii) Affairs relating to the development of the examination reference database
 - Collection and organisation of reference materials relating to design and trademark examinations
 - Compilation of a database of non-patent literature

⁸¹

<http://www.ncipi.go.jp/english/distri/exchange/pdf/pajnews42.pdf>

- (2) Affairs relating to human resources development: For further promotion of human resources in the field of IP, INPIT is to work towards raising awareness among young people and support universities in the management of their IP. The components of the work are:
 - (i) Development and distribution of educational materials on industrial property rights
 - (ii) Dispatch of intellectual property management advisers, etc. to universities

INPIT has been the versatile agency supporting Japan Patent Office.

3.3.1.2 Industrial Property Cooperation Centre (IPCC)⁸²

The major activities of IPCC are (i) Prior art searches required for examination of patent applications, (ii) constructing patent information and retrieval database through assignment of F-terms and IPCs.

As mentioned earlier, IPCC was created in 1985 when the paperless system was introduced. In 1985, it started with search services on a trial basis and since 1986, commenced to assign F-terms. Since 1990, IPCC has been designated as an organisation to carry out and prepare prior art search reports for JPO examiners. Details about the system of prior art outsourcing has been discussed elsewhere in the report.

Since year 2000, both F-term and IPC classifications have been simultaneously assigned by IPCC. Until 1996, assignment of F-terms was done for published applications. Later, assignment of classifications was extended to unpublished applications. This requires IPCC to maintain strict confidentiality as required under relevant legislations.

IPCC has a technical pool of about 1390 engineers who have held executive positions in different private enterprises and JPO. IPCC has an annual budget of \$199 million in FY 2005. In FY 2005, IPCC was entrusted 183,000 prior art searches and 960,000 F-term assignments. That is to say, out of the first actions taken up by JPO in a year, about 75% were given for prior art search to IPCC.

JPO has been emphasising shift from report type to dialogue type search report for more accuracy and authenticity to the outsourced work. In FY 2005 for example, out of the 183,000 searches, only 39,000 were report type compared to 144,000 dialogue-type.

Between 1985 and 2004, the organisation was the registry for the Semiconductor, Integrated Circuit Layout Rights. IPCC has also been assisting in editing and processing

⁸² Documents provided by JPO

of DNA sequence code data included in patent applications into the biotechnology database. It also assigns IPC to Journal of Technical Disclosure published by JIII.

All along the development of IP administration, the role of IPCC has been suitably modified. The legislative changes in year 2005 relaxed the requirement of assigning prior search outsourcing only to public interest corporations. Therefore, the outsourcing is now on a competitive basis.

3.3.1.3 Patent Application Processing Centre (PAPC)

As mentioned earlier, PAPC was established in September 1990 by JPO as the designated data processing organisation for setting procedures for electronic applications and transforming paper documents into electronic data.

3.3.1.4 Japan patent Information Organisation (JAPIO)⁸³

Following amendment of the Patent law of Japan in 1970 to open patent information to the public, an organisation named Japan Patent Information Centre (JAPATIC) was established in 1971 with the financial assistance from the Government and private sector. This organisation was the predecessor of JAPIO. JAPATIC launched PATOLIS, the first on-line patent information retrieval system in Japan, with data provided by the JPO.

JAPIO was established in 1985 by merging the JAPATIC and the patent information service division of JIII to offer comprehensive patent information services, under the guidance of the Ministry and the JPO. In 2001 JAPIO was recognised to specialise in professional assignments entrusted from JPO and other public entities, in concurrence with the transfer of commercial businesses including PATOLIS to private sector.

The activities of JAPIO are in the following categories:

- (i) Patent information and data process and arrangement activities: which includes, standardisation of patent information of JPO, abstract preparation of Patent Abstracts of Japan, abstracting and translation of registered as well as unexamined USPTO and EPO applications and processing for data exchange among trilateral patent offices;
- (ii) System development and operation of IPDL including help desk services;
- (iii) Promoting efficiency of examination of JPO: By undertaking supportive activities for trademark examination, phonetics analysis, figure classification, etc, preliminary investigation of trademark applications, etc.

⁸³ Based on JAPIO brochure and interview with Mr. Naoya Oku, Director, Machine Translation and Retrieval Research Division, JAPIO.

- (iv) Support for the patent licensing promotion policy: by operating the patent licensing database and research on successful utilisation cases of licensed patents;
- (v) Dispatching of patent information advisors for instruction and consultation of practical use of patent information, improvement of reference techniques, use of databases, etc;
- (vi) Other activities include international cooperation by dispatching experts to improve industrial property infrastructures and accepting trainees for industrial property information; industrial property information distribution services; undertaking of research and investigation on industrial property information processing.

The annual budget of JAPIO is around \$ 66 million. About 88% of the budget is supported by INPIT and about 8% by JPO, remaining being services provided to industry. JAPIO comprises of about 100 staff members supported by about 200 translators, 50 advisors and others.

3.3.1.5 Software Information Centre (SOFTIC)⁸⁴

SOFTIC was established in December, 1986 as a non-profit foundation with the support of the Ministry Economy, Trade and Industry, Ministry of Education, Culture, Sports, Science and Technology and many other concerned institutions and companies.

SOFTIC is designated registry for copyrightable programs and Semiconductor circuit layout rights in Japan. Through its associated organisation - Software Patent Information Centre - SOFTIC is assisting JPO in building Computer Software Database.

3.3.2 Agencies involved in IPR Knowledge Dissemination, Training and Research

3.3.2.1 Japan Institute of Invention and Innovation (JIII)⁸⁵

JIII was originally established in 1904 as an 'Association for the Protection of industrial Property' and renamed as JIII in 1947. The objectives of JIII are to encourage invention, enhance original ideas, promote the practical use of them, and diffuse and develop the industrial property system, thus advancing science and technology and contributing to the development of economy of Japan.

JIII endeavours to diffuse and utilise the industrial property system, through its branch offices in 47 prefectures in Japan through the following activities:

⁸⁴ <http://www.softic.or.jp/en/aboutus/aboutus-en.html>

⁸⁵ JIII website at <http://www.jiii.or.jp/english/diffusion.htm> and presentation of Yuichi Shibuya, JIII.

Encouragement to Inventions:

- (i) Awarding prizes by conducting nation-wide and regional invention competitions;
- (ii) Holding of exhibitions for inventions, formation of invention clubs for school children;

Dissemination Activities:

- (i) Publishing of monthly journal, special purpose books (monographs);
- (ii) Conducting of training on Industrial Property system for development of human resources;
- (iii) Holding of patent information fairs;
- (iv) Publishing of journals on technical disclosure and design disclosure in order to prevent wasteful investment in R & D;
- (v) Conducting advisory seminars entrusted by JPO for venture business enterprises and consultants of SMEs;
- (vi) Providing of library services as Intellectual Property Centres through the branch offices all over Japan;
- (vii) Invention consultation to the inventors in various parts of the country;
- (viii) Distribution of publications as a sales agency of JPO;
- (ix) To investigate and research on industrial property systems commissioned by the government or public organisations;
- (x) Independent investigation and research is also carried out on commission;
- (xi) Preparation of patent maps as per classified technical fields;
- (xii) Conducting of technical content search and technical trend searches.

Some of the remarkable contributions of JIII are as under⁸⁶:

- (i) Conducting of invention fairs since 1909;
- (ii) Started invention promotion activities for children since 1931. Started establishing invention clubs for school children throughout the country since 1974. JIII also administers the WIPO prize for invention for school children;
- (iii) Since 1976, JIII has been issuing technical bulletins for public disclosure of inventions, which are not subject to patent rights so as to avoid duplication of investment by others;
- (iv) Contributed to the formation of Japan Patent Information Organization;
- (v) Set up model rooms in regional areas to facilitate the e-filing system in 1990, with the assistance of JPO;
- (vi) Cooperation in prior-art search assistance corresponding to revised Utility Model system since 1994;
- (vii) Preparation of Patent maps since 1997 on the request of JPO;

⁸⁶

Monograph on “Encouragement of Inventions”, JPO/JIII publication.

- (viii) It founded the Asia Pacific Industrial Property Centre which is carrying out training programs for IP professionals from other countries;
- (ix) Carried out the IP Culture Promotion Project funded by the Ministry of Economy, Trade and Industry;
- (x) Providing IP training to research scholars of Government institutes.

3.3.2.2 Asia-Pacific Industrial Property Center (APIC)

The Asia-Pacific Industrial Property Center (APIC) was established as part of JIII in 1996 with support of the Japan Patent Office (JPO). Focusing on developing countries in the Asia-Pacific region, this Center has been providing training courses and holding seminars with cooperation from related organisations such as the Association for Overseas Technical Scholarship (AOTS), Japan International Cooperation Agency (JICA) and related organisation to help increase the understanding of government and private sector personnel relating to intellectual property⁸⁷.

3.3.2.3 Institute of Intellectual Property (IIP)⁸⁸

The Institute of Intellectual Property was established in June 1989 as a specialised research institute in Japan in the field of intellectual property rights with the objective to conduct study and research concerning various domestic and overseas issues and to collect and supply information for the purpose of promoting appropriate protection and international harmonisation of the intellectual property and thereby contributing to the development of the industry and economy of Japan⁸⁹.

The activities of the institute are broadly classified as under:

- (i) **Research and Study of Intellectual Property:** The Institute performs extensive research covering basic problems related to intellectual property, investigating on amendments in law, legal protection in the field of advanced technology, intellectual property litigation, digital content protection, etc.
- (ii) **Publication of Materials on Intellectual Property:** Information on the legal systems, judicial precedents papers, patent statistics and database on materials as well as patents. Publication of reports like "Chizaiken Forum" (Quarterly magazine) and "IIP Bulletin" (Japanese and English).
- (iii) **Hosting of Symposiums and Seminars:** The Institute hosts international symposiums and seminars on intellectual property inviting foreign and domestic scholars and professionals to discuss problems of intellectual property.

⁸⁷ APIC website.

⁸⁸ The information in this section is based on the brochure on IIP and the personal interview with Mr. Jun Sugiura, Director, Research Department of IIP.

⁸⁹ IIP home page <http://www.iip.or.jp/e/index.html>

- (iv) Promotion of Exchanges with Domestic and Overseas Organisations: Promotional exchanges of research scholars with both the domestic and overseas organisations and associations in similar fields of activity.
- (v) International Collaboration on Intellectual Property: Scholars and professionals are invited from developed and developing countries to research on intellectual property related issues at the Institute. The results are offered to the public through its reports and seminars.

The research projects undertaken by IIP are sponsored by JPO, METI or the industry. Some of the topics relate to preliminary studies regarding legal system reforms, comparative international legislation, etc. The research results of IIP are used by government for policy advice as well by industry for various other purposes. The research results of the institute were used by the Japanese government as data for introducing new systems, such as the trade secret protection system⁹⁰.

The researchers associated with IIP are in three categories: researchers on attachment with IIP for a period of two years (basically working in JPO or other industries), researchers invited from developed and developing countries whose project period ranges from one month to six months, and young scholars working towards their doctoral or post doctoral degrees.

IIP also despatches researchers from Japan to conduct joint research in other international IP research institutes with which IIP has cooperation agreements. As of now, IIP has agreements with 13 research institutes all over the world like the Max-Planck Institute for Intellectual Property, Competition and Tax Law, University of Washington, Centre for Advanced Study and Research on Intellectual Property, Oxford Intellectual Property Research Centre, etc.

IIP conducts JPO sponsored seminars thrice every year for dissemination of research studies, IP system, issues of international interest, etc. IIP has also conducted a trilateral conference with representatives from the three major Patent Offices and the representatives of the user communities.

IIP in cooperation with overseas research institutes catalogues and provides books, research papers, court cases, and patent-related statistical data for public access.

IIP has developed a database for patent statistics analysis based on standardisation of data, which is freely accessible for research purposes.

IIP is an example of a research institute which is technically, administratively and financially cooperated by the government (JPO or METI) and the industry and catering to

⁹⁰ Shin-Ichiro Suzuki, 2001, Role of Bodies Supporting Development of Industrial Property System.

the research requirements for policy advice, inputs for industry, international cooperation and other issues in the field of Intellectual property.

Some of the research papers published by IIP in connection with use of IP information are given in **Annexure – V**. Some other topics on which recent researches were conducted are the following⁹¹:

- (i) Institutional Issues regarding distribution and securitisation of Intellectual Property;
- (ii) Management and Utilisation of Intellectual Property at Universities'
- (iii) Desirable form of Design System suitable for Protection of Creative Designs;
- (iv) Measures for smooth use of patented inventions;
- (v) Study on current conditions regarding industrial property disputes;
- (vi) Internet related international trademark disputes: the state of law in western countries and the case of Japan;

3.3.2.4 International Association for the Protection of Intellectual Property of Japan (AIPPI-Japan)⁹²

The Japan Group of International Association for the Protection of Industrial Property was formed in 1956. In its Congress held in 2001, the name of the organisation was changed to "International Association for the Protection of Intellectual Property of Japan". AIPPI-Japan seeks to carry out a wide variety of activities to improve the intellectual property system in Japan by working closely with national groups, intellectual property offices and intellectual property-related organisations of major countries. Its major activities include:

- (i) To conduct research on IP related treaties and conventions and laws and regulations of Japan and other countries;
- (ii) To carry out research on IP systems of foreign countries on the request of JPO in order to ascertain the current situation and trends in the world as well as to establish policies for future. In Fiscal Year 2005, the following studies, *inter alia*, were conducted:
 - (a) Study and research on accelerated examination and preferential examination;
 - (b) Study and research on disclosure of origin of genetic resources in patent filing and the organisations to give prior approval for access to genetic resources;
 - (c) Study and research on well-known trade marks;
- (iii) Dissemination of information on the results of studies and research. AIPPI carried out a JPO commissioned project for translation of treaties and conventions in to Japanese, and Japanese laws in to English;

⁹¹ IIP Brochure

⁹² http://www.aippi.or.jp/english/info_e_10.htm

- (iv) Organising monthly meetings to discuss the IP related judicial decisions from Japan and abroad with active participation from former Judges, etc;
- (v) Publication of monthly magazine which contain expert analysis on IP issues and information on revision of legislations, regulations and policies of Japan and other countries;
- (vi) Publication of books and reference material concerning IP;
- (vii) Conducting of seminars on IP for members inviting professionals, attorneys and scholars from Japan and abroad;
- (viii) Sponsoring foreign students for study of IP in Japan.

3.3.2.5 Japan Intellectual Property Association (JIPA):

The Japan Intellectual Property Association (JIPA) is a non-profit non-governmental IPR users' association in Japan founded in 1938. JIPA's main activities include professional studies and researches for giving feed back to JIPA Members, offering JIPA's opinions and suggestions to other communities, conducting of training programs for employees of JIPA member organisations, publication of monthly bulletin containing judicial precedents, investigation and study reports, publication of JIPA journal, communication and coordination with various IP related institutions and organisations.

Further JIPA is also active in holding seminars and workshops on a variety of subjects. The experts for these programs include lawyers, university professors, officials of JPO, IP specialists from member companies, patent attorneys, etc.

3.3.2.6 Japan Patent Attorneys Association (JPAA)⁹³

Japan Patent Attorneys Association (JPAA) is a organisation for Patent Attorneys formed in 1915 and actively involved in promoting better understanding of various issues relating to intellectual property (IP) in Japan through its educational activities, research, seminars, lectures, etc. some of the activities are described below in brief:

- (i) Conducting of training and educational programs and e-learning programs to its members, for new as well as experienced members;
- (ii) Participation in WIPO meetings concerning international IP systems;
- (iii) Contribution to JPO sponsored training programs by way of providing lecturers for the programs;
- (iv) Conducting research through its committees on Patents, Designs, Trademarks, Computer Software, Biotechnology, etc. and publishing the results in its magazine;
- (v) Running of IP Assistance and Support Center for general public for enlightening and popularising the IP system;

⁹³ Sourced from website of JPAA, <http://www.jpaa.or.jp/> and its English version.

Another interesting and noteworthy contribution of JPAA is organising the Arbitration Center for IP rights. Run under the joint control of the Japan Federation of Bar Associations, it is an extrajudicial organisation that can resolve disputes very quickly (basically within three months) and privately (in closed sessions, out of court). The arbitrators are selected from Patent Attorneys and Attorneys at Law. The judgment of the arbitrator(s) will constitute the final judgment and no appeal to the court can be made.

3.3.2.7 International Intellectual Property Protection Forum (IIPPF)⁹⁴:

IIPPF was established in 2002 to promote cross-industry cooperation to reinforce anti-counterfeiting measures in collaboration with the Government. Much of the support to the forum is given by Japan External Trade Organisation. The projects undertaken by the forum are (i) submission of requests to governments where serious IPR infringement is detected; (ii) information exchange and survey research; and (iii) human resource development in countries where IPR infringement is serious.

3.4 Conclusion

As described in the chapter, IP administration has a very wide scope with respect to JPO. One of the successful strategies followed by Japan Patent Office appears to be creation of special purpose organisations like INPIT, PAPC, IPCC, and JAPIO, with sufficient autonomy. Further, JPO has constant communication and interaction with other agencies such as JIII, APIC, IIP, JIPA, JPAA, etc.

The synergy developed by these agencies, both governmental and non-governmental, with complementary responsibilities, catered to expediting the process of examination and also to dissemination of IP system.

The underlying spirit was well articulated by the former Commissioner of JPO in saying that “communication is fundamental if the JPO is going to contribute to the kind of society that is needed in the 21st century, and the JPO has availed itself of a wide range of means to convey its thinking and to get its information out, in line with calls for greater disclosure and accountability”⁹⁵.

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⁹⁴ Sourced from <http://www.iippf.jp/en/index.html>

⁹⁵ Hisamitsu Arai (1999), “Intellectual Property Policies for the Twenty-First Century: The Japanese Experience of Wealth Creation”, WIPO Publication.

Chapter 4

IP Strategies: Case Studies of Japanese Companies

4.0 Introduction

The IP Strategies of Japanese companies have interested many researchers and a number of studies have been conducted in the past. This chapter intends to introduce some of the general strategies followed by Japanese companies for protection of IP and the activities of the IP departments in these companies. These are based mostly on earlier research studies and observations of experts on the subject. As case studies, brief account of the IP practices followed in some Japanese companies is given. From the industry point of view, the role of IP Office in providing IP information and ascertaining the user needs are indicated.

4.1 General Strategies of Japanese Companies in Protecting their Intellectual Property

As noted by Hisamitsu Arai⁹⁶, corporate patent strategy in the 21st century has to cover all four bases of management strategy, technology strategy, international strategy and legal strategy. And the Japanese companies seem to be fully aware of the need for and potential of having a concrete, comprehensive and proactive Intellectual Property strategy as part of Management strategy of their companies.

In general, following are the major IP strategies followed by and the role of IP Departments in the Japanese companies:

- The IP Strategy of the company is fully integrated into the overall business strategy of the company.
- The Japanese firms have clear Patenting Objectives. Clear quantified objectives for patenting are common⁹⁷.
- The level of IP resources in Japanese large technology-based corporations is considerably higher than in most comparable Western corporations, as is the output in terms of both absolute number of patent applications and number of patent applications per R & D dollar⁹⁸.
- The major reasons for Japanese companies for filing patent applications, have been the following⁹⁹:

To prevent manufacture and sale of look-alike products	: 45%
Defensive filing	: 41%
Cross Licensing Advantage	: 10%
Other reasons	: 4%

⁹⁶ Hisamitsu Arai (1999), "Intellectual Property Policies for the Twenty-First Century: The Japanese Experience of Wealth Creation", WIPO Publication.

⁹⁷ Granstrand, O. (1999), *ibid.*

⁹⁸ Granstrand, O (1999), "Corporate Management of Intellectual Property in Japan", *International Journal of Technology Management*, Special Issue on Patents edited by Edwin Mansfield.

⁹⁹ Hisamitsu Arai, 1999, *ibid.*

- Comparable conclusions have been reported in a survey on business patenting and innovation patterns, Cohen *et al.* (2002) identified that among US as well as Japanese firms, the primary reasons for patenting product innovations are prevent copying, patent blocking, prevent law suits, use for negotiations¹⁰⁰.
- The Japanese corporations are traditionally averse to litigation and therefore prefer to licensing and cross licensing. This also helped in product standardisation more quickly than what can be possible in a monopoly situation. Further, the purpose of overseas patenting has been mainly to avoid litigation and thwarting counterfeit production.
However, this attitude is changing with the need to protect IP to remain globally competitive¹⁰¹;
- Use patent system is to facilitate transfer of Intellectual Property rather than to protect it either
 - (a) by patenting around the basic patent to force the basic patent owner to cross license its core technology in order to gain access that market, or
 - (b) by developing a portfolio of related or similar patents that likewise make it difficult for a firm to exploit its core technology alone¹⁰²;
- The traditional corporate patent strategy in Japan has been to emphasise quantity over quality. Rather than acquire basic patents, Japanese companies strove to acquire peripheral patents that would form a web pre-empting other companies from obtaining similar patents. Because filings for such patents were mostly to protect rather than to sell, requests for examination were not submitted more than half of the time¹⁰³.
- Corporate patent cultures are embedded in and reinforced by an overarching industrial and national culture, conducive to patenting, inventions, intelligence and so on¹⁰⁴.
- Training of all employees regarding IP is one of the core activities of the IP Department.
- The Patent organisations (IP Department) in large Japanese corporations in the 1990s have a number of common features as given below¹⁰⁵:
 - (i) The resources devoted to IP activities are not only larger, they are often larger by a magnitude than in a Western counterpart;
 - (ii) Responsibilities for patenting and other IP matters have been integrated and centralised into a comprehensive IP department at corporate level;

¹⁰⁰ Cohen, *et al.*, 2002, "R&D Spillovers, Patents and the Incentives to Innovate in Japan and the United States", *Research Policy*, 31, 1349-1367.

¹⁰¹ Ruth Taplin, 2004, Protect and Survive: Managing Intellectual Property in the Far East- The Case of Japan, <http://scientific.thomson.com/free/ipmatters/bti/8249985/>

¹⁰² Japanese Technology Evaluation Centre (JTEC) Panel study report dated February, 1995 on Electronic manufacturing and packaging in Japan, enumerates <http://www.wtec.org/loyola/ep/c3s2.htm>

¹⁰³ Takeshi Isayama, Former Commissioner of JPO, Keynote address at annual meeting of the IP Owners, November 16, 1998.

¹⁰⁴ Granstrand, O (1999), *ibid.*

¹⁰⁵ Granstrand, O (1999), *ibid.*

- (iii) The status and power of the patent and IP department have been elevated. IP Department is a strategic concern under proactive management and not just a reactive service department;
- (iv) Substantial emphasis and resources are devoted to having the patent department serve as an active clearing-house for technical information, with activities for technology scanning internally and externally, patent mapping, patent clearance, dissemination, etc.
- (v) Patent department is usually more powerful than a reactive service department purely under the aegis of R & D;
- (vi) Possess a patent culture, which can be characterised as having: top management involvement in patenting and IP; patenting and IP as a common concern for all engineers; patent policies and strategies integrated in business plans; clear patent objectives; clear patenting incentives for R & D personnel and organisational units; behavioural attitudes and norms conducive to technology protection and technology intelligence; visible organisational means to promote attention to patenting; and special language, methodology and philosophy.

4.2 Case Studies:

4.2.1 Astellas Pharma Inc.¹⁰⁶:

Astellas Pharma Inc. (Astellas) is a leading Japanese pharmaceutical company with a sizeable market in Japan, USA, Europe and some parts of Asia. The company was formed from a merger of Yamanouchi Pharmaceutical Co Ltd. and Fujisawa Pharmaceutical Co. Ltd in 2005. As at the end of 2006, the company has employee strength of about 15,000 including all its subsidiaries around the globe. The R & D personnel constitute about 2,400.

Astellas has a stable of about 5,000 active patents as in 2006. As is the case with the pharmaceutical companies, only about 10% of its patents are commercialised.

Astellas is an example of a traditional Japanese company which has successfully adapted to the changing corporate environment without compromising on its core values or competence. The company is entirely based on the manufacture and marketing of R & D oriented pharmaceutical products.

Astellas' IP strategy is well integrated into the company's corporate strategy. Astellas believes that while Intellectual Property Rights are a crucial asset for the company, the value and importance of its human resources, strength in strategic and niche areas and its marketing strategy are recognised as assets for the company.

¹⁰⁶ Most of the statements in this section are based on the understanding of the fellow from a questionnaire administered and personal interview conducted with the personnel of IP Department of Astellas Pharma Inc.

The Intellectual Property Department in Astellas comprises of about 40 employees. The responsibilities of IP Department include (i) policy advice to R & D Departments, (ii) filing of IPR applications, renewal, liaison with Patent Office, (iii) Patent drafting, (iv) IP inventory management (v) IP valuation and (vi) handling of disputes and litigations over patents. The goal of IP Department at Astellas is to ensure varied implementation of its own IP rights so that the business of the company is not in conflict with others' rights. IP Department from time to time provide advice to Licensing and/or legal department in their activities.

The basic function of protecting IP is three fold: (i) establishing the IP rights of the company, (ii) to avoid infringement over any others' rights and (iii) to keep others away from infringing on Astellas' rights. As such, most common reasons for protecting IP are (i) to prevent others from manufacture and sell look-alike products, (ii) to demarcate the strength of the company, (iii) for availing of licensing opportunities and (iv) to protect the invention though the company may not have immediate idea to commercialise the product so as to prevent others from patenting it. However, in pharmaceutical companies the latter two are less commonly identified as reasons for protecting IPRs. In an interview titled "Development of Japanese Firm's Patent Strategies"¹⁰⁷, Prof. Motohashi Kazuyuki, Faculty Fellow at RIETI, expressed the same view that in the pharma industry a firm often relies on only one technology. Accordingly, cross-licensing is not common in the pharma industry.

A periodic portfolio audit or portfolio inventory check is administered by the IP Department to assess the need for renewing a particular right through managing internal database on the rights. The key parameters in the assessment process are often, the stage of finalisation of the product or the competitiveness of the product in the market. The timing for review coincides with the time of payment of renewal fee or any other action with respect to the application. After grant, inventory check is done at a frequency of at least once in every three years.

To analyse the R & D capabilities in the market in a certain product range, the R & D Departments often do patent search for products or R & D with similar composition of the proposed drug, etc. IP Department has to assist in analysing the data from such searches.

The IP Department is also endowed with the responsibility of conducting training programmes at the headquarters as well as at laboratories providing IP related inputs to newly recruited researchers as well as senior employees of the company. The topics normally covered in these training programs include, *inter alia*, the types of IP and their importance to the company, types of IP that can be protected, legal provisions, strategy of the company in protecting its IP, the role and responsibility of each category of

¹⁰⁷ Available at website: http://www/rieti/go/jp/en/rieti_report/071.html

employees, search and study methodologies and dealing with the inventions made by employees.

In the Japanese companies, in general, the personnel of the IP Department would have started their career or served for quite a long period in one or the other technical departments or divisions of the company. Same is the case with Astellas. In a study conducted by Ove Granstrand in 1999, similar results have been reported¹⁰⁸. The personnel in IP Department rely largely on their internal resources and advice from technical Departments for drafting and prosecuting the applications for the company, some expert legal opinion or advice from expert practitioners is sought on need basis from time to time. Only in a very few cases the majority portion of drafting is done by somebody from outside the company.

There has been a change in the strategy followed by Astellas while working in overseas markets. Before the merger (2005), the strategy for entry into a new foreign market has been either looking for a collaborator with established production and distribution capabilities or to prefer exporting the drug for marketing and distribution by the collaborator. However, after the merger, the preferred strategy has been looking for independent production or export and marketing through own distribution network.

Being a player in many countries Astellas has been more cautious and watchful about the cases of infringement. Astellas seeks to protect its IP very strongly by using all methods including the legal channel. Quality assurance and branding strength are the two pillars which are considered most important to survive in the market place for Astellas.

4.2.2 National Institute for Advanced Industrial Science and Technology (AIST)¹⁰⁹:

AIST is a government funded industrial research centre with over 50 autonomous research units in various innovative research fields located at 9 research bases and several sites all over Japan. About 2500 research scientists and well over 3000 visiting scientists, post doctoral fellows and students are working in AIST. The mission of AIST include, contribution to a sustainable society, industrial competitiveness, local industrial development and industrial technology policies

The three central issues in the IP strategy of AIST are (i) aiming to create high quality IP, (ii) promotion of technology transfer by high quality IP and (iii) accomplishment of appropriate licensing. It is also aimed at registering all the achievements of the institute as intellectual property. The coveted target is to obtain strong, widely applicable rights and to obtain barrier patents (indispensable technology sitting at the intersection of various other methods or technologies for commercialisation of any product).

¹⁰⁸ Granstrand, O. (1999), "Corporate management of Intellectual Property in Japan, International Journal of Technology Management, Special Issue on Patents, edited by Edwin Mansfield.

¹⁰⁹ Based on the presentation by Intellectual Property Department of AIST, Tsukuba.

AIST has created a system for technology transfer that contributes to more advanced industrial activity and the creation of new industries based on the intellectual property created through research and development at the institute.

To enhance the value of these assets as industrial technology, AIST integrates IP created from a wide range of fields and develops interdisciplinary fusion technologies based on its Intellectual Property.

The Intellectual Property Department in AIST has the following role in acquiring rights and transferring thereof:

- (i) Make as much R & D output patented and utilised as possible;
- (ii) Support strategic planning for the advancement and commercialisation of intellectual properties as the output of R & D activities.

AIST established first Technology License Office in Japan, other than in Universities and is involved in technology transfer, research collaboration and consulting. The Intellectual Property Coordinator and IP advancement office also play a vital role in supporting formulation of IP strategy at research units and for research topics respectively. For advice and analysis of the research potential, each research unit is encouraged to participate in interactive meetings and workshops. The researchers are advised on identifying quality IP. The contribution of researchers in securing IP rights is not only reflected in the evaluation of their work but also the royalties are shared in accordance with established norms.

Joint research with industries willing to commercialise a technology are also conducted. Joint research is according to the existing system of AIST. After filing the application, AIST publicises the research result to encourage companies to participate in joint research. The companies may partner with the research project at any stage during the development of the idea.

About 60% of the patents owned by AIST are transferred to SMEs (with capital of below \$2.6 million or with less than 3000 employees). For AIST, in terms of amount of licensing fees, biotechnology and software-related patents are ahead of others. In terms of number or agreements, materials, nanotechnology and manufacturing technology patents are ahead. AIST also favours promotion of venture businesses by granting exclusive patent licenses, assignment of rights, reduction in license fees and allow using facilities at AIST¹¹⁰.

4.2.3 Sanrio Company Limited:

Sanrio is a classic case of a company which created its business model around the cartoon characters created by its employees. Sanrio was recipient of Ministry of

¹¹⁰ Monograph on Technology Transfer by Public Research Organisations, 2002, JPO/IIII.

Economy, Trade and Industry's award for well utilisation of Intellectual Property rights. "Hello Kitty" is the most popular character of Sanrio stable. Since hello kitty was first created in 1974, Sanrio has created around 400 characters. The characters have been protected through trade marks and copyright protection laws in various countries.

The principal business activities of Sanrio, centred on hello kitty, are manufacture and sale of social communication goods, greeting cards, books, magazines, videos, DVDs, operation of restaurants, operation of theme parks, etc. In addition to planning and producing its own products, the trade marks are licensed to a number of companies.

Sanrio does not acquire design rights over the various designs in their products, as it is financially not feasible to protect about 30,000 designs in various countries where they market their products. Sanrio has many issues with markets flooded with counterfeit goods. They employ all the possible means to proactively protect their intellectual property rights.

4.2.4 Shimadzu Corporation¹¹¹.

Shimadzu Corporation, Japan which was established in March 1875 has a long history. With a capital of 26.6 billion yen and 8816 employees, Shimadzu is a corporation specialised in the manufacture of Analytical & Measuring Instruments, Aircraft & Industrial equipment and Medical Systems. Shimadzu has 33 consolidated subsidiaries in Japan and 29 in other parts of the world.

The current state of Intellectual Property Strategy of Shimadzu is creation of basic patent defined as utilisation of the technology/product road map, development of new technologies and promotion of advanced researches through industry-academia collaboration. The target state is aggressive utilisation of patent defined by perfect defence of one of a kind product, monopoly of key devices, profit contribution through licensing and strengthening of overseas competitiveness by making technologies *de facto* standards. The IP strategy is well integrated with R & D strategy.

Shimadzu has a well defined intellectual property right management system with each of the R & D divisions having their own Intellectual Property Departments, which are in turn linked to the central IP Department at the headquarters.

Shimadzu has its own database and search engine for prior art search as well as management of the filings, etc.

Performance compensation system is well established in the company and compensation is given for domestic and overseas patents, cross-licensing, etc. Apart

¹¹¹ Based on the presentation of IP Department of Shimadzu Corporation, Kyoto.

from this, a one time patent reward is given when annual sales of the product series that used the patent/invention have achieved a certain amount.

The IP Department has the responsibility of drafting strong specifications, management of responses with Patent Offices in cases of patent application prosecution, and handling of legal matters and license negotiations. The IP Department has to report the progress of the major IP –related disputes on a monthly basis to the President and the board of Directors, heads of technology/research divisions of the company. Members of IP Department also participate in the technology development meetings, to grasp the trends in technology development.

As is the case with many Japanese corporations, conducting of IP training programs is one of the responsibilities of Intellectual Property Department. Workshops are held regularly for the engineers and researchers in the company. The newly recruited researchers including mid-career employment recruits can learn the basics of industrial property rights at these workshops. For middle level employees, who have some experience in patent practice, more practical content including scope of right of patent, etc are introduced. For managers, IPR right information, namely, knowledge, cost, trademark management, points of judgment as manager are taught. Further, there are programs for employees of affiliate companies. The staff of IP Department are encouraged to actively participate in the training programs and workshops conducted by Japan Intellectual Property Association, Japan Patent Attorneys Association, JPO, etc.

4.3 The Role of IP Office:

The experience of the Japanese companies demonstrate the general case of use of IP databases by them for assessing their own intellectual property rights and keeping a watch on the competitors' rights which have been the common component of the IP strategy of the companies and the IP Departments employ staff especially trained for the purpose.

A typical Japanese company adopts a variety of techniques like Patent Mapping¹¹² for evaluation of competitors' patents. In a study conducted by Institute of Intellectual Property on Patent Management (Tokyo, 1998) it was revealed that about 86% of the 280 companies surveyed had used the patent map technique, R & D Departments been the major users¹¹³.

Further, to understand the specific requirements of the overall industry and various sectors thereof, the IP Offices should establish a regular interaction with various industry groups. This not only helps in understanding the user point of view of the services provided by the IP Office but also the possibility of confidence building as the steps

¹¹² Described in the following chapter.

¹¹³ Atsushi Morijuji, JPO, lecture notes on Importance of patent information...

taken by the IP Office for dependable services could be explained to industry in such interactions.

For example, in the case of JPO, frequent interactions of the officials of JPO with industry through seminars, License Promotion activities, etc. appear to have helped building the level of mutual confidence. In the fiscal year 2005, the JPO Commissioner, the Deputy Commissioner and the Directors-General of patent Examination Departments exchanged opinions with a total of 150 companies and 11 industrial associations in the field of manufacturing, especially targeting the companies filing a large number of patent applications. This was a drive to exchange opinions on the increasing number of applications and the government goals for expeditious examination. In these information exchanges, the industry expressed, *inter alia*, the following opinions or requests¹¹⁴:

- Achieving consistency in decisions between courts and JPO and granting stable patents;
- Achieving more expeditious patent examinations;
- Promotion of mutual exploitation of examination with other countries (Patent Prosecution Highway);
- Patent examiners to actively visit and inspect the R & D and production sites;
- Need for public and private sectors' collaborative efforts in the area of technical standards.

JPO will also be soon publishing the guidelines on Intellectual Property Management for the benefit of enterprises¹¹⁵.

The experience of companies clearly establishes two things: firstly the need for establishing and updating a dependable Patent database and secondly constant interaction with industry provides an opportunity for both the service provider and user to mutually understand each others' perspective for building up mutual confidence.

4.4 Conclusion

The IP strategies of each company are independent and differ, depending on various factors such as the product line, research thrust, geographical distribution of market, etc. It is a topic of interest to study and understand the nuanced differences in the IP Strategies as well as the role of IP Departments. That apart, from the IP Office point of view, the need for establishing dependable databases for use by the companies and the need for regular interaction between the service provider and the users has been vindicated.

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¹¹⁴ JPO Annual Report, 2006.

¹¹⁵ Inaugural speech by Commissioner, JPO at International Patent Licensing Seminar, 2007.

Chapter 5

Use of Patent Databases

5.0 Introduction

A study conducted by the European Patent Office revealed that European SMEs waste 20 billion US dollars every year duplicating research and development work that has already been done elsewhere, and that they could have accessed by simply checking the patent records. Such is the cost of failing to monitor patent information¹¹⁶. That leads to a logical view that the minimum use the freely accessible patent information could be put to is analysing it before embarking on any new R & D project.

This chapter seeks to introduce the use of patent information, analysis and the methods for analysing the same. Brief introduction is given to construction of patent maps and the institutional support mechanisms in Japan for this purpose. As also indicated in the previous chapter, the need for IP office to play facilitating role by establishing dependable IPR databases has been reiterated.

5.1 Use of Patent Information

The condition on which the Patent rights are granted to individuals is on agreeing to disclose the details of the invention through publication of full details of the nature and method of invention. Most of the national patent systems publish the information in Journals, on the internet or through some other physical or electronic medium, barring certain exceptions by some national IP Offices.

The specification *in a patent application* must be written in such a manner that a person of ordinary skill in the relevant field to which the invention pertains can understand the invention¹¹⁷. As the life of a patent is for a finite period, any person interested in the invention or any other details disclosed along with, could exploit the information for producing similar or improved products henceforth.

Not only in the straight case of an invention being granted a patent after publication and examination but also in various other instances when the application is published - such as (i) rejection of an application after examination, (ii) patent rights granted but not commercialised by the rights holder, (iii) patent rights granted but not renewed by the rights holder, (iv) applicant requested for publication but not examination, (v) application published but was abandoned for various other reasons, etc.- a sea of knowledge and innovative talent is made open to the public. Enthusiastic and innovative entrepreneurs can harness and exploit the knowledge for industrial application through various legal processes. These include purchase of patents, licensing-in, technology transfer, further

¹¹⁶ Hisamitsu Arai (1999), IP Policies for the 21st Century: The Japanese Experience in Wealth Creation, WIPO publication.

¹¹⁷ General information for filing patent application in India.

improvised inventions for possible patenting, understanding the breadth and depth of invention in a particular field of technology, so on and so forth.

As such, many organisations are involved in the analysis of Patent Information. And certain organisations provide customised services as well. This analysis is popular at least in the corporate sector as a strategic tool of competitive intelligence helping in decision making with respect to investment, research, market entry, estimation of competition, and a whole lot of other things. Practical applications exist, *inter alia*, in the following areas¹¹⁸:

- (i) Input to licensing strategy;
- (ii) Supporting mergers and acquisitions;
- (iii) Guiding R & D;
- (iv) A tool for creative thinking;
- (v) To identify key inventors of the company as well as competitors.

For the SMEs this analysis might provide information on the following¹¹⁹:

- (i) Locate business partners;
- (ii) Locate suppliers and materials;
- (iii) Monitor activities of real and potential competitors;
- (iv) Identify niche markets;
- (v) Avoid possible infringement problems;
- (vi) Assess patentability of your own inventions;
- (vii) Oppose grant of patents wherever they conflict with your own patent.

At various stages of R & D how patent information is useful has been outlined in an interesting presentation at a WIPO training program¹²⁰.

5.2 Analysis of Patent information:

As for analysis, the method used by Japanese companies to analyse the patent applications of their competitors was described by Fuminori¹²¹. That is through compiling and circulation of bulletins of abstracts of applications of competitors to different departments in the company or through Selective Dissemination of Information (SDI) by periodically compiling bulletins on selected themes for circulation to related departments. Further the bulletins compiled are revised from time to time according to the needs of the relevant departments. And complete information about the current situation in a particular technical field could also be understood by monitoring these newsletters.

¹¹⁸ “Patent Information: Buried Treasure”, WIPO magazine January-February, 2005.

¹¹⁹ http://www.wipo.int/sme/en/ip_business/patents/why.htm

¹²⁰ Sungil Jung, 2003, Importance of using patent information, WIPO Training Program.

¹²¹ Patent Information Management in Enterprises, JPO/JIPII publication.

The basic concepts about patent information, search methods, procedures, utilisation of the information and patent information management have been described in a systematic way in the Technology Handbook¹²² of Asian and Pacific Centre for Technology Transfer (APCTT). For instance, the search methods as per the description include bibliographic search, patentability search, state of the art search, continuing/monitoring search, assignment search, infringement search, validity search and the rights information search.

More popular terminology for patent information analysis has been 'patent map' or a 'Patent Dissemination Support Chart'¹²³, which is a visual representation of patent information. A patent map is produced by gathering related patent information of a target technology field, processing and analysing it¹²⁴.

Broadly there are two types of patent maps, quantitative maps and qualitative maps. While the quantitative (statistical) maps require normal skills, preparations of qualitative maps require technical and specialised skills in the area. About 3000-4000 patent applications have to be studied for the purpose of arriving at reasonable trends. Often, about ten years of patent information in a selected technological theme is to be analysed in order to describe the maturity level of technology and the trends in methods being employed for resolving outstanding issues. The basic maps may contain lot of noise but those prepared by professionals provide selective dissemination of information with very little noise and more authenticity.

Arguably, patent maps have the potential to reveal the strengths and weaknesses in a particular technology in the country or region besides indicating the direction in which invention is flowing.

As mentioned in the earlier chapter, in a survey conducted by Institute of Intellectual Property, 86% of the 280 Japanese companies surveyed found to have used the patent maps¹²⁵. In a monograph on the subject¹²⁶, Fuminori Yoshida describes as to how the Japanese enterprises utilised and are utilising the published patent information. In a study on the patenting activities in Japanese companies, Granstrand observed that *patent mapping* has been a useful methodology for several purposes in itself, but at the same time it has contributed in building a patent culture through its influences on language, analytical perspective, conceptualisation and communication¹²⁷.

¹²² Available at http://www.technology4sme.net/tech_handbook.aspx?id=4. APCCT is a body of the United Nations Economic and Social Council for Asia and Pacific.

¹²³ Shin-ichiro Suzuki, 2006, Tokyo IP Report (Patent Map for Practical Use) http://www.apic.jiii.or.jp/n_c/ipnews/2006030903.htm

¹²⁴ Guide Book for Practical Use of Patent Map for each Technology Field published JIII.

¹²⁵ Institute of Intellectual Property report on Patent Management (Tokyo, 1998)

¹²⁶ Patent Information Management in Enterprises, 2000, Publication of JPO/JIII

¹²⁷ Granstrand, O (1999), "Corporate Management of Intellectual Property in Japan, *International Journal of Technology Management*, Special Issue on Patents edited by Edwin Mansfield.

5.3 Patent Maps Prepared by Japan Patent Office:

JPO has been facilitating utilisation of patent information through the IPDL and other services. The Government of Japan and JPO have been using the maps for assisting in IP policy making as well as S & T policy making¹²⁸. JPO's experience with patent maps goes back to 1968. JPO and INPIT have developed these maps on about 108 technology themes for the use of SMEs¹²⁹. The INPIT Patent Map has become one of the most widely used patent maps in Japan¹³⁰.

For private use, IPDL provides guidance for preparing patent maps based on information from the database. Some companies in Japan provide semi automatic and customised software systems for patent analysis. The Patent Information Fair & Conference held at Tokyo during November, 2006 was an opportunity for a number of such Service providers to demonstrate their services and specialities¹³¹.

Patent information analysis help not only the industry or R & D personnel, but is also useful for patent examiners in grasping the trends in inventions in new and upcoming technologies.

5.4 Research Studies based on Patent databases:

Patent information analysis is also popular in IP research. Researchers use the databases for quantitative and qualitative research on patents and technologies.

A brief review of how the patent data has been used since the 1960s for economic analysis of innovation and technical change was given by Bronwyn Hall¹³². As observed by Hall, the advantages of patent data for the researcher are as under:

- (i) Availability over a wide range of countries and years, for detailed technology classes with information about inventor, geographic area, and owner;
- (ii) Provision of links between different quanta of knowledge through citations to other patent and non-patent literature.

Hall further asserts that with the possible exception of data on scientific paper publications, no other data source comes even close to providing this level and quantity of information about the creation and dissemination of new knowledge¹³³.

In the USA, there are a wide range of studies conducted in the back ground of intellectual property rights and a paper on the status of IP research in the United States

¹²⁸ Atsushi Morifuji, JPO, Lecture notes on Importance of Patent information in encouraging technological innovation.

¹²⁹ List of patent maps provided by Yasushi Nakamura, Director, Research and Investigation Group, IP Research Centre of JIIL.

¹³⁰ Shin-ichiro Suzuki, Tokyo IP Report, *ibid*

¹³¹ <http://www.business-i.jp/event/pif/>

¹³² Bronwyn H. Hall, Patents, http://elsa.berkeley.edu/~bhhall/papers/BHH06_Patents_Palgrave.pdf

¹³³ Hall, *ibid*.

gives a brief idea on the same¹³⁴. As per the paper, the research is directed towards empirical research, inter-disciplinary, patent data oriented, etc.

In Japan, many researchers have utilised the JPO database on patents for derivative analyses. Special mention is to be made about the scholars at two research organisations, namely, Research Institute of Economy, Trade and Industry (RIETI) and Institute of Intellectual Property (IIP) in producing a number of such economic analyses adding value to the existing literature.

The researchers at RIETI have also developed a “Science Linkage Index” based on the published Japanese gazettes. Through data mining they extracted the non-patent references from all granted patents to compare and analyse science linkage index among different patent classifications¹³⁵. The results described in the paper are outside the scope of this report. It is only intended to stress that the ongoing research stands evidence to the various uses patent information can be put to.

For a general view on the various parameters of these research studies, a gist of some of the studies and the conclusions is given in the table at **Annexure – V**.

In the developing countries, especially India, most of the IP related research at present appears to be focussed more towards the comparative legislation and the possible impact of new legislations on the socio economic fabric. One of the main reasons for this might be non-sufficiency of the quantum of applications required for making reasonable analysis and the necessity of an easily accessible digital database on Indian patents. However, the recent trends of filing of applications indicate that in the near future there could be a good number of applications as well as patents to research on.

By using the patent information, there could be lot of scope for giving fillip to the SMEs in the country. Sometimes, what enables a prospective investor to take a decision for investment or a technopreneur or SME/Venture Company to acquire a bank loan might be the availability of analytical information giving some direction.

On one hand patent information analysis provides guidance in taking informed decisions. On the other, this might also be essential to disseminate knowledge about the existing wealth of patents. This could become one of the primary components in awareness creation activities.

¹³⁴ JETRO Report, <http://www.iip.or.jp/summary/pdf/thomas2.PDF>

¹³⁵ Schumpeter Tamada *et al*, RIETI Discussion Paper Series 04-E-034, Science linkages in technologies patented in Japan, ,

5.5 Shortcomings of Using Patent Information:

The dependence on patent maps or patent information analysis is not without certain cautions or shortcomings. These include the following:

- (i) There is always a time lag between the publication of patent application and the point in time at which the invention was made or completed.
- (ii) Patents do not cover every kind of inventive activity in every country. Some inventions that are patentable are either kept as trade secrets or put in the public domain through defensive publication so as to prevent all others from obtaining a patent on that invention. Therefore, consulting non-patent literature is often obligatory to get a complete picture of the prior art¹³⁶.
- (iii) When applied to small portfolios, patent mapping exercise may be misleading due to significant lag time¹³⁷.

5.6 Conclusion

The advantages and utility of Patent Information analysis seem to outweigh the disadvantages. This has not only become part of the 'strategy tool kit' for IP Management in large companies but also for R & D institutes and SMEs. There is role for IP Offices to provide patent databases which are the feeder material for the analysis of patent information. Development of database along with suitable search tools should be one of the highest priorities in the IP Office modernisation as the use of such database is far and wide in the national innovation system.

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¹³⁶ WIPO guidance for SMEs, The Magic of Patent Information, available at http://www.wipo.int/sme/en/documents/patent_information.htm#merits

¹³⁷ Alexander I. Poltorak and Paul J. Lerner, Essentials of Intellectual Property, John Wiley & Sons

Chapter - 6

Suggestions for Future IP Administration in India based on the Study of JPO

6.0 Introduction

The overall study of the JPO IP administration is aimed at providing new ideas and options for IP office modernisation in India. The situation in India has a different dimension, in that the IP Offices are geographically distributed around the country. This in itself poses a different set of challenges in designing and implementing modernisation project.

The efforts made in the past few years for creation of awareness and popularisation of IPRs, have been successful. Increasing number of applications filed at the Indian Intellectual Property Offices also indicate an active economy. There is a need to strengthen the infrastructure of IP Offices to cope up with the demands of this fast growing economy as demonstrated in Chapter-2 as well as to enable the IP Office to play a catalytic role in the economic development perspective.

From the experience of the Japan Patent Office the ideas that worked fro JPO have been described. A number of suggestions have also been made for consideration with respect to modernisation of IP Offices in India.

6.1 The Ideas that worked for JPO:

The Japan Patent Office has been playing a vital role as a facilitator to economic development in the country. In the process, JPO has taken various measures not only for speedy grant of rights but also for dissemination of IP information for use by industry and public. The ideas that worked for JPO are given below along with the possible steps that could be taken by IP Offices in India. These are expected to give a realistic picture of the case of JPO and be very useful for IP Office modernisation in India.

Examination - Quality and Quantity:

- (i) The paperless system has been very successful in reducing the burden of papers from entry to exit in the full cycle of IPR Administration. The planning, management, and scaling of the paperless system incorporating periodic changes in technology and meeting new requirements are remarkable.
- (ii) JPO has established special function institutes as and when the need arose and nurtured them into autonomous entities. These institutes are able to sustain healthily. The nurturing of cluster of agencies/institutes around the main Intellectual Property Office has worked successfully in case of JPO.
- (iii) For accelerated examination, JPO has been implementing innovative measures which were described in an earlier chapter. It may not be always possible for the IP Offices to ensure recruitment of new technical personnel at the same rate of increasing workload demands, given the lengthy process for recruitment. In this

- regard, certain measures to keep synchrony with the requirement of expeditious examination become worthy. Some of the measures like the system of fixed-term examiners, outsourcing of prior art activities to registered search organisations, incentives to applicants for withdrawing their applications/requests, deputation of examiners to regional areas, system of consolidated examination could be considered by IP Offices in India to handle similar situations.
- (iv) The databases for examiners (Patent database and Non-patent literature database) as well as for public (IPDL) have been versatile in supporting the functions for which they were created. As mentioned at many places, one of the priority issues for IP Office modernisation in India should be to provide access to IP database for public use.
 - (v) As per the Quality Management System (QMS) report for 2006, there are elaborate mechanisms for quality management. It is desirable for IP Offices to come out with a well constructed QMS by setting out standards. By way of periodic evaluation of various parameters, the quality issues could be addressed in time.
 - (vi) The efforts made by JPO through seminars, education, etc for popularising the concept of e-filing have contributed to achieving a very high rate. JIII had also operated many model rooms in regional areas for facilitating e-filing. Such measures could be thought of in association with regional governments in India from where high numbers of applications originate or where new and potential filers are concentrated.
 - (vii) As seen in the case of JPO, it is difficult to achieve 100% filing through electronic means. After 16 years since e-filing started, JPO still receives about 17% of trademark applications, 3% of patent/utility model applications and 10% of design applications in formats other than electronic. Therefore, facilities for digitisation or capturing of data seem to be a continuous requirement. Long term measures in this regard are to be taken, including the possibility of collecting additional fee, if necessary, for applications filed in paper format after introduction of e-filing.
 - (viii) JPO has been outsourcing much of the prior art search work to registered agencies. Separation of prior art work from substantive examination appears to be more effective in utilising the human resources to the optimum. This is also expected to be more expeditious, more qualitative and focussed. Quality because, even after the prior art examination, there is scope for re-examination when passing through the stage of substantive examination as well as informed discussion between two examiners. For an IP Office, it may be advisable to separate prior art search work from substantive examination work, once the inflow of applications/ requests becomes sizeable. In the long run, it will also be convenient to outsource the prior-art search to agencies outside the IP Office, if felt necessary.
 - (ix) JPO actively participates in the meetings of WIPO regarding standardisation of formats, etc. The documents related to such WIPO meetings are to be closely

followed by the IP Offices in order to gather information on available technologies, so that appropriate technologies could be identified and utilised by IP Offices in India.

Human Resource Development:

- (i) One of the objectives of training of JPO examiners and appeal examiners is to develop the official's skills as specialist in support of SMEs, besides developing their examination skills, etc. In training curriculum for IP Office personnel, topics such as IP Management of SMEs, functioning of Technology License Offices in Universities, Patent information analysis, etc could be included.
- (ii) The examiners at JPO seem to have more avenues for exposure to industries as well as research centres as lecturers at training programs conducted through JIII/APIC, as experts despatched to Universities, SMEs, and regional areas, which is desirable in case of IP Office personnel in India.
- (iii) Training has to be a continuous process in the career of examiners or administrative staff associated with Intellectual Property Offices. This is expected to keep them abreast of the technological and administrative developments in the field of IP.

Dissemination:

- (i) JPO has been supporting nationwide IP education for imparting knowledge of IP to the future generations from an early age. Its strategy targeted imparting IP education at the elementary level, vocational and University levels. In addition, orientation programs for SMEs and managers of venture businesses have also been successfully implemented. IP offices in India could facilitate imparting of IP related knowledge in schools, etc., by suitable means.
- (ii) JPO has been facilitating dissemination of IP information by search tools provided on the IPDL website. As indicated earlier, IP Offices, in order to facilitate dissemination and use of IP information, should publish the full specifications of inventions and also provide search tools and guidance in search methods to facilitate public use.
- (iii) Frequent interaction with industry through seminars, License Promotion activities, helped JPO in building mutual confidence between the JPO and industry. For IP Offices in India such measures would provide an opportunity to understand the user perspective for bettering their services.
- (iv) JPO encourages and supports commercialisation of Open patents through INPIT and Japan Technomart Foundation. The annual Technology Licensing Seminar conducted by INPIT attracts many potential entrepreneurs, covering lectures and debates on a number of issues such as best practices, models of technology transfer, industry-university linkages. Experts from many other countries like USA share their views in these seminars. Organising such seminars by IP Offices

could create the awareness and environment necessary for facilitating technology transfers and licensing.

6.2 Other Suggestions for Consideration

In addition to the above, following suggestions are made for implementation by IP Offices in India:

- (i) The volume of applications handled at present is definitely going to have a bearing on the existing infrastructure and the need for further strengthening. Further, the services of IP Offices need to be more user-friendly by being sensitive to changing requirements of the country's economy as well as for fulfilling the need to disseminate IP information, whether it is through publication of patent information as it is or by value addition. Therefore, comprehensive plans to strengthen the facilities in proportion to the vertical rise in the applications filed or demand for speedy examination and the horizontal expansion of activities in the field of IP facilitation of the IP Office is to be made.
- (ii) Maximum use of Information Technologies for institutional capacity building is to be made in order to automate the operations and work procedures at all levels from entry to exit as well as for dissemination of IP information for public use. In stages, services such as e filing, electronic communications with applicants, enabling on-line access to status of applications, etc., could be introduced. As for databases, those catering to the examiners as well as public use should be established providing for robust search tools for easy utilisation of the medium. The databases once developed could also be provided to the information analysis businesses at reasonable cost to promote 'dissemination of value-added IP information' as a specialised service sector itself.
- (iii) As demonstrated in the chapter on use of patent databases for the companies, research agencies and inventors, the necessity for a dependable and robust database will be an urgent requirement at this stage when the number of applications and patents granted is on an increase in order to facilitate analytical studies for informed decision making for investments, R & D, options for available technologies as well as avoid infringement of others' rights
- (iv) The research funding agencies could also be encouraged to use the IP databases for preliminary investigation into the prior art, as part of examining proposals for research grants. The feed back from these agencies could also assist the IP Office in assessing the usability and need for further improvement of the databases. This establishes thorough linkages between IP Office and the national innovation system.
- (v) There is also a need for the IP offices to be more sensitive to the needs and requirements of its users in a changing economic scenario in the country. The evolving role of an IP Office is more as a facilitator for creating enabling milieu for the users of the system. Constant communication and interaction with the users should be established.

- (vi) Other initiatives that could be considered for enhancing the facilitator role of IP Offices are the following:
- (a) guidance and assistance for creation and exploitation of Intellectual Property rights could be provided for the benefit of various sectors of the industry, including those which hitherto did not utilise the system;
 - (b) to disseminate IP information and assist in patent licensing in one way or the other;
 - (c) to develop human resources and assist in capacity building in all sectors of the economy which are directly or indirectly related to the IP System also targeting the enforcement agencies, local police, IP managers, attorneys, researches, inventors, etc;
 - (d) to take part and assist in the national innovation system by taking up promotional activities as well as capacity building of targeted sectors for technology absorption and marketability of R & D; and
 - (e) to establish support agencies in order to assist the activities of IP Office as well as to assist the various Government Ministries/Departments in handling targeted IP related activities.
- (vii) Quality of examination is definitely an issue even for the most advanced IP Offices. Rigorous and clear guidelines establishing the quality of examination would not only assist the examiners but also help in gaining user confidence which will go a long way in asserting the position of IP Office as a transparent public entity. Extensive use of IT is also expected to help in improvement in quality besides curtailing the time required for processing of applications internally.
- (viii) Other measures with respect to facilitating examination could be the following:
- (a) As increasing number of applications are in new areas of technologies, each of the offices could form a subject-wise brainstorming group to discuss typical cases;
 - (b) The gist of some settled cases in national patent offices, international Patent offices and courts could also be discussed to stay abreast of the happenings around the world;
 - (c) The AIPN services provided by JPO could be utilised. The AIPN provides access to Patent abstracts of Japan as well as file wrapper (details of status, communications between Patent office and the applicant and the reports of examiners, etc.). To use the service the IP Office has to make a request to JPO in the prescribed format.
- (ix) Some measures targeting development of human resources could be the following:
- (a) In all the offices small training cells could be operated to impart occasional lectures by the visiting scholars from various IP Offices, Universities, etc., which would give a good opportunity for the examiners and others in understanding the latest developments;

- (b) University professors/scholars involved in frontier research could be invited to interact with the personnel in patent offices for periodic brush up of ideas and research activities. The mutual confidence building among the resource persons of complementary activities could go a long way in quality and efficiency of activities;
 - (c) There could be more flexibility for the examiners to go on deputation to industry, R & D Labs, Universities, etc. This would enable them to be better equipped with the latest research activities around and also gain knowledge in frontier areas of technologies.
- (x) Awareness Creation has been one of the very important components of the modernisation of IP Offices in India from the beginning. To facilitate further creation of awareness, culture of IP and popularising the role and activities of IP Offices, the following measures could be considered:
- (a) For wider publicity of IP knowledge, the IP Office could publish a periodic news letter containing the analysis of patent applications published during the period, patents granted and some articles on issues of current importance for general understanding. The news letter could be circulated free of cost to universities, etc.
 - (b) Similar news letter of IPTI giving information about the programmes conducted by it could be published and arrangements for publicising this on other websites, etc. might have to be made for the benefit of stakeholders as well as public;
 - (c) There is apparently a need to prepare comprehensive information source - booklet or webpage - providing information about the facilitating role of all the agencies involved at various stages of IP creation cycle. This could become the single window for information so that the users might know the opportunities, options and guidelines in a step by step manner. Based on the understanding of the fellow, a skeletal model for such an initiative has been prepared and annexed as **Annexure – VI**.
 - (d) Scalability should be a feature in all activities as the work load is expected only to increase in the future. The organisations proposed to be established should have the flexibility to take up any new activities that might be desired by the Government to be handled, that is to say, there should be enough scope for expansion;
 - (e) JPO facilitated publications have been well received and have been used as standard books in Universities as well. Production of materials, monographs suitable to the Indian situation could be considered as part of dissemination of information on IP related issues.
 - (f) In the field of awareness generation, in addition to the handout brochures prepared by the IP Office, few monographs could also be produced targeting school children at various levels, especially the +1 and +2 students;

- (g) Targeted programmes could be organised to groom Managers for advice on Technology Transfer (TT) related issues. For example, the topics could include - role of transfer of technologies, guidelines for TT, best practices, success stories, legal drafting of TT agreements, problems and advantages for the licensor and licensee, valuation of IP, international best practices, technology licensing from overseas, etc.
- (h) Encouragement could be given to concerned agencies to develop skills in patent information analysis or any other guidance material for use by SMEs in planning their activities. The resource persons in IP Offices could assist in the activity.

6.3 The larger picture:

6.3.1 IP as a national priority:

In recent years, many countries have recognised IP as a national priority and common strategy is often prepared to coordinate the activities of different agencies involved in IP activities, setting out national goals. Based on the national goals, objectives and action points are prepared for implementation by various governmental and non-governmental agencies.

The case of Japan: Japan has developed a national IP Strategy to become an IP-based nation in 2003 and the government at the highest level has been formulating the annual Intellectual Property Strategic Program since then. The recent IPSP was released on 8th of June, 2006. The strategy contains about 370 action points for various ministries and agencies setting targets for pursuing during the year¹³⁸. The IP Strategy headquarters which prepares the strategy works under the chairmanship of the Prime Minister and has all Cabinet Ministers of Government of Japan as its members. Other members include representatives from Academia, industry, Legal Circles, etc. The Ministries/Agencies are supposed to chart their action plan for pursuing the targets. For example, in the case of JPO one of the action points was expeditious grant of rights, setting targets very minutely.

The case of Peoples' Republic of China: The Peoples' Republic of China has been preparing a National Intellectual Property strategy. The Strategy intends to guide the country's IP work in the next 15 to 20 years. It has been formulated to facilitate the implementation of three national strategies as the strategy of revitalising the national through service and education; the strategy of building powerful nation based on talents; and the strategy of sustainable development. A separate development plan has also been prepared for handling IPRs¹³⁹.

¹³⁸ http://www.kantei.go.jp/jp/singi/titeki2/keikaku2006_e.pdf

¹³⁹ A general introduction about China's National Intellectual Property Strategy Formulation Work: http://www.sipo.gov.cn/sipo_English/specialtopic/others/200608/t20060803_105422.htm

The documents are available on the website¹⁴⁰. The information include overall targets for 11th Plan (in PRC), details about formulation and carrying out of national IP strategy, measures for IPR macro-administration, measures to be taken to improve efficiency and quality of examination, measures to upgrade IP consciousness of the entire society, etc.

6.3.2 IP Administrative Reforms and Strategic Plans for the IP Offices:

The United States Patent and Trademark Office (USPTO): The USPTO has prepared a five-year strategic plan designed to foster American innovation and competitiveness at home and around the globe which is available on its website. As per the contents of the report¹⁴¹, the main goals to guiding the agency from 2007-2012 are:

- (i) Optimising patent quality and timeliness;
- (ii) Optimising trademark quality and timelines; and
- (iii) Improve Intellectual Property Protection and enforcement domestically and globally.

The Patent Office of the United Kingdom (UKPO)¹⁴²: At the behest of the Chancellor of the Exchequer, Government of UK, Mr. Andrew Gowers, who was editor of the Financial Times from 2001 to 2005, conducted an independent review into the UK Intellectual Property System. The review was published on 6th December 2006 and is available on the website. As per the write up on the website¹⁴³, the review sets out a number of targeted, practical recommendations to deliver a robust Intellectual Property framework fit for the digital age. The principle recommendations of the review are aimed at:

- (i) Tackling IP crime and ensuring that rights are well enforced;
- (ii) Reducing the costs and complexity of the system; and
- (iii) Reforming copyright law to allow individuals and institutions to use content in ways consistent with the digital age¹⁴⁴.

The larger picture demonstrates that IP infrastructure and administration are priority areas in the national policy sphere of certain governments and also that reassessing the services of IP Offices in order to better them is a constant process.

¹⁴⁰ http://www.sipo.gov.cn/sipo_English/specialtopic/

¹⁴¹ <http://www.uspto.gov/web/offices/com/strat2007/>

¹⁴² The name is being changed to United Kingdom Intellectual Property Office with effect from April 2, 2007.

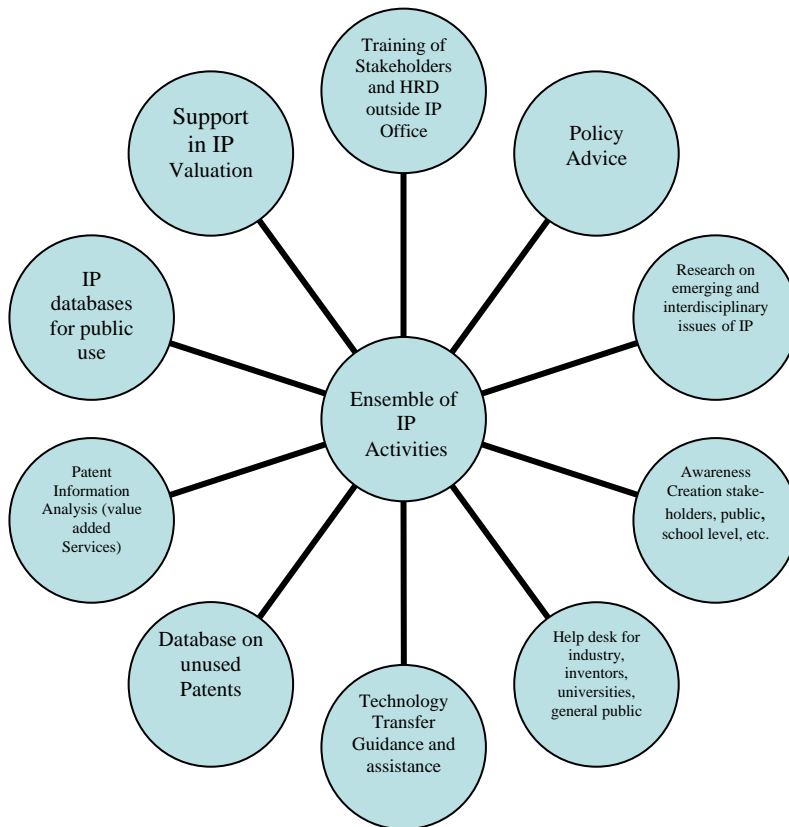
¹⁴³ <http://www.hm->

[treasury.gov.uk/independent_reviews/gowers_review_intellectual_property/gowersreview_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/gowers_review_intellectual_property/gowersreview_index.cfm)

¹⁴⁴ Government of UK website, *ibid*.

6.3.3 The IP Ensemble

The ensemble of IP activities other than the routine activities for examination and grant of rights has a very large scope and still expanding. In the socio economic development scenario, one agency or the other might have to address the activities in some way or the other in order to catalyse the innovation system. The ensemble of some activities is given below. In Japan most of these activities are addressed by various mechanisms of JPO and other agencies, whose activities have been described earlier.



6.4 Conclusion

The study of JPO is an attempt to gather ideas for modernisation of IP Offices in India from the understanding of the measures taken by JPO in establishing its IP infrastructure and administration. The various initiatives of JPO have proved to be very useful for the users and overall economic development of the country. As the IP infrastructure varies from one country to the other, the national priorities and the road map for development of institutions also varies. Suitable modifications might be required in adopting these measures by IP Offices in India depending on the differences in institutional structures. It is believed that the ideas described and the suggestions made from the experience of JPO will be useful with respect to the modernisation of IP Offices in India.

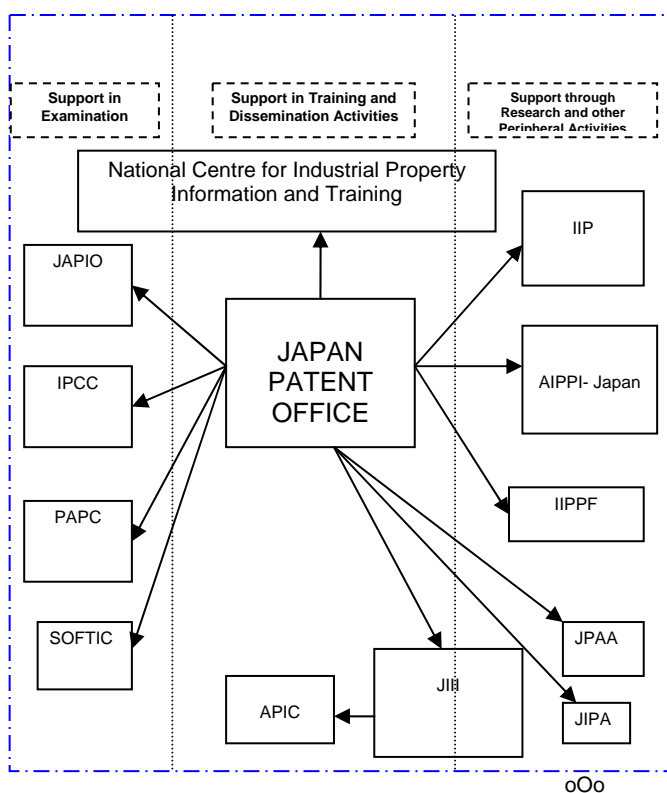
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Role of Associated Agencies in JPO's Activities

Activity at the IP Office	Agency involved	Nature of work carried out
Help desk	INPIT/JAPIO	Attending to general queries and advise regarding filing, etc.
Stage of filing of applications and e-filing	JAPIO	Maintenance of JPO databases
	PAPC	Capturing data from paper documents
	IPCC	Assignment of F-term, IPC, Preliminary checking of abstract and description
	JIII	Facilitating e-filing at regional centers
Gazette Publication	INPIT	Publication of gazettes
Library, databases and IPDL	INPIT	Creation and maintenance of library for use by examiners as well as public
Prior art Search	IPCC	Patent prior art search including understanding the content of invention, search and comparison
	JAPIO	Trade mark prior art search
Training of Examiners and other HRD Activities	INPIT	Training of examiners, appeal examiners, in house personnel, searchers, agents, industry, etc.
System Administration	INPIT	Recently relegated to INPIT
	JAPIO	

Other Activities:

A schematic representation of the role of various organisations involved in IP activities in Japan is given below:



History of Paperless System¹⁴⁵

Year	Major Initiatives
1984	Initiated Paperless Plan
1985	Patent document search system (F term) inaugurated
1986	Start of electronic inspection of comprehensive document databases
1990	e-filing enabled for patent and utility model applications Started electronic system for examinations and business processing within JPO
1993	Publication of official gazettes on CD-ROM
1993	Online dispatch Online inspection Peripheral procedures (electronic drafting), online demand/inspection
1995	Started accepting electronic applications in foreign languages
1996	Inauguration of cash payment system
1997	Inauguration of New Registration System
1998	e-filing through Personal Computers
1999	Formality Examination System for Patent and Utility Model Start of electronic data exchange of priority documents with European Patent Office Establishment of Intellectual Property Digital Library (IPDL)
2000	Acceptance of online applications for design and trademarks; Receipt of appeals online; CD-ROM Gazette for designs and trademarks; Online operations for PCT-Designated Office applications.
2003	Introduction of international data format of electronic filing (XML) for patent and utility model.
2004	Started accepting e-filing applications under PCT DVD-ROM Gazette for Patent and Utility Model
2005	Internet e-filing for patent applications enabled Electronic Payment system
2006	Official gazette via the internet

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¹⁴⁵ Source: Annual reports of JPO and brochure on JPO activities & JPO Information Services Division

Training Programs Conducted at JPO/INPIT¹⁴⁶

A. Training for Assistant Examiners, Examiners and Appeal Examiners

Stage at which the training is given	To whom	Purpose /Aim
Induction Training for Assistant Examiners	Assistant Examiner of Patents	To acquire knowledge about basic policy, fundamental knowledge and skills required for examiners; Basic legal knowledge; Rudimentary expertise about IP laws and treaties; Examination practices.
Second year of entrance into office	Assistant Examiners	Expert knowledge on IP laws and treaties; Master knowledge related to practical patent examination and skills to deal with actual cases;
Fourth year of entrance into office	Assistant Examiners	Extensive and broad laws and examination practices such as the European and American patent and trademark system, technology transfer organisations and analysis of cases.
Basic Training	Examiners	To develop enlightened and skilled examiners through the cultivation of professional knowledge concerning the examination of applications, etc. related to industrial property rights including new utility model assessment documents and international investigation and preliminary examinations.
With more than one year experience	Examiners	To expand their working knowledge about patent examination practices mainly through international efforts and to broaden their perspective as examiners and as administrative officials
With more than three years experience	Examiners	To expand knowledge about examination practices through case studies, aimed at achieving fair, quick and adequate examination proceedings and to broaden their perspectives as examiners and as administrative officials
Training for Chief Examiners	Chief Examiners	To enhance the management ability so that they will help all the staff demonstrate their best capabilities and activate the organisation
Training for becoming Appeal Examiners	Examiners (6 th year or later of being appointed as examiners)	Acquire abilities and knowledge required of appeal examiners, mainly by expanding their expertise about appeals and trials related to IPRs
Basic Training for Appeal Examiners	Appeal Examiners Also for Patent	To learn knowledge to deal with procedures and examinations unique to litigation cases

¹⁴⁶ Based on Implementation guidance for training programs provided by JPO and the Lecture notes on the training system of the JPO, Takao Kondo, September 20, 2006.

	Attorneys	
Training for Chief Appeal Examiners		To develop the participants' legal mind and to maintain and enhance the legal analysis abilities as well as the application skills required for chief appeal examiners
Chief Appeal Examiners and Appeal Examiners	Chief Appeal Examiners and Appeal Examiners	Learn practical knowledge and skills they should have to act as a designated representative at a suit against appeal decision.

B. Training for Administrative Officials and Other Specialised Training Programs

Stage at which the training is arranged	To whom	Purpose /Aim
Training for Administrative officials	Newly appointed officers	Basic knowledge the national government employees should have and basic knowledge JPO officials should have on IPR administration
Middle ranking administrative officials	Administrative Officers	To improve skills to deal with practical affairs, planning, presentation or work; to learn laws concerning patent applications and administrative procedures concerning policies for IPR administration and acquire morality and culture national government employees should have.
Newly appointed Section chiefs or equivalent		To improve skills to deal with practical affairs, planning, presentation or work; to enhance management and coordination skills: to learn laws concerning patent applications and administrative procedures concerning policies for IPR administration and acquire morality and culture national government employees should have.
Section Chiefs with more than 2 years of experience		To enhance management skills they should have to work at the positions and to improve self-management abilities
Specialists in Formality examination and registration	Administrative staff	To master expert knowledge on formality examination of applications relating to IP
Training of Managers	Assistant Directors or equivalent	To acquire necessary knowledge and problem-solving skills in their workplaces
General Training	Directors and General Managers	To acquire necessary knowledge and problem solving skills, management skills required for educating subordinates and formulating good organisations.
Language Training	English and other languages	English training is divided into eleven courses based on purpose. Language courses in German, French, Chinese and Korean are also provided.

The completion criterion for these training courses is broadly based on the following:

With certain exceptions:

- (i) Attendance in two thirds of sessions;
- (ii) Scores in each of the subjects must be over 40 out of 100 and average score of all subjects must be over 60 out of 100; and
- (iii) Passing an oral test on subjects relating to IPRs.

Training for Special Knowledge and skills

Legal/ technical/practical training/ seminars, ,etc	To acquire necessary practical knowledge
State of the art technologies	To acquire knowledge regarding state-of-the-art technologies such as life science, information technology, environment, nano-technology and material technology
Computer skills	To enhance pc operation skills

Training by Dispatching

To Universities/ colleges	To acquire and improve their knowledge on state-of-the-art technologies
Overseas	To acquire and improve their knowledge on state-of-art technologies and to obtain updated information on legal system research activities related to IPRs by working in foreign colleges, universities, research institutions and by participating in symposiums.
Academic Conferences, etc.	To acquire knowledge related to state-of-the-art technologies required for implementing their job practices

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Details of the International Cooperation Activities of JPO¹⁴⁷

Recipient Country	Project title	Major Components of Assistance	Implementing Agencies
The Philippines	Establishment of trademark word system, trademark clerical work system, trademark management system; Modernisation of IP administration Project; Follow up cooperation	Trademark systems. Establishment of administrative processing system for human resource development and administrative processing development	JPO/JICA (Since 1995)
Viet Nam	Modernisation of IP administration project; Utilisation of IP Information Project	Establishment of administrative processing system for IPRs; For effective control and promotion of IPRs.	JPO/JICA (Since 2000)
Thailand	Industrial Property Rights Information Centre (IPIC) Project	Establishment of patent search system, external information dissemination system.	JPO/JICA/ DIP, Thailand (Since 1995)
Indonesia	Study of IPR administration through utilisation of Information and Communication Technology.	To enhance information and communication technology utilisation capacity.	JICA/JPO
Malaysia	Development study for Utilisation of Information Technology for Industrial Design System	Research study for construction of an industrial design system for IP Corporation of Malaysia	JPO/JICA

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¹⁴⁷ http://www.jpo.go.jp/rireki_e/index.htm
and http://www.jpo.go.jp/torikumi_e/kokusai_e/pdf/ipcoop_asia-pacific_e/2006wto.doc

Research Studies using the Patent Information

Title of the Research Paper/Study	Author(s)	Abstract/ Conclusions in Brief
Japan's Patent System and Business Innovation: Reassessing Pro-patent Policies ¹⁴⁸	Kazuyuki Motohashi, Institute of Innovation Research, Hitotsubashi University and RIETI.	Increases in patent applications in late 1990's are attributed to a surge of IT Patents and Pharmaceutical ones. This is because Patent protection has been gradually introduced in these fields; The study concludes that though the impact of recent pro-patent policies on firm's innovation was not so clear, it was clear that IP section inside firm plays more active role in firm's innovation strategy formulation, particularly in pharmaceutical firms;
Licensing or Not licensing?: Empirical Analysis on Strategic Use of Patent in Japanese Firms ¹⁴⁹	Kazuyuki Motohashi (April, 2006)	Using the data from JPO's survey of Intellectual Property Activities in 2004, a non-linear relationship between firm size and licensing propensity has been identified in the study.
Science Linkages in technologies patented in Japan ¹⁵⁰	Schumpeter Tamada, Yusuke Naito, Kiminori Gemba, Fumio Kodama, Jun Suzuki and Akira Goto (2004)	Constructed science citation index on the basis of the academic papers cited in the patent applications by using the method of data mining. Then they extracted non-patent references from all granted patents and counted the number of citations. According to the authors, this number shows the strength of the linkage between science & technology and therefore is called "science linkage index". The science linkage indexes among different patent classifications found to differ significantly from each other. The technologies related to biotechnology were by far the closest to science. According to the authors, the trend suggests that the process of creating new technology differs from technology to technology.

Economic Analysis of Statistical Data Relating to Patents¹⁵¹

The data of Survey of intellectual property related activities of JPO in the Fiscal Year 2002 was analysed on a number of parameters. Some of the research results are given below:

Structure of unused patents and their factor analysis	Sadao Nagaoka, Yoichiro Nishimura	As a result of aggregating the exploitation rate of patents by size of company by market (domestic/foreign) and by industry, the following were revealed: (i) the larger the size of the company, the lower the self utilisation rate and the overall exploitation rate (including exploitation by other companies) would be and the exploitation rate is lower for domestic patents than foreign patents;
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¹⁴⁸ RIETI Discussion Paper Series 03-E-020

¹⁴⁹ RIETI Discussion Paper Series 06-E-021

¹⁵⁰ RIETI Discussion Paper Series 04-E-034

¹⁵¹ IIP Bulletin 2004

		(ii) There is a large gap in the self exploitation rate by industry. The rate is lowest for pharmaceutical industry and highest for the construction industry; (iii) small and medium sized companies have a stronger tendency to exclusively exploit their own patents and to release unexploited patents by licensing-out the patents they could not exploit themselves to other companies;
The relationship between a company's profit margin and technology trading/environmental activities	Yukihiro Hiraiwa, Yosuke Okada	(i) The tendency of owning foreign patents increases as the size of the company becomes larger, and the tendency is strong for companies that have acquired environmental ISO; (ii) Companies with a high self-utilisation rate within Japan are negative about utilising foreign patents. On the other hand, companies with high per capital royalty income tend to own foreign patents; (iii) The industry attribute is found to have a large influence on the tendency of owning foreign patents.
The patent system and innovation of R & D intensive small and medium sized enterprises (SMEs)	Kazuyuki Motohashi	With regard to the exploitation of the patents owned, smaller and younger companies are found to exploit their own patents less and have other companies exploit their patents more. Conversely, they exploit other companies' patents less actively compared to large companies. This shows that SMEs lacking managerial resources are actively licensing-out their R & D results to other companies since it is difficult for them to increase business profitability by exploiting their R & D results by themselves. The patent system is important particularly for SMEs lacking managerial resources as a system for establishing such an external technology market.

Construction of Japanese Patent Database for Research on Japanese Patenting Activities ¹⁵²	Akira Goto, Kazuyuki Motohashi Research Centre for Advanced Science & Technology, University of Tokyo	This project was financially supported by JPO. The authors have constructed a Japanese Patent database for research on Japanese Patenting. The tool is available at Institute of Intellectual Property Website. They found that citation information in the database constructed is useful as a tool for analysing the value of patent and cumulative nature of innovation. They claim that their results confirm the usefulness of patent citation data for analysing the nature of innovation process.
Reform of Patent system in Japan and challenges ¹⁵³	Sadao Nagaoka, Institute of Innovation Research, Hitotsubashi	The paper focuses on three identified challenges, namely: - Efficient patent examination; - Efficient utilisation of information disclosed in patent documents for industrial research; - The patent thicket problem.

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Institute of Intellectual Property website at: <http://www.iip.or.jp/e/patentdb/paper.pdf>

¹⁵³

Available at <http://www.nistep.go.jp/IC/ic060110/pdf/4-2.pdf>

	University, January 2006	<p>As far as the efficient utilisation of disclosed information is concerned, the paper, <i>inter alia</i>, makes the following observations:</p> <p>(i) Japanese firms regard patent as the most important source of information on rivals' R & D (Cohen, Goto, Nagata, Nelson and Walsh (2002));</p> <p>(ii) The patent examiners in Japan often cite only non-granted patents as the basis of rejection on novelty and/or inventive step grounds (Nagaoka (2005)).</p> <p>The paper, <i>inter alia</i>, draws the following conclusions for a patent system for innovation:</p> <p>(i) Facilitation of the utilisation of disclosed information for R & D and patenting decision;</p> <p>(ii) Exemption for research on subject matter.</p>
Management and Utilisation of Intellectual Property at Universities ¹⁵⁴	Takahiro Hiraiwa, 2005, Researcher, IIP	Discussing the IP management activities of various Universities in Japan, it is observed that the IP activities of the Universities are still in the process of creation of IP only, in the IP activity cycle of Creation, Protection and Utilisation.

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Dissemination of Information on Facilities and Facilitators

Creation Stage	Protection Stage	Exploitation Stage
<p>Information about those agencies providing financial/technical/administrative support to guide individuals in developing their ideas into what is protectable under the IPR legislations in the country and abroad.</p> <p>Helpdesks demystifying the concerns or misconceptions people might have about IPRs, etc.</p>	<p>Information about agencies providing technical and financial assistance for protection of mature ideas ready to be protected.</p> <p>This might include any assistance ranging from drafting of applications, protection procedures including PCT requirements, financial support for prosecution at the IP Offices and in some cases development of prototypes, appeals to legal prosecution in India and abroad, etc.</p>	<p>Information about agencies providing technical and financial assistance for commercialising the IPRs.</p> <p>The facilities might range from IPR Valuation, Feasibility of commercial production, Technology Transfer guidelines, legal drafting of agreements to royalty calculations, etc.</p>
I. Government Agencies		
<p>(i) Ministries/Department and various schemes for R & D supporting basic and advanced research;</p> <p>(ii) Guidelines on IPRs from various Ministries/ Departments focused on specific areas of research, for example, biotechnology, agricultural research, industrial research, etc.</p> <p>(iii) Ministries supporting industrial activities in large and SMEs.</p> <p>(iv) Information on free search websites for prior art search, etc.</p>	<p>(i) Guidelines on protection, IP Office brochures.</p> <p>(ii) Patent Facilitation Centre, TIFAC, DST;</p> <p>(iii) National Research & Development Corporation, DSIR;</p> <p>(iv) National Innovation Foundation;</p> <p>(v) Some initiatives taken by State Governments, such as IPR Facilitating Cell of Andhra Pradesh Technology Development & Promotion Centre (APTDC), TIFAC and CII and Patent Facilitation Cell of Government of Kerala.</p> <p>(vi) IPR Cells in Universities</p>	<p>(i) Patent Facilitation Centre</p> <p>(ii) NRDC</p> <p>(iii) Some initiatives taken by State Governments, such as IPR Facilitating Cell of Andhra Pradesh Technology Development & Promotion Centre (APTDC), TIFAC and CII and CII and Patent Facilitation Cell of Government of Kerala.</p>
II. Inter-Governmental or Non-Government, Non-Profit Organisations		
<p>(i) Industry associations like Federation of Indian Chambers of Commerce and Industry, Associated Chambers of Commerce and Industry, Confederation of Indian Industry and their IPR advisory cells or institutes;</p> <p>(ii) Helpdesks</p>	<p>(i) Industry Associations;</p> <p>(ii) Honey Bee, etc.</p>	<p>(i) Technology Transfer guidelines facilitators such as Asia Pacific Centre for Technology Transfer of UNO, etc.</p>

(iii) GRAIN, Honey Bee, etc.		
III. Profit sharing Organisations		
<p>(i) SIDBI</p> <p>(ii) Venture Companies such as ICICI Ventures, IDFC Asset Management, HDFC, UTI Ventures, etc to name a few.</p> <p>(ii) Limited companies (which may also sponsor the next stages of development of ideas);</p> <p>(iii) Collaboration with Universities, incubation centres or other innovation centres.</p>	<p>(i) SIDBI</p> <p>(ii) Venture Companies such as ICICI Ventures, IDFC Asset Management, HDFC, UTI Ventures, etc to name a few.</p> <p>(iii) Limited companies (which may also sponsor the next stage of development of ideas);</p>	<p>(i) SIDBI</p> <p>(ii) Venture Companies such as ICICI Ventures, IDFC Asset Management, HDFC, UTI Ventures, etc to name a few.</p> <p>(iii) Limited companies</p> <p>(iv) Technology Transfer intermediaries.</p>
IV. Other General Features that might form part of the Information		
<p>(i) Addresses and procedures for filing applications with links to all industrial property offices and other intellectual property registries;</p> <p>(ii) The list and links to legislations and rules governing various IPRs;</p> <p>(iii) Links to Frequently asked questions;</p> <p>(iv) Links to Educational Institutions providing specialised programs in IPR laws, etc.</p> <p>(v) Links to on-line training programs and IP resources;</p> <p>(vi) Links to WIPO and other frequently visited resource websites in IPR domain;</p> <p>(vii) Helpdesk where specific queries could be answered by experts on the subject;</p> <p>(viii) Draft legislations/rules seeking comments;</p> <p>(ix) Brief status positions on issues of current national and international importance that may require public debate.</p>		

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