

Revival in the fight of Trachoma

Ten years of fight in the kingdom of Morocco.

1991-2001.

**Yearly Report of the French League Against
Trachoma and of IOAT for 2002.**

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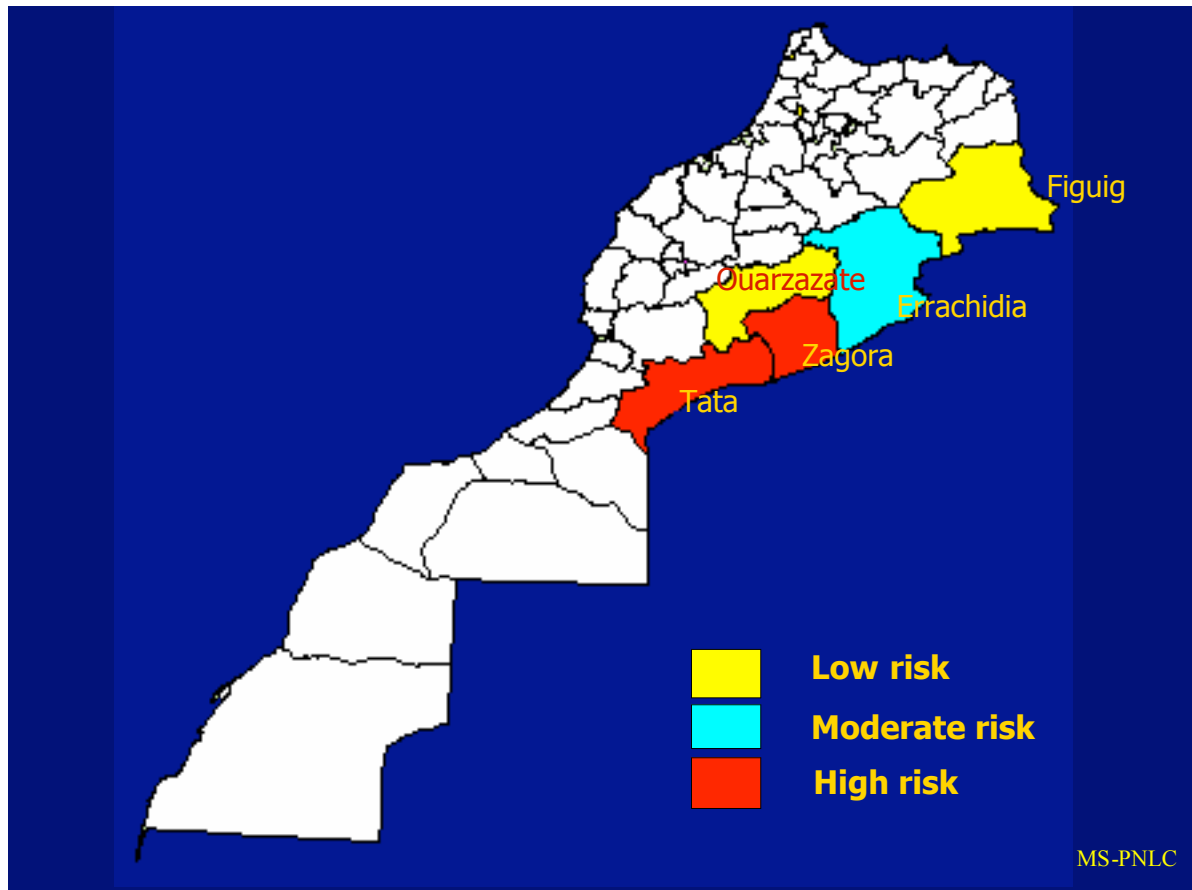
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CONTEXT

There is not a single Moroccan among two or three generations who does not remember the years where the fight of the transmittable ophthalmias represented one of the major and permanent activities of the Ministry of Health. Either at the level of coranic or primary schools or at the level of the ophthalmological annexes created to this end, the instillation of the ophthalmic cream was practiced with rigor even if the small pupils feared this practice. To speak about the fight of trachoma, today without a skimming of the history would be an unpardonable omission. Before stating all activities led against this sickness between 1991 and 2000, we will in the first part give an overview of the history of the fight of trachoma in Morocco that has started from the beginning of the 20th century. We will report then how the Ministry of Health of the Kingdom of Morocco has renewed with the fight of trachoma after an eclipse of 10 years. We will approach the analysis of the situation of provinces concerned by the endemic trachomatous on the géo-demographic and epidemiological level, as well as on the sociological level. In the third part of this work we will discuss strategic plans that have been used during these 10 years; the report will include equally the great realizations of the program as well as recorded results during the evaluations led all along this decade.

INTRODUCTION

Recent epidemiological reports have confirmed the reality of trachoma in the Kingdom of Morocco. In spite of many years of specific struggle, this disease still represents an important cause of avoidable blindness in the Kingdom of Morocco. Indeed, the improvement of the standard of living of the majority of the population closely correlated to the economic development that the country has known in the course of these last decades, has notably regressed this bane, to make it even disappear totally from the majority of Moroccan cities and from the greatest part of the national territory. However "pockets" of residual endemic of more or less gravity still afflicts some provinces in the Southeast of Morocco: such as the provinces of Errachidia, Figuig, Ouarzazate, Tata and Zagora.

There exists in Morocco today a National Blindness Control Program (NBCP). It is at its level that priorities are fixed; it mobilizes and distributes resources, provides a support at all levels of ocular care, organizes the training and the education in ocular health and evaluates its own activities. Since its installation the NBCP benefits from substantial support and faithful partners: the WHO first of all then gradually that of other international non governmental

organizations (NGO) such as ITI, HKI or the Edna McConnell Clark Foundation. Thus, specific fight activities, increasingly numerous and better targeted, were installed in the framework of the S.A.F.E. strategy and in the approach recommended by the ALLIANCE of the WHO for the World Elimination of the blinding trachoma from now to the year 2020. It is necessary to note that the Kingdom of Morocco has played the first role in the creation of this Alliance.

The four components of this strategy are operational today and the NBCP could rely on national partners as the Ministry of National Education (MNE), The Ministry of Employment, of the Social Development and of Solidarity, the Ministry of Equipment, the National Office of Drinking Water, Hassan II Foundation of Ophthalmology in order to consolidate its activities forever.

The resumption for the fight of trachoma, which has known a generalized disaffection for more than a decade, joys actually of will and of a political commitment which is on the field translated by the availability of human resources, mainly, motivated more than ever to destroy this bane by the year 2005.

700 000 persons benefit yearly and freely from the azithromycin and more than 21 000 persons were operated on and have escaped the risk of becoming blind. Similarly to those curative actions, activities of animation and education are particularly focused upon vulnerable groups: Women, schooled children etc. on the other hand, the quinquennial plan of the Moroccan government for years 2000 - 2004 presents real opportunities for the elimination of the blinding trachoma at the level of regions still endemic; They are actions of socio economic development as the encouragement of non agricultural activities in the rural milieu, the generalization of schooling, elimination of illiteracy, the promotion of woman and youth and to the fight of poverty. Those important and synergetic actions could alleviate the economic marginalization and vulnerability of the population of the endemic provinces.

HISTORY OF THE FIGHT OF TRACHOMA IN MOROCCO

The fight of trachoma and ocular sicknesses has started since the first years of the protectorate; in cities, and everywhere where a hospital existed, ophthalmology annexes were installed and brought care to ocular invalids (1, 2, 3). This fight has extended widely and progressively during the great development of advanced medical training and the progress of the fight of endemic sicknesses (malaria, typhus, plague...). Great specialists and experts as Delanoë, Pagès, Reinards, Kupka, Nyzetic as well as international agencies such as the WHO and the UNICEF have contributed to the reduction of the endemic trachomatous at the national level (4, 5, 7, 9, 10)

The first Moroccan statistics on the trachoma date of 1927 until 1952, it was admitted that the trachoma raged on all the territory of the country, with a greatest frequency in its southern part

(1, 2). Information prior to 1952, interesting on the clinical sphere and on the evolution of the sickness, remained difficult in interpretation on the epidemiological sphere, because, quite often, no clear distinction was made between the inflammatory trachoma and the cicatricial trachoma (11). In this bibliographical context, the references are limited to the inquiries undertaken by Kupka and collaborators between 1962 and 1965 (9), in regions of Errachidia, Ouarzazate, Tata and Goulmima where the global prevalence of the trachoma of all McCallan stages reached, depending on zones, 85% to 99%. The proportion of active cases compared to the totality of cases varied between 41% and 63%. The trichiasis affected 2 to 7% of the population and the relative gravity of the trachoma was always noticed in the female sex group.

Between 1953 and 1971, Morocco in collaboration with the WHO and the UNICEF, has been one of the pioneers concerning the anti-trachomatous struggle. Physicians and nurses have been initiated and had undergone internships of improvement in the Ophthalmology National Center of Rabat-Salé. After this development, teams have been formed and dispatched on all the national territory particularly at the level of the valleys of Draa and Dadès to carry the therapy to the population considered then among the poor and disinherited people of the country. These first campaigns have been led in a methodical and scientific manner. The results exceeded hopes at the end of these campaigns to such an extent that residents disputed the honor to receive teams; populations that were not in the circuit came from very far to request the cream. This effort has been continued during long years under the aegis of the Ministry of Health, these campaigns have been maintained and included campaigns of sensitizing the population by the projection of films commented on the role and merits of the hygiene and means to nurse oneself. It is necessary to signal that the distribution of medicines was gratuitous. These campaigns were accompanied with other activities in favor of the child and focused on the school environment where ophthalmologists visited schools, and made sure that the percentages of children affected and executed necessary treatments.

Since 1971, the strategy has been modified several times, to be reduced from 1984 to an annual campaign of distribution of cream in the months of October and November in 13 meadow Saharan and Saharan provinces (3).

The first revision has taken place in 1971 and consisted in the operation of self-treatment consolidated by the placement at the disposal of the population of the ophthalmic cream in the tobacco shops. Screening and treating campaigns (by visits at home) were maintained in about twenty provinces.

In 1975, there has been a 2nd revision of the strategy following the analysis of the epidemiological situation made on the basis of provinces' declarations and on focussed studies. The revision proposed a double approach:

- A specific strategy for the school environment was based on the organization of national days of fight of conjunctivitis on a national scale and concerned all coranic and primary schools. This approach consisted in the application of chlortetracycline at 1% cream to the totality of pupils twice per day during three days in the course of the first trimester of the academic year.
- A strategy for the non-school environment concerned the totality of the population of 14 Saharan provinces. The treatment consisted in the application of the ophthalmic cream during five consecutive days at the rate of two instillation per day for 6 months in row (of January to June).

In 1984, officials of the Ministry of Health have introduced a third revision that limited the intervention to a distribution campaign of chlortetracycline at 1% in 13 Saharan provinces.

Since then, no evaluation on the trachoma or the conjunctivitis has been done based on epidemiological data, except of the declaration of cases in the framework of the system of supervision transmittable diseases.

THE RESUMPTION OF THE FIGHT

In the Kingdom of Morocco, although the fight of ocular and blinding diseases has been since long dates a major health preoccupation, problems of blindness and decline of vision have taken by 1990 an important place among sanitary priorities of the country. During this same year, the reorganization of the Ministry of Health at the level of its central administration, created the Direction of the Epidemiological and Sanitary Programs within its bosom a central service of the fight of ocular diseases whose objective was to implement a National Fight Program against the blindness. The WHO Program of Prevention of Blindness has been then solicited to help the Moroccan officials to put in place an ocular health policy adapted to sanitary and socio-economic contexts of the Kingdom.

Thus, Doctor Björn Thylefors first of all, then Doctor André Dominique Négrél have undertaken missions in Morocco. These missions returned in the framework of the Biennium WHO -Ministry of the Health: MOR/PBL/001 project and whose objective was:

- To evaluate activities of fight of transmittable ophthalmia,
- To frame a national seminary on the integration of primary ocular cares within basic health cares.

At the end of their missions, the two experts had formulated the following recommendations:

In the short term

- To continue the project of integration of primary ocular care within basic health cares and to introduce there the training of health agents on the simplified coding system of the trachoma and a trichiasis surgical technique,
- To undertake as soon as possible an epidemiological inquiry on the prevalence and the gravity of trachoma in a southern province of Morocco, because of the absence of recent and reliable data on the trachoma,

In the medium term

- To undertake a national inquiry on causes and the prevalence of visual deficiencies in order to elaborate a national blindness fight programs.

These three recommendations were going to be the trigger in the resumption of the fight of blindness in general and especially the fight of trachoma, since some months later, an inquiry on the prevalence and the gravity of trachoma were initiated and realized in the province of Ouarzazate in collaboration with the WHO Program of Prevention of Blindness. This study had then allowed the Kingdom of Morocco to renew with a tradition of research on trachoma, even if this disease does not represent a problem of health except from five southern provinces of the Kingdom. Today, all specific fight activities against trachoma, which have started in 1991, remain and are reorganized in accordance with epidemiological evaluations that are regularly undertaken.

ANALYSIS OF THE SITUATION

Epidemiological data

The national inquiry on the prevalence and causes of the blindness and declines of vision realized in 1992 (19) estimated that approximately 360 000 Moroccans present signs of inflammatory trachoma in the country and that they have to be treated and regularly followed. The inquiry noticed that still 25 000 persons present a serious visual deficiency due to trachoma, while the trichiasis affected between 35 000 and 40 000 persons and that only a surgical care would prevent the majority of them to become blind.

In the global prevalence of trachoma (all signs of trachoma confused), estimated at 5.4% for all the country, the study underlined that practically all cases concerned the rural world of 5 provinces of the Southeast (Errachidia, Figuig, Ouarzazate, Tata and Zagora in the occurrence). The prevalence of the active

trachoma has been estimated at 1.4% that is a proportion of approximately 25% of the trachomatous population. Women and children were the most affected. In 1993, the NBCP has undertaken an inquiry on the prevalence and the gravity of the trachoma at the level of each province (20). These inquiries, whose methodology had conformed to procedures of poll in clusters proposed by the WHO Program of prevention of blindness, were going to confirm the reality of trachoma in this region of the Southeast of Morocco. Trachoma raged there to the endemic and serious state. The global prevalence of trachoma (at least a sign of trachoma) varied between 24.3% in Tata and 46.4% in Errachidia. The active trachoma as it is defined by the simplified coding system (FT and/or IT) was found at the level of all four cluster provinces; its prevalence all age and sex groups varied between 7.8% in Figuig and 20.2% in Errachidia. The prevalence of blinding complications of the trachoma was going to confirm the blinding character of trachoma since the trichiasis was found in a global proportion including between 1% in Figuig and 2.2% in Ouarzazate while corneal opacities were estimated between 1.2% in Figuig and 3.3% in Ouarzazate. This inquiry revealed equally that:

- Children aged less than ten years constituted the reservoir of the germ; the prevalence of the active trachoma in this age group was estimated between 5.6% in Figuig and 30.5% in Ouarzazate.
- The female group was more affected by the trichiasis and corneal opacities in a proportion of 2/3.
- The trichiasis was equally found at children of less than 10 years at the level of three provinces.
- The trachoma was a cause of important corneal blindness in the four provinces (0.8% of central corneal opacity responsible of decline of vision and bilateral blindness)

The epidemiological situation of trachoma deserved therefore a particular attention on the level of the public health particularly in these provinces where all indicators were largely superior norms recommended by the WHO. The trachoma, avoidable blinding disease became an important target of the NBCP in this southern region of Morocco.

Table 1: Prevalence of different evolution forms
Of trachoma and its complications (Morocco - 1993)

EVOLUTIVE FORMULA	Children <10 years old (%)	Persons > 10 years old (%)	Global %
ERRACHIDIA			
At least one sign of the trachoma	33.8	51.9	46.4
Active trachoma (FT and/or IT)	28.0	16.6	20.2
- Follicular trachoma (FT)	26.0	15.1	18.4
- Intense trachoma (IT)	9.1	3.7	5.4
Cicatricial trachoma	5.1	30.3	22.5
Entropion /trichiasis (TT)	0.2	2.8	2.0
Cornea opacities (CO)	-	4.2	2.9
OUARZAZATE			
At least one sign of the trachoma	33.9	44.7	40.8
Active trachoma (FT and/or IT)	30.5	8.6	18.0
- Follicular trachoma (FT)	25.2	8.5	14.7
- Intense trachoma (IT)	12.8	3.0	6.7
Cicatricial trachoma	3.4	36.1	22.8
Entropion / trichiasis (TT)	-	3.9	2.2
Cornea opacities (CO)	-	5.2	3.3
TATA			
At least one sign of trachoma	26.9	30.1	29.0
Active trachoma (FT and/or IT)	25.8	15.8	19.2
- Follicular trachoma (FT)	23.9	13.0	16.8
- Intense trachoma (TI)	11.5	5.7	7.7
Cicatricial trachoma	0.5	11.9	7.9
Entropion /trichiasis (TT)	0.1	2.6	1.7
Cornea opacities (CO)	-	2.4	1.5
FIGUIG			
At least one sign of the trachoma	8.2	29.9	24.2
Active trachoma (FT and/or IT)	5.6	8.5	7.8
- Follicular trachoma (FT)	3.6	8.5	5.3
- Intense trachoma (IT)	2.0	4.2	3.6
Cicatricial trachoma	1.7	18.6	14.1
Trichiasis/entropion (TT)	0.2	1.2	1.0
Cornea opacities (CO)	-	1.7	1.2

2. Data and dominants of basis of the environment

2.1. - Demographic and physic constrains

The five provinces concerned by the endemic trachomatous spread on an area of 183 000 Km², that is 25% the total area of the country. With a population of approximately a million and half of residents, these provinces present a density of population (between 2.1% in Figuig and 16.7% in Ouarzazate) well below the national average that is 36.7%. The rural character of these territories is a more manifest bit, since 75% of the total population of these provinces lives in the countryside. Despite all efforts undertaken by the Ministry of the Health, the infrastructure and the sanitary frame of this region remain relatively deficient:

- 200 trainings of basic health cares and 14 hospitals among which 7 rural hospitals, 2 hospitals of specialties and 5 provincial hospitals constitute the essential of infrastructures,
- Some 1500 professionals of health practicing in 5 provinces private and public sectors confused. Among them, 250 physicians that is a ratio close to a physician for six thousand residents; 80% of these physicians practice in the public sector.

2.2. Environmental and socio-economic constraints

The contingencies of physical or demographic order are to replace in an environment where elements of the nature and activities of the population present number propitious factors to ocular fondness and to the trachoma especially. Arid regions or semi - desert, these provinces have a rate of frequency of storms of sand and dusty perturbation of the most characteristic to the country. These provinces are equally characterized by the weak economic power of populations, by agricultural subsistence activities and by the rarity of water. This last, being a fundamental datum in the environment of these territories, the question of hygiene in general and the corporal hygiene especially constitutes a factor of first order for the fight that concerns us here. This to what is added of course the gigantic problem of the highway maintenance and aqueducts in all these provinces.

In such environment where, to the basis, of physical plans, geographical and demographic, number of factors favor the endemic trachomatous. some possible human activities are equally carrier risks such that the production of dates and the breeding that, no matter what modest, constitutes for the inhabitant of these regions a wealth such that it guards it as close as possible to its furnace, reserving it the greatest space of its space of life .In several observed cases,

one would be prone to tell that the inhabitant adapts the small space that remains, once it has first fitted the pens for its cattle. The agriculture of subsistence and the poverty of grounds give, in these conditions, an exceptional value equally to dung that, thereby, will be stocked as close as possible to its proprietor, it is to tell to the threshold, or even, inside its walls.

3. Trends of knowledge, Attitudes and Practices (KAP).

In 1995, the NBCP announced a KAP study in collaboration with the American foundation Edna McConnel Clark (ref) whose objectives were:

- To fix degrees and the nature of perceptions of trachoma at the different populations,
- To gauge the degree of availability at these populations to adhere to the vision of the NBCP and to recommendations of behavioral order that follows it.

This investigation, made on a random sample among the population to risk and among some professionals of health that are in charge, had used the maintenance of group semi-directive and semi-collective (focus group) as well as the deepen individual interview. Women and man groups among users of the different services of health had been probed; the poll has concerned also a random professional group of health and a group of primary and secondary level pupils old between 12 and 15 years.

3.1. Trends of the adult population

At men and women, the general feeling, perhaps the intimate conviction was a certain "fatalism" linked to the hostility and durability of the geography and the climate of these regions. More specifically the poll had been able to release as great trends:

- An important availability at this population to have recourse to services of the ministry of health to what concerns ocular fondness and trachoma especially,
- This population, in its majority did not conceive valid solution, in which it has a conclusive experience, as the cream. A solid belief in the efficiency of this treatment whatever is the stage of fondness,

- In its totality, this sample of population did not believe at the necessity of having a preventive behavior of individual corporal hygiene ,
- In an important manner, the probed population was permeable to the charlatanism, without hesitating to have recourse to traditional healers to all stages of fondness (trachoma, trichiasis perhaps even cataract).
- In spite of everything, this population expressed clearly a need of information and education by making total confidence to professionals of the Ministry of Health.

3. 2. Trends of pupils

- Probed pupils did not make connection between their behavior and affection of eyes (hygiene, frequent contact with dung and garbage deposits, vague grounds...) while they benefited regularly but apparently without impact, from actions of education and information on the subject.
- The ophthalmic cream, real freezing of the behavior at the adult population, was visualized by the schooling population as a "game" an imposed obligation by school and the world of adults whose it does not see the real connection with the becoming of their health in a long term .
- These youths underlined strongly their will and even their enthusiasm to participate in a campaign of Information, Education and Communication (IEC) by planning to be ambassadors of the program of fight beside adult population and by suggesting the use of radio and television.

3. 3.Tendency among health professionals

- In their different profile, professionals of health expressed a need to consolidate their training.
- The ophthalmic cream constituted also in a sense for KAP of this population a sort of freezing to the extent that they saw it in their manner a "miraculous key" for them , the cream is a preliminary to the benefit of all ocular care .

3.4. Trends of local decision makers

For the local decision makers (authority ,chosen ,administrator ...),the problem of these regions was linked to its isolation to the extent that the state in the central level does not provide the required interest to the deficit of infrastructures of these provinces; that concerns the great programs of territory adjustment (roads, highway maintenance, drinking water ...).The aspect IEC or education of the public seemed consequently to depend , beforehand ,on the promotion of these infrastructures.

The invocation of the isolation of these regions concerned equally human resources allocated by central services; the local decision makers deplored the attitude of the managerial staff of social and technical ministries that they make their best for not to be allocated in these provinces ; a feeling of "forgotten provinces" was omnipresent .

In front of this problematic, local decision makers seemed to be ready to adhere to the suggestion to coordinate more their actions in a federative step that would unite the five provinces, in several levels.

To conclude, it appears that trachoma at the level of these regions is not strictly a medical problem , it is essentially and especially the reflection of a socio-economic problem .The main factors to combat "the real enemies" are :

- The disfavored rural communities,
- Illiteracy,
- Family overcrowding
- Lack of water,
- The accumulation of animal wastes,
- The domestic fly proliferation.

In sum, the enemy to combat is not chlamydia but poverty.

ORGANISATION OF THE FIGHT OF TRACHOMA

From stated data responsible of the Ministry of Health had erected the elimination of the blinding trachoma as being an important target. The fight of this disease was therefore integrated in the framework of the NBCP itself,

integrated in the national health system. The financing of its activities was insured by the budget of investment of the state thanks to a loan of the World Bank in the framework of two projects:

- "Project investment in the sector of health : PRISS"(project n° 3171/MOR) between 1990 and 1995,
- "Project of social priorities: BAJ" (project n°4026-0/MOR) for the period 1996-2001.

The latter had for goal rightly to help the Moroccan government to put in place a strategy of fight of poverty also to help the social development to the profit of deprived population.

Fort of this political support ,and accordingly to recommendations of the WHO program of prevention against Blindness and Deafness, faithful partner of the NBCP, the latter was going to put in place a strategy basing its applicability on primary health cares. These modifications were often due either to new mobilizations of recourses (international partner contributions as the foundation Clark, International Helen Keller, the philanthropic laboratory program Pfizer and lately of the International Trachoma Initiative) or to the new tool introduction recommended by the Health World Organization.

Installation of fight tools

The fight of trachoma (inheriting disease of the "poverty and marginalization") demands more than all other an important and sustained effort of revaluation of the well human being in different areas in the life in collectivity. The undertaking of this effort demands the interference of many national participant and affiliate departments or belonging to different Ministries. Thus, the undertaking of trachoma and the elimination of factors that make all its gravity calls the strengthening of the "economic and social fabric" of soils that are affected. The contribution of many sectors (habitat, public hygiene and supply with drinking water, ways of access, etc..:), not depending on the Ministry of Health, is necessary to the final and durable success. The key of a durable success of the elimination of blinding trachoma would not only have to be associated to the distribution of medicines covering all the area of the project, during several years so as to exhaust the "reservoir" and to dry the inter-human transmission but also to insure the lavished permanence of services of eyelid quality, but especially to repeat campaigns of processing by antibiotics, sanitary education and promotion of the

collective and individual hygiene that will generate durable changes of the environment and the framework of life of populations that are affected.

Operational preliminaries

By reference to the great tendencies of KAP, it was indispensable to lead some actions in preliminary; it concerns:

- To federate the vision of the five concerned provinces by putting on foot a more official machinery of coordination at the level of all the circles of decision that have these provinces in charge, particularly at the level of the adjustment of the territory and that which concerns socio-economic management of these populations.
- To supply basic sufficient sanitary trainings in medicines (ophthalmic cream, unaesthetic premises, collyrium antiseptics...) and in instruments of trichiasis surgery to face demand of these populations.
- To capitalize more the action of training.
- To put in place a system of information destined to collect valid epidemiological data,
- To adjust forms of implication of partners of the Ministry of Health and to invite local associations to participate in the fight effort.
- To lead an information and sensitizing plan in direction of the government and its principal relays of execution on a national scale.

Thus all along this decade, various tools have then been introduced:

- The initiation of the personnel of the five provinces on the simplified coding system of the trachoma and their training to tasks of evolution and follow ups,
- The decentralization of the trichiasis surgery at the level of centers of health and therefore the training of the personnel on the most used techniques in Morocco (Trabut in a first time and the bilamellar tarsal rotation in a second time),
- The promotion and the plea in favor of inter-sectoral action and the population in all the stages of fight.

- The installation of "SAFE " strategy
- And finally, the introduction of the azithromycin in the treatment of the active trachoma.

Partners of the NBCP in the fight of trachoma

Thanks to plea exerted by responsible of the Ministry of Health beside ministerial departments to social vocation, some sectors have rallied the NBCP to bring their contribution to the elimination of the blinding trachoma. The Ministry of National Education, the Ministry of Equipment (National office of the Drinking water "ONEP", the Ministry of Employment, the professional training, the Social Development and the Solidarity and the Directorate of local collectivities. The civil society, International and National "Hassan II Foundation of ophthalmology", participates as well to this fight effort.

PARTNERS OF THE MINISTRY OF HEALTH IN THE FIGHT OF TRACHOMA

Governmental partners

- Ministry of National Education
- Ministry of Employment, the Professional Training, The Social Development and Solidarity
 - Ministry of Equipment
- National Office of Drinking Water
 - Directorate of local Collectivity

National non- governmental Partners

Hassan II Foundation of Ophthalmology
Local villagers Association

International Partners

- World Health Organization
 - The UNICEF
- International Trachoma Initiative
 - Helen Keller International

Flow Chart of the fight of trachoma

Three levels of intervention participate in the strategy of fight of trachoma:

The central Level

The ocular and otological Diseases Service of The Ministry of Health where the NBCP is located, insures the total coordination of trachoma's fight activities. It is helped in its task by a national inter sectoral committee of fight of trachoma compound by university service chiefs of ophthalmology and international and national partners of the NBCP concerning the elimination of the blinding trachoma. The NBCP plays the role of the principle investigator in this committee. Its missions are :

- Management of the program in all its angles and each of its phases as for their technical, administrative and financial feasibility.
- The operational relationship maintenance with provincial authorities and inter sectoral provincial committees
- The control and the supervision,
- Evaluation of strategies and activities by the end of each phase,
- The control of activities and accounts attached to these activities,
- The holding of the accounting.

Provincial and local levels

At the level of each province, there exists a team of intervention constituted by:

- The delegate of the Ministry of Health in the province that insures the role of main provincial investigator,
- The provincial ophthalmologist
- The organizer of the NBCP in charge of animation and management of the program at the level of the province,
- The organizer of Education for health,
- The organizer of the program of the school health,
- The technician of the Hygiene of the provincial Milieu

The role and responsibilities of these provincial teams can be summarized in :

- To insure the coordination of all activities of fight of trachoma,
- To help sanitary district responsible in the planning of preventive and curative actions of fight of trachoma.
- To distribute in a rational manner, human and material resources,

- To follow, the execution and the evolution of activity on time and space
- To coordinate activities between the different sanitary districts and the different partners
- To evaluate, exploit and analyze collected data and to inform the NBCP

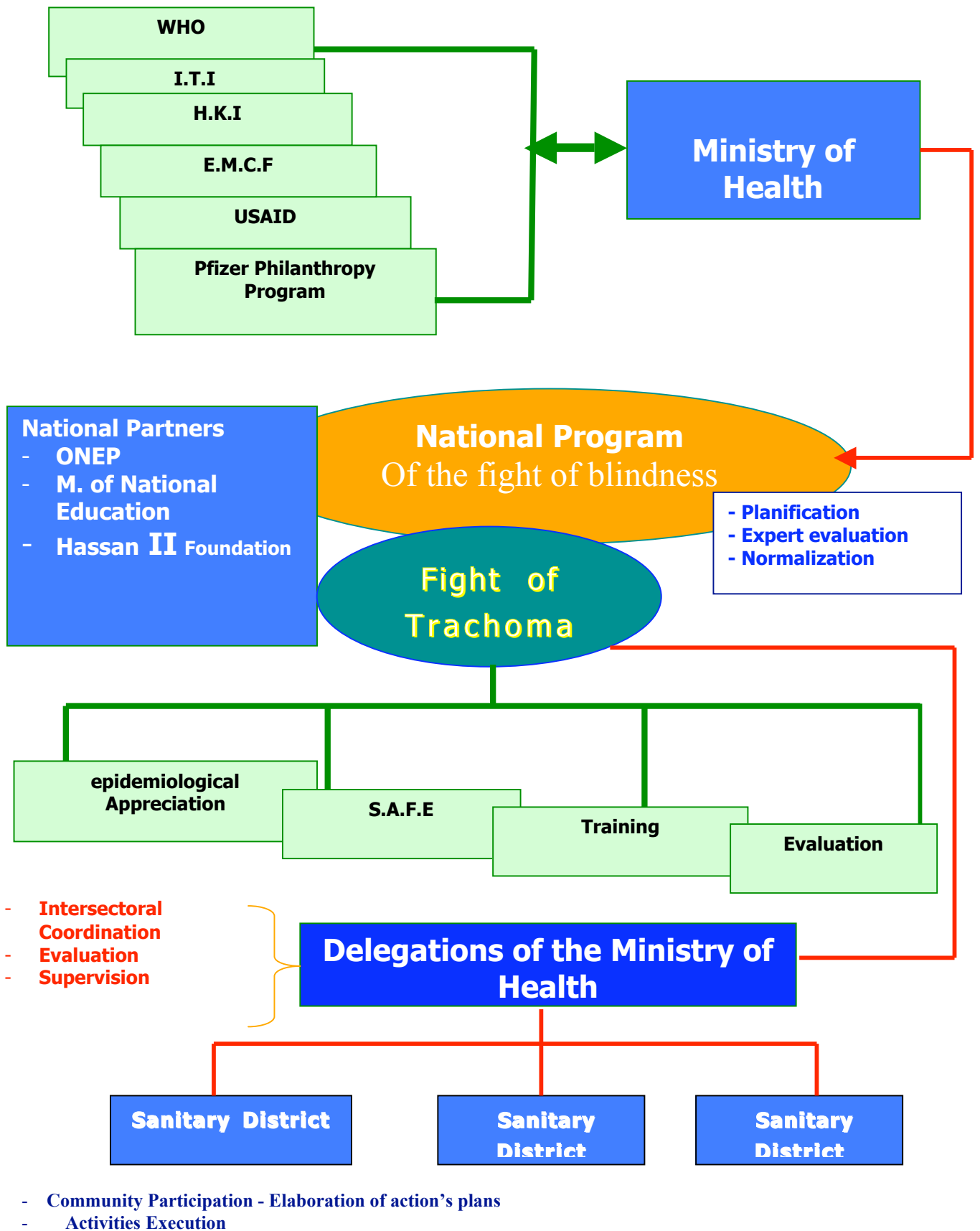
Each provincial group is helped in its task by an inter sectoral provincial committee constituted by formal partner representatives of the NBCP at the level of each province in addition to representatives of villagers associations.

These committees have the responsibility to validate operational plans and watch on the execution of activities. Quarterly meetings are organized by these committees to evaluate the evolution of different stages of the fight.

The execution of activities is decentralized at the level of sanitary district (rural hospitals, health centers, free clinics). Responsible of this district have the charge to plane and to execute their activities in accordance to recommendations of NBCP and under the frame work and supervision of provincial teams. The staff of each sanitary district is in charge of :

- To supply and disseminate a well documented information and to dispense the educative program adapted to targeted public,
- To promote a best individual and collective hygiene,
- To undertake the screening of trachoma and its treatment in accordance to the therapeutic strategy recommended by the NBCP and in function of fullness of trachoma,
- To proceed to the active screening of cases of entropion trichiasis and to their surgical correction.

Figure 1: Flow chart of the fight of trachoma



GENERAL OBJECTIVE

The fight of trachoma as a medico-social problem in view to eliminate the trachomatous blindness on 2005 horizon.

Specific objectives

- To take in charge all cases of trichiasis identified or those which will be (identified) by standardizing strategies of screening, taking in charge surgical cost, post surgical follow up and by insuring a proximity surgery of quality,
- To break the cycle of transmission of the trachomatous chlamydia in all endemic communities by delivering an anti biotherapy targeted and efficient and by using annual campaigns of re-treatment.
- To strength and energize the sanitary education by giving the best places to the fight of trachoma in the scale of priorities at the level of these five provinces and in decentralizing to the maximum the intervention at the level of the affected territory by this endemic disease.
- To decentralize to the maximum the multi sectoral action by strengthening in their capacities the different potentialities intervening on the territory and in cost of targeted populations.

STRATEGY

The NBCP has adopted an integrated and global strategy proposing double approaches curative and preventive and making intervention of all partners, each in its area. All activities are delivered in the framework of primary health cares. Four great strategic axes were proposed:

- Entropion trichiasis surgery
- Treatment of the active trachoma by antibiotics,
- Information, Education and Communication,
- Actions for the rural development.

Entropion trichiasis surgery

The strategy adopted by the NBCP, rests on the active screening of people affected and the taking in charge of their surgical costs. This strategy is based on two modes of intervention:

- The permanent mode: The trichiasis surgery is proposed at the level of all health centers, physicians and nurses, formed for needs of the fight.

- The mobile mode: Campaigns of screening and surgery campaigns are organized each trimester to strengthen permanent activities bestowed in sanitary trainings. These campaigns are led by medical teams strengthened by the ophthalmologists of Hassan II Foundation of ophthalmology and the ophthalmologists of public health.

The technique retained by the NBCP is the technique of the Bilamellar tarsal rotation that it has been modified by the ophthalmologists of the university service of B ophthalmology of the oto- Neuro-ophthalmology of Rabat hospital (27).

Surgical indications adopted by the program depend on the anatomical location of the trichiasis: The intervention is practiced systematically in next situations:

- 1 or several lashes rub in the central part of the ocular globe and putting at stake the visual functional prognosis,
- Traces of depilation to the level of the central part of the eyelid.
- Two lashes or more sitting on external or internal quarters of the eyelid.

In a perspective of prevention of the blindness, the priority is always given to persons presenting a trichiasis with a clear cornea. The depilation or the cauterization is practiced by personals of health, in case of refusal of the intervention or when one lash is deviated to the external or internal quarter of the globe.

Treatment of the active trachoma by antibiotics

At the beginning of the program, the strategy that had been retained was based on the screening and the treatment of the active trachoma among pupils of the primary and secondary school and the treatment of people in contact with them within their family. The ophthalmic cream at 1% was used as of two instillation per day in two eyes during six weeks in row.

In 1996, the program has undertaken a community test on the treatment of the trachoma by the azithromycin versus chlortetracycline 1% (25). The study had to compare three treatment types: i)treatment by cream tétracycline1% twice per day during six weeks in row, ii) a dose of azithromycin per bone +a placebo 6 month later (only cases of inflammatory trachoma were treated. This study had allowed concluding that:

- The three types of treatments, azithromycin at 1 and 2 doses and tetracycline cream 1%) were efficient to treat trachoma.
- When one compared effects of treatments by a year, one observed that a second dose of azithromycin administered at six month insures a greatest protection against trachoma than a one time dose
- The azithromycin was well accepted by the population and easier to administer than the ocular cream, particularly among the small children.

To the total, a one time annual dose of azithromycin was sufficient to treat the active trachoma.

Considering:

- Conclusions of this study,
- Results of epidemiological investigations undertaken in 1997 that have allowed to have a cartography of the trachoma,

Considering:

- Recommendations of meetings of the alliance WHO for the World Elimination of the blinding trachoma,
- The commitment of international partners as the International Trachoma Initiative, the foundation Clarck, Helen Keller International and the Philanthropic Laboratory Pfizer program to sustain financially and materially our program in its efforts of elimination of the blinding trachoma,

It was entirely convenient, to put in place a therapeutic strategy adapted to this new context. This strategy was based on two diagrams:

Mass treatment for all persons of communities where the prevailing of the active trachoma exceeded 20% among children less than ten years old,

Family treatment was retained in two possibilities:

- The tracking and the treatment of the active trachoma among pupils was realized at the level of preschool and primary institutions of communities among which the prevailing of the active trachoma among children was ranged between 10% and 20%. All trachomatous screened pupils were subject to a screening and a treating widened to its family surrounding.
- When the prevailing of the active trachoma among children of less than ten years old was inferior to 10 %, an individual treatment was instituted for members of these communities.

The use of azithromycin has been introduced first at the level of the province of Tata before being generalized in 1999 to the four other provinces after that the Kingdom of Morocco has been elected to receive the azithromycin from the I.T.I .

Proposed indications are:

Ocular cream: Two instillations per day during six weeks used only in case of otherwise indicated of the azithromycin

Azithromycin:

Pediatric form: 20mg/kg corporal weight in one time annual dose.

Adult form: 1 gram in one time annual dose.

The processing of the active trachoma is undertaken in the form of an annual campaign organized between months of September and December of each year.

Information, Education and communication

By the sum of collected information in the course of the KAP study, the program has as main ideas:

- The population is unconscious of the gravity of the trachoma and does not see in it the threatening consequences as the blindness.
- The population is available to understand and to make what it has to make so as to preserve its eyes.
- By its determining position consequences as the blindness.
- The population is available to understand and to make what it has to make so as to preserve its eyes.
- By its determining position in the collective culture of rural regions and the long term objectives of our program, the schooled population necessitates a strategy of action well distinct and especially continuous and of a great scale.
- The woman, that is to say the mother and the future mother, necessitates an important share of the public health system a closer frame and an availability greater since, apart from the fact that she is strongly affected by this sickness, she is the member of the family to whom returns eventually almost always the task to make the displacement to services of health. First of all for her and for the child, but also to follow it by treatments of the family. As she is almost exclusively in connection with number of elements and vectors of the environment (water, food, cattle, gathering of wood...).

These ideas imposed on us as directions for our strategy IEC:

- **The imperative to inform to the maximum, all different targets, on the trachoma, its factors of risk and its complications.**
- **The imperative to insure, as close as possible to the population, the availability of all relative benefits to ocular sickness.**

In technical term, the program has always privileged, to reach its objectives, forms and techniques of the communication interpersonal or the intervention "of proximity". Canals and supports are these traditionally used in this type of communication: i) canals of the administrative frame of the

population(commune, village, voting districts...), ii) Associative canals (national associations, provincial, local).iii)conventional didactic supports (video, film, slides thematic notices, pamphlets, megaphones, group animation...).The choice in the panoply of these canals and these supports is made according to the population targeted: Great public, beneficiaries of health service (women especially), pupils, professionals of health, social partners of the Ministry of Health, civil community).

For the placement of the IEC strategy, the program has adopted the approach of the community participation. This approach although it has been conceived to warn not only against trachoma but also against other diseases linked to water and to sanitation (draining and purification) has been easily adapted to the fight of trachoma. Which has allowed the program of fight of trachoma, to have a strong partner, in the frame of education of the population to practice the adequate domestic and personal hygiene? The implication of the community to the effort of fight allows us a great credibility to dispensed benefits concerning health.

Actions for the rural developments

Poverty in the rural milieu touches almost half of the population (22).This phenomenon touches more particularly the five endemic provinces. All indicators underline the extreme social and economic weakness of these populations and confirm the correlation established between poverty and trachoma. The inaccessibility to community services in these regions contributes to pauperize the rural woman, to maintain the poverty and illiteracy cycle (23). To be given:

- The extent and the gravity of the problem of trachoma,
- The economic vulnerability of the population,
- The precariousness of basis infrastructure,
- Recorded insufficiencies concerning information, education and communication,

The Ministry of Health and its international partners have adopted a strategy of plea to sensitize the local officials to put in place concrete actions aiming the improvement of life conditions of residents at the level of these regions.

This plea was made in three levels of decision:

- National level close to departments and offices of social vocation,
- Provincial level at governors, representatives of the different departments, mediators and elected and non profit provincial associations,
- Local level beside local authorities, elected and local associations

Four main axes made the object of the allegation:

- Improvement of the access to water and sanitation,
- The increase of endemic community income,
- The installation of a program of literacy destined for the young girl and the woman,
- The strengthening of the role of school in the fight of trachoma.

REALIZATIONS CONCERNING THE FIGHT OF TRACHOMA

In this rubric, we will give the main recorded realization in the course of fight and this according to four great strategic axes:

- trichiasis surgery ,
- Treatment of the active trachoma by antibiotics,
- Sensitizing the population by health education,
- And actions of rural development.

Trichiasis surgery

Before the installation of the new strategy of the screening of trichiasis, this surgery practiced solely at the level of hospitals by ophthalmologists; the used surgical technique was the method of Trabut. In 1994, the program has decided to decentralize this surgery at the level of trainings of basic health cares (rural hospitals, health and clinic centers) with an operational objective of:

- To make closer surgical benefits and to render them acceptable for at least 75% of concerned populations.
- To improve the accessibility to the surgery.
- To form and recycle the necessary health personnel until the satisfactions of needs.
- To strengthen the capacity to deliver to a large scale surgical benefits responding to norms of quality retained by the program.

A program of training has then been established and the surgical technique of the bilamellar tarsal rotation has been adopted and taught. This module of training concerned physicians and nurses exerting at the level of the five provinces; the frame was insured by specialist physicians in ophthalmology of the Hassan II Foundation of ophthalmology (27).

1. Realizations concerning training

To the total, this concerned 200 health professionals (74 physicians and 126 nurses) who have been formed to operate the entropion trichiasis between 1994 and 2000. Among them 166 are still operational (43 physicians and 119

nurses), 34 others have left these provinces because of a mutation or an installation in the private sector. The operator ratio per residents is of an operator of trichiasis (OT) for 6 861 residents for the totality of the five provinces (with variations of an OT for 3 815 residents in Errachidia and 1 OT for 15 315 in Ouerzazate). The surgery of the trichiasis is delivered at the level of 34 centers throughout the territory of these five provinces. The distribution of OT and operator centers of trichiasis is proportional to the endemic trachomatous.

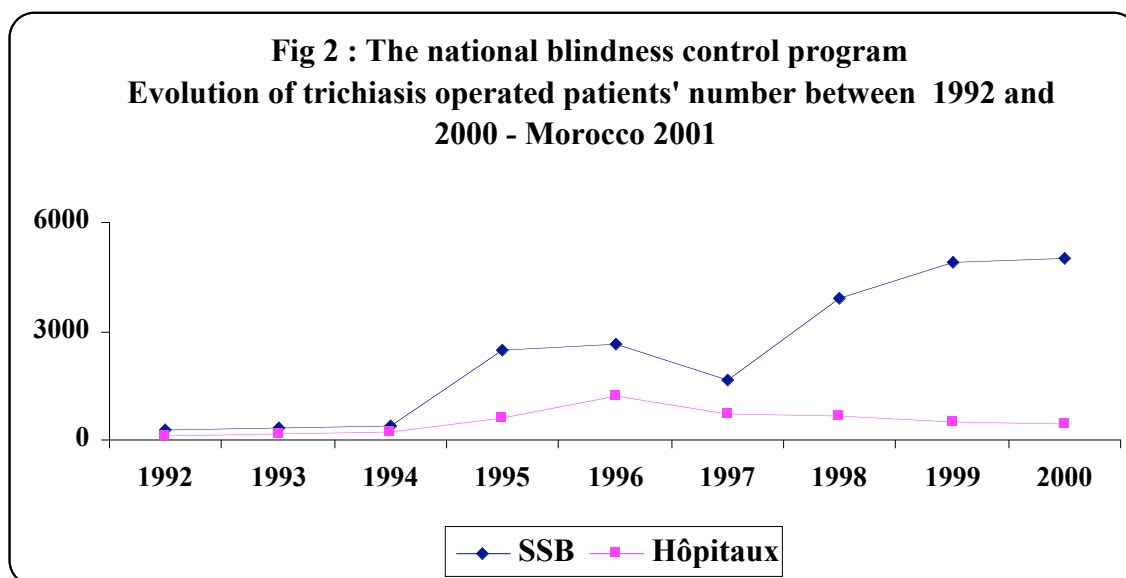
The acquisition of useful instruments to practice this surgery represented other obligatory preliminary for the decentralization of benefits to the level of ambulatory cares. Thanks to the contribution of our international partners (Foundation Clark and I.T.I) and to the budget of the NBCP, the surgery kits of the trichiasis as well as medicines and Para-medical products have been insured regularly all along this decade. That is 200 surgery kits of trichiasis that have been acquired in the course this period, which is a ratio of one kit per OT. During all the period, no rupture of medicine stock, sutures, anesthetic, gloves, etc, has been signaled at the level of the considered intervention area.

2 . Realizations concerning the undertaking of the people affected by trichiasis

Between 1992 and 2000, it is 26 172 affected people by the trichiasis that have been surgically undertaken; 4 613 (17.6%) of it have been in hospitals and 21 559 (82.4%) at the level of trainings of basic health cares. The feminine gender was taken in charge in a proportion of 65%, while 102 children hardly ten years old had been taken in charge by the ophthalmologists in hospital milieu. Among operated patients at the level of centers of health, 70% have been admitted in the course of campaigns organized regularly every trimesters, the remaining 30% have been operated in the framework of the permanent program (permanent mode) in centers of health.

Table 2: The undertaking of entropion trichiasis cases between 1992 and 2000 - Morocco 2001

Year	Operated people at the level of hospitals		Operated people at the level of health centers		Total
	Number	(%)	Number	(%)	
1992	90	26.5	250	73.5	340
1993	150	31.2	330	68.8	480
1994	230	35.8	412	64.2	642
1995	630	20.1	2 504	79.9	3 134
1996	1 218	31.7	2 622	68.3	3 840
1997	730	30.7	1 646	69.3	2 376
1998	670	14.7	3 887	85.3	4 557
1999	478	8.9	4 905	91.1	5 383
2000	417	7.7	5 003	92.3	5 420
Total	4 613	17.6	21 559	82.4	26 172



Treatment of the active trachoma by antibiotics

For this strategic component, there has been two well distinct periods, during the first, between 1992 and 1996, the strategy of distribution was based on the screening at the school level and the treatment of cases of active trachoma among pupils and affected members of their surrounding family. The used antibiotic has been the chlortetracycline to 1% cream for the totality of the treated population. From 1997 and according to the different realized epidemiological evaluations, the strategy has been modified and it proposed different intervention ways: i) the mass treatment for communities of high risk (prevalence the active trachoma superior to 20% among children < 10 years), ii) the family treatment: screening at school and treatment of pupils and their surrounding in communities at moderate risk (prevalence of the active trachoma among children < 10 years ranged between 10% and 20 %), iii) the individual treatment was used in communities at a weak risk (prevalence < 10% among children < 10 years). The treatment by the azithromycin has been introduced first in the province of Tata in 1997 before being generalized in 1999 for the totality of the population of these five provinces.

This activity occurs in the form of annual campaigns of distribution between the month of September and December. Some 300 professionals of health participate in this campaign after being formed to the system of simplified coding of trachoma and to management of products.

In 1999, the NBCP integrated the use of the azithromycin as the first treatment of the active trachoma thanks to the generous contribution of ITI. From that year, objectives of fight became clearer and activities of treatment and re-treatment by antibiotics more targeted. Available information for the last two campaigns is richer comparing to those gathered in the course of previous years.

Table 3 : People benefiting from antibiotics for the treatment of the active trachoma between 1992 and 1998 - Morocco 2001.

year	Number	Antibiotic treatment used
1992	82 935	Chlortétracyclin 1% Cream
1993	84 516	Chlortétracyclin 1% Cream
1994	104 714	Chlortétracyclin 1% Cream
1995	191 770	Chlortétracyclin 1% Cream
1996	286 860	Chlortetracycline 1% Cream
1997	409 387	Chlortétracyclin1% Cream - Azithromycin in Tata
1998	435 580	Chlortetracycline 1% Cream - Azithromycin in Tata

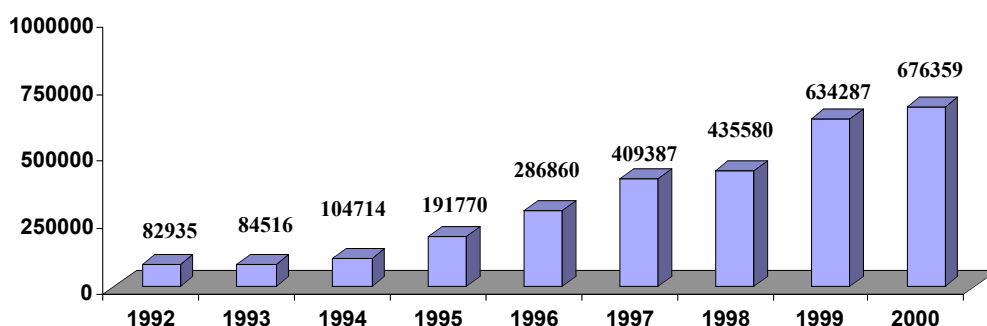
Table 4: Number of people benefiting from antibiotics treatment. Between 1999 and 2000 - Morocco 2001.

Year	Age Group	Targeted population	Persons treated			
			Number	Per Sex		Rate of cover/ Target (%)
				Male. (%)	Female. (%)	
1999	<10 years	214 500	222 760	49	51	103.9
	>10 years	500 500	412 090	44	56	82.3
	Total	715 000	634 850	45.7	54.3	88.8
2000	<10 years	221 000	215 158	49	51	97.4
	>10 years	482 950	458 491	44	56	95
	Total	703 950	673 934	45.6	54.4	95.7

In the course of these last two years, 95% of the people receiving treatment were with the azithromycin to 1 gram for adults and 20 mg by corporal weight Kilogram for children. Approximately 1 300 000 doses of azithromycin have been distributed, that is an average dose of 324 mg for children and 880 mg for elderly of more than 10 years.

On the totality of treated populations, it is the strategy of mass treatment that has been the most used (98%). The ratio of personnel implied in the campaign comparing to the number of distributed doses is a one personnel for 2260 doses distributed with extremes of 1/3588 doses in Errachidia and 1/630 doses in Figuig. One has to signal, that very few undesirable effects have been noticed just some isolated vomiting and diarrhea cases without gravity. Management of the azithromycin has been very satisfactory, teams have respected directives that have been given as for the conservation, management of stocks, the reconstitution of the pediatric form, the respect of weightings concerning children, indications and otherwise indications the use of the system of information.

**Fig 3 : National program of the fight of blindness
Evolution of the undertaking of the active trachoma by
antibiotics -Morocco-2001**



Information, Education and Communication (IEC)

This very important strategic component, has known its real boom only from 1997. The first activities started before this date, comprised a public relationship aspect and plea that was executed to three levels: national, provincial and local. The aspect of pure sanitary education having several targets: The great public, the school population, health professionals and villagers associations, has been operational only in the autumn of 1997 at the occasion of the annual campaign of fight of trachoma.

The used approach was a social mobilization step with two global objectives:

- To give the best place to the fight of trachoma in the scale of priorities of the officials at every level.
- Decentralize to the maximum the multi sectoral intervention on the field by strengthening in all their capacities the different potentialities intervening on the field and in charge of target populations.

Strategic axes for all levels of action were the same: an axis of information and of preventive education.

Axis 1: Information on the trachoma and risks

Targets Canals/supports	General public	Beneficiaries of the MH	Pupils	Health Professionals	Partners
Radio	<input type="checkbox"/>	-----	----	-----	-----
Television	<input type="checkbox"/>	-----	----	-----	-----
Cinematographic caravan	<input type="checkbox"/>	-----	----	-----	-----
Press	<input type="checkbox"/>	-----	----	<input type="checkbox"/>	<input type="checkbox"/>
Video	<input type="checkbox"/>	<input type="checkbox"/>	----	<input type="checkbox"/>	-----
Slide show			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Photos		<input type="checkbox"/>			<input type="checkbox"/>
Notices	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
Files, forms, newsletters				<input type="checkbox"/>	<input type="checkbox"/>
Public relations, visits				<input type="checkbox"/>	<input type="checkbox"/>
Meetings		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Group dynamic		<input type="checkbox"/>	<input type="checkbox"/>		
Megaphones	<input type="checkbox"/>	<input type="checkbox"/>			
Model lessons			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

-----: Indirect impact ; : Direct impact .

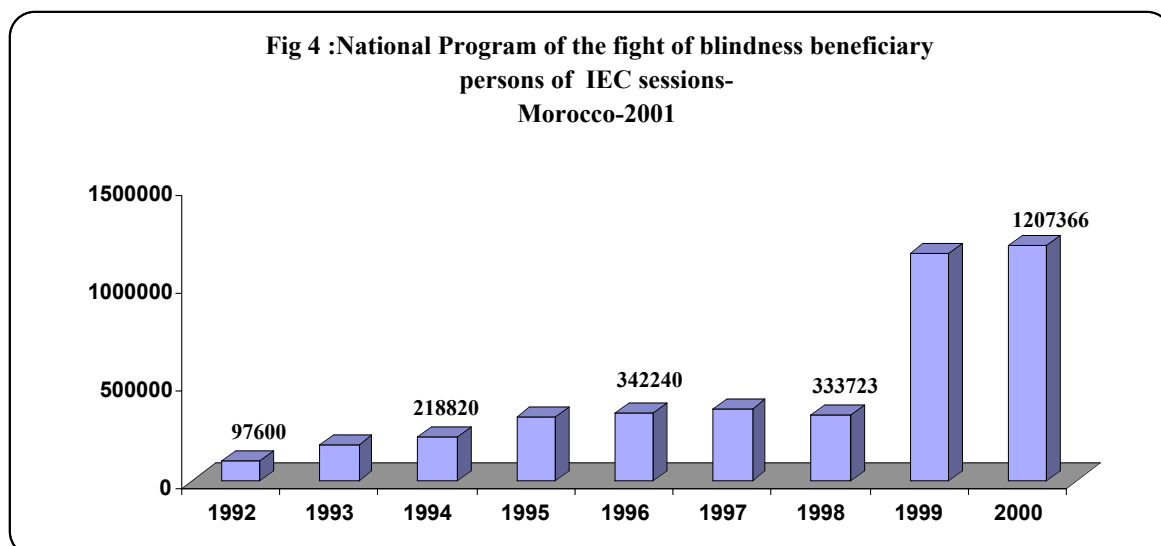
Axis 2 : The prevention by the collective and corporal hygiene

Targets Canals/supports	General public	Beneficiaries of the MH	Pupils	Health Professionals	Partners
Radio	☐	-----	----	-----	-----
Television	☐	-----	----	-----	-----
Cinematographic caravan	☐	☐	----	-----	-----
Press	☐	-----	----	☐	☐
Video	☐	-----	----	☐	-----
Slide show			☐	☐	
Photos	☐	☐	☐		
Notices	☐	☐	☐		☐
Files, forms, newsletters				☐	☐
Public relations, visits		☐		☐	☐
Meetings		☐		☐	☐
Group dynamic	☐	☐	☐		
Megaphones	☐	☐			
Model lessons			☐		

----- : Indirect impact ; ☐ : Direct impact

All animation and education benefits were delivered in a way that they were integrated to curative, surgical or medical benefits. Two spaces of communication had been privileged; school and the sanitary training because on the one hand, they offered a basic infrastructure with the appropriate logistics to animate assemblies of the population, to organize curative actions of treatment of trachoma or possibly trichiasis surgery and on the other hand these two spaces allowed us to have human resources (instructors) apt to transmit messages concerning the fight of trachoma. Apart from these two spaces, mosques, socio-educative centers, local association offices and young woman lodgings represented ideal assembly places for the education of population. Supports that had been used were adapted to the targeted population. The program has produced a film on trachoma, its consequences and means to protect oneself from it, this film was destined for the great public and was projected thanks to the cinematographic caravan of the ONEP during all the weekly souks points of the population assembly and on the level of sanitary trainings and schools. A video had been produced and was

destined to help provincial officials in their plea close to provincial authorities, social partners and the civil company. A model lesson on trachoma has been conceived by responsible of the Ministry of the National Education in narrow collaboration with the MH, this lesson was taught in 3 levels of the primary school; it is currently integrated in the pupils' program of the five provinces schools. Other supports have been used as notices, pamphlets, photographs, slide shows, guides of group animation etc. The national radio particularly local and regional stations as well as the two channels of national television participate actively in the information and education of the population by diffusing round tables on trachoma, by insuring a cover of fight campaigns of trachoma and by diffusing documentaries and spotlights on trachoma.



Actions of rural development

The Ministry of Health and its partners have made of the participating approach their battle horse to lead all activities of the four components of the S.A.F.E. strategy. For that, they have integrated all the villagers' associations already existing, contributed to the constitution and the framing of villagers' committee that had for mission to participate in the fight of trachoma in all its components.

1. Beneficiaries and actors

Direct beneficiaries are the population allocated by the strong prevalence of trachoma. Among this population a particular attention has been granted to schooled children, to girls and to women.

Actors are:

- The Ministry of Health as an organ of the program execution ,
- The Ministry of National Education
- Ministry of Employment, the Professional Training, the social Development and Solidarity,
- The Ministry of Youth and Sports.
- The National Office of Drinking Water,(ONEP)
- The Local Authorities,
- Non-governmental Organizations and associations,
- University Training institutions and Research.

This partnership instituted between governmental departments, civil company, institutes of training, local associations and the concerned population has always benefited from a constant support and a regular coordination on the part of the NBCP. Results have been fruitful since each, in its area, has brought the necessary endorsement for the development of these endemic communities.

The Ministry of National Education

Its mandate was to integrate the formal education concerning trachoma to pupils of the primary school.

Accomplished activities

- The training of inspectors and primary school instructors of the five provinces,
- Participation to campaigns sensitizing the population concerning trachoma prevention,
- Organization of a lesson on trachoma (a model lesson) for the benefit of the annual screening and treatment of the active trachoma campaign.
- Participation in the elimination of women's illiteracy.
- Renovation of school buildings: Installation of draining systems (construction of latrines) water conveyance installation of protection fences against flies at the level of school buildings of 32 villages.

Ministry of Employment, the Professional Training, the Social Development and Solidarity

Its role was to integrate the five concerned provinces by the endemic trachomatous in the national program of elimination of illiteracy. This

department acted by the intermediary of Helen Keller International in the frame of a convention signed between the two parts.

Accomplished activities

- Support to the elimination of illiteracy of 8500 women in the province of Zagora, The Process is under way extension to the other provinces.

Ministry of Youth and Sports

Two entities put in way the mandate of this department concerning prevention of trachoma: i) The feminine business Division, that covers women and young girls, professional training centers and feminine lodgings; and ii) the service of establishment of youth and Rural Activities that covers schooled children and non schooled adolescents among youths and socio-educative and reformatory centers. Educators of this department remain faithful partners to the Ministry of Health.

Accomplished Activities

- Information and sensitizing of residents of the socio-educative centers and young women lodgings concerning prevention of trachoma,
- Education and information of youths and adolescents,
- Participation to campaigns of fight of trachoma organized by the Ministry of Health.

National Office of the Drinking Water (ONEP)

This office intervenes in three areas: the IEC, the supply with the drinking water and the local association framing the village liquids purification.

Accomplished activities

- The ONEP accompanies the NBCP in sensitizing and education activities of the population by putting at the disposal of the project an endowed mobile space with a hall of cinematographic projection. Each year this caravan furrows most distanced localities of the five provinces to project the film on the prevention of trachoma. Staffs of the ONEP, the MNE and the MH are the main organizers of these assemblies of population.
- Supply of 3 villages with drinking water at the level of provinces of Tata and Zagora in the framework of the project of partnership between the kingdom of Morocco and the ITI,

- Supply of 74 villages with drinking water with the own budget of the ONEP in provinces of Errachidia and Zagora;
- Realization of studies for the supply of four urban centers and 411 rural localities in provinces of Zagora and Ouarzazate in the framework of the general feeding program with water of the rural Milieu (PAGER)
- Framing of several villagers' associations of Tata and Zagora to put in place systems of purification.

Helen Keller International

This American NGO is one of historical partners to the NBCP, its support to the fight of the blindness in general and trachoma especially has allowed the realization of many activities. Its contribution to the fight of trachoma has become more important these last years, since the representation of this NGO in Morocco has participated actively in the plea beside the national and provincial officials. One can say that the commitment of the ONEP and the Ministry of Employment, the Social Development and Solidarity in the fight of trachoma. The mandate of Helen Keller and thanks to subsidies of ITI, the USAID, the Ministry of Employment, the Social Development and Helen Keller New York, consists in pushing Delegations of the MNE at the level of the five provinces in the strategy of schooled pupils' health in the fight of trachoma, the renovation of school buildings, the integration of woman in the in the development by elimination of illiteracy and the installation of revenue generating activities and the framing of local associations to put in place projects of development. Its contribution has been limited in the course of the last tow years to the province of Zagora, but it is taken for granted that Helen Keller will spread its activity to the other four provinces in the course of the next three years.

Accomplished activities

- Participation to the renovation of 10 school buildings
- Supply with drinking water of a village in the province of Zagora
- Adjustment of mosques at the level of 9 localities and their supply with drinking water,
- Adjustment of social complex in the village of Tafergalt in the province of Zagora,
- Logistic endorsement to local associations by generative activities of income to women profit,
- Construction of a bridge on the Draa river that has allowed to free a population of 16 000 residents

- Elimination of illiteracy of 8500 women and elaboration of a manual on the IEC concerning fight of trachoma.

Hassan II Foundation of Ophthalmology

Although its contribution is in the pure curative area of the fight on trachoma (training in trichiasis surgery, evaluation), one can say that its contribution has had an indirect impact on the development to the level of these provinces, since Hassan II Foundation of ophthalmology has participated, in narrow collaboration with theNBCP and Helen Keller International, to the organization of surgery campaigns of the cataract and correction of refraction's turmoil. It concerns a partner committed to every thing that concerns blindness and its causes.

Villagers' associations and local NGO

The approach of community participation that has been privileged by the NBCP for the elimination of the blinding trachoma has concretized by the training of 350 local fight committees of trachoma or the participation of existing villagers' associations to actions of fight. A departing material and technical frame of these associations, several activities have been able to be realized. To be seen:

- Drilling of 150 wells and construction of water tower allowing to serve domestic population of these villages with water,
- Organization of more than 1000 Purification and cleaning campaigns,
- Execution of 1350 demonstrations of hygienic treatment of dung,
- Realization of 660 operation of fight against flies.
- The building of 1890 latrines groups in collective places as mosques and school buildings.

Obstacles and opportunities for the elimination of the blinding trachoma

1. Obstacles met

In spite of realized progress and the set efforts, the elimination of blinding trachoma is still confronted to obstacles, especially those which have great relation with the social and cultural aspects and to the access to vulnerable groups. They have also a relation with the human resources and actual financial of the civil society organization.

2. Opportunities

Those opportunities were identified especially at the level of actions for the socio-economic development registered in the quinquennial plan 2000-2004. Those opportunities include obviously all projects and programs of cooperation which will accentuate the quinquennial plan.

Rural development

In accordance with the quinquennial plan 2000-2004, the strategy of this development depends on the following axis:

- Encouragement of non agricultural activities in the rural milieu,
- Development of the socio -economic equipment basis in accordance with the guidance of the social development strategy.
- Promotion of the applied research, of the formation and popularization.

This strategy constitutes a favorable factor in the fight of trachoma because it allows an improvement of the well being of the rural population of the five provinces reduces the migratory flux towards cities and allows the integration of essential activities of the prevention in popularization program.

Schooling and elimination of illiteracy

The reform, related to fundamental and secondary education, started by the government aims the following objectives:

- Generalization of the schooling in fundamental education for children of 6 to15 years in the horizon of 2008, and its development in the rural milieu, especially for girls.
- Development of the non formal education in advantage to non schooling children which includes the age between 8 and 16 years.

The quinquennial plan foresees as well an integrated policy of the fight of illiteracy which does not only implicate the concerned Ministries, but also local collectivities, the civil society and the world company. This program of illiteracy and schooling is an opportunity for education activities against trachoma for vulnerable targeted teams.

Fight against poverty

In addition to sectoral actions in which the impact is positive at the level of household life, the quinquennial plan foresees reforms aiming the increase of indirect revenue of Moroccans and the amelioration of their life conditions. The fight of trachoma is perfectly integrated and will much benefit from the fight of poverty than from the fight of employment because they are all necessary and synergetic in order to attenuate the economic marginalization and the vulnerability of provincial endemic populations of trachoma.

Promotion of woman and youth

In order to reinforce women's role in the process of development, the quinquennial plan views a triple action :i) on the social plan, woman's promotion must be effectuated through specific programs in the fields of illiteracy, health and education.

ii) on the economic level, the female dimension must be taken into consideration in the framework of the economic development, specific and sectoral.

iii) on the juridical plan, the promotion of woman's condition, confronted to incidentally by the constitutional principle of equality, and conventions and international declarations ratified by Morocco must be oriented towards amelioration of judicial practices, conspicuously of a progressive reform of the code of the personal status in the respect of Islam respects.

Evaluation

In the area of evolution and the operational research, the NBCP has acquired a great experience in recent years. Several realizations deserve to be quoted:

- National inquiry on causes and the prevalence of visual deficiencies in 1992,
- Achievements since 1991 up till now, of 19 provincial inquiries on the prevalence and the gravity of trachoma. These inquiries have mobilized the personal of each of targeted provinces.
- Achievements between 1996 and 1997, of the community test at random comparing results by the treatment of trachoma by the azithromycin to those obtained by the "classic" use of ophthalmic cream tetracycline to 1%.
- Evaluation of the Moroccan fight program against blindness in 1997.
- Achievements in 1998 of an evaluative study of the quality of the trichiasis surgery.

- The NBCP has started in 2000 a global evaluation process of the elimination of the blinding trachoma. It concerns a self evaluation with the assistance of the WHO/PBD and the ITI. This evaluation has concerned all components of the S.A.F.E. Strategy the process is again under way.

Since the installation of fight activities against trachoma, very narrow and fruitful contacts have been maintained between the NBCP on the one hand and its partners (Foundation Clark and I.T.I) and the WHO Program of prevention of the blindness particularly the Dr André Dominique Négrel on the other hand. The concern to lead well the evaluation has always been in the center of discussion and preoccupation of different partners. Studies led carried essentially on the direct sanitary action proposed by strategic components "Trichiasis surgery and anti biotherapy" that is to say:

- The taking in charge of people affected with the entropion trichiasis quantitatively and qualitatively.
- The placement of the medical treatment by the antibiotics and effects on the prevalence and the gravity of the endemic, managements and modes of antibiotics distribution in the strategic framework of annually set-up campaigns.
- The impact of these types of intervention.

The evolution of the multisectoral and pluridisciplinary action that had allowed the installation of IEC components and development is more complex and necessitates more time to be carried out. The impact of these actions will be the object of an ulterior specific evaluation.

Evaluation of trichiasis surgery component

The evaluation of the trichiasis surgery component has apprehended the next axis:

- The quality of the surgery,
- The availability of products and necessary resources,
- The acceptability of the surgery by the population and the satisfactions of the patients who have undergone an operation.

1 . Appreciation of the quality of trichiasis surgery

Two studies had been installed to appreciate the quality of the surgery bestowed in the area of intervention:

- i) Evolution of the personnel training concerning the trichiasis surgery (26).
- ii) Retrospective study to appreciate results of the trichiasis surgery in term of impact on the visual function of the operated eye and the operated person and in term of occurred of recurrence and complications (24).

These two studies have revealed that more than 95% of operators of trichiasis initiated to the bilamellar tarsal rotation were capable to reproduce operative procedures, in the same way they were taught to them after the initial training. Approximately 85% of these agents were able to solve some difficulties (bleeding, transverse section of the free edge of the eyelid, over correction, under correction) susceptible to occur in the course the intervention (26). In term of relapses, the rate is 15,8% among operated persons between 1994 and 1998. These relapses were considered as serious in proportion of 2,4% because they concerned the median part of the free edge in the look of cornea therefore potentially harmful for the functional becoming of the eye. 13,4% of the operated presented a relapse exclusively to the level of palpebral angles and no lash came into contact with the cornea. 14,3% of persons having benefited from the intervention depilated regularly. Post - operative complications found at probed persons were rarely of nature to compromise the vision. Most frequent complications were the excessive tarsal rotation (over correction, 2,3%) and the coetaneous necrosis without exposition of the cornea(3,6%). 11,1%

of probed persons were blind (visual acuteness < 1/20 to the best of two eyes) and 28,9% were considered as partially sighted (visual acuteness ranged between 1/20 and 3/10). Furthermore, this study had shown that 17,6% of eyes whose eyelid has been operated replied to the definition of the blindness and 29% of them to the definition of the decline of vision (24).

2. Evaluation of products and necessary resources for the trichiasis surgery

Means and material resources such as surgery kits of eyelids and other medicines and edible indispensable to the permanence and to the good execution of the operative act, have always been available and used to good knowledge by staffs on the field, as well as in centers of health or in the course of trichiasis surgery campaigns. Each OT has at least a surgery kits at his disposal and no stock rupture has been signaled or observed during these last three years concerning medicines, sutures, gloves, etc.

3. Acceptability of the surgery and satisfaction of those operated

On a sample of 4 543 persons, a KAP study on the acceptability of the trichiasis surgery, done in 2000 (29), had shown that 81,4% had declared that they would accept the resort to the trichiasis surgery in case of necessity. Only 6,7 said frankly no to this recourse. There is no systematic refusal to the recourse of the trichiasis surgery as a remedy, as a medical act. According to inquired persons, the surgical act is lived as aggressive, constraining, expensive in efforts and in apprehensions, but it is largely accepted because admitted as "the only consequent and possible solution" to a major health problem that can end up by a feared handicap: the loss of sight.

These results have been a little bit reinforced by a study on the satisfaction of those operated of trichiasis, done at the same time of acceptability.

On 800 women operated between 1999 and 2001, 89, 6% would be ready, without hesitation, to renew the intervention experience if needed and the operative indication was being sensed. 86, 6% of questioned operated persons would recommend the intervention to a close friend that would ask them advice based on their experience. As for competence of operators, only 7,7% estimated that the operator was incompetent. 79, 3% of the inquired appreciated the welcome that was reserved to them by personals of health services during the intervention as well as for cares that have followed.

Evaluation of the antibiotic component

The screening evaluation and medical treatment of the active trachoma by antibiotics has concerned two sides:

- The personal formation,
- The covering and the acceptance of antibiotics used for trachoma's treatment;

The evaluation of forming agents in charge of the distribution of the treatment had as objective to verify if the health professional's were able to manage the treatment (tetracycline at 1%, azithromycin) in accordance to recommendations of the correct usage diffused at the level of the five provinces and used in the forming of the personal. In terms of a study that had held 50% of formed agents, it turns out that:

- The ratio of the formed personal in comparison with the number of distributed doses is of one health agent for 2 260 distributed doses
- 100% of the formed personal were involved in campaigns of antibiotics' distribution.
- 100% of the formed personal were involved in campaigns of the fight of trachoma respected scrupulously the instructions of azithromycin distribution both when it concerns children and adults as well.

The evaluation of the cover and of the acceptance is undertaking every year by each provincial staff. Reports sent by the five provincial delegations show that:

- the cover rate by antibiotics is higher than 80%for the five provinces,
- The percentage of persons who refuse all treatment by antibiotics is null,
- Since 1999, about 5% of treated people have received as a treatment chloretétracylin cream at 1%, it concerns essentially children aged less than six month, of people presenting otherwise indication for the azithromycin or the pregnant women.

Specific studies

They are epidemiological inquiries on the prevalence and gravity of trachoma which were led on 1997, 1999 and 2001. Those studies have taken place at the level of each of the five targeted provinces. All those studies are confirmed to poll procedures in clusters of two degrees with the proportional probability at shape. In all those inquiries, the simplified system of quotation of trachoma was used.

The enquiries of prevalence led in 2001, of transverse type, had as objectives:

- To demonstrate the pertinence of curative and preventive strategies restrained by the project, by the diminution of indicators of prevalence and gravity of the disease.
- Estimate prevalence of different forms of trachoma, particularly FT and IT for women more than 14 years, and to compare them with that obtained at the time of inquiries led in 1997 and 1999.

This inquiry has concerned the rural and urban populations of each of the five endemic provinces.

Results

Inquiry participation

Table 5 : Rate of inquiry participation for children under 10 years

Province	Theoretical sample	Children<10 Counted	Children<10 Examined	Absent	Refusal	Rate of Participation
Errachidia	933	1 608	1 577	29	2	98.1 %
Figuig	820	1 053	1 044	9	0	99.1 %
Ouarzazate	1222	1 936	1 922	14	0	99.3 %
Tata	892	1 306	1 301	5	0	99.6 %
Zagora	947	1 660	1 641	18	1	98.9 %

Table 6 : Rate of participation to the inquiries for women of more than 14 years

Province	Theoretical Sample	Women >14 counted	Women >14 examined	Absent	Refusal	Rate of participation
Errachidia	1874	2 080	2 026	46	8	97.4 %
Figuig	1730	1 842	1 786	50	6	97.0 %
Ouarzazate	2328	2 443	2 374	69	0	97.2 %
Tata	1711	1 836	1 791	41	4	97.5 %
Zagora	1507	1 689	1 639	46	4	97.0 %

Table 7 :Rate of participation to the inquiry for the population all age and sex confused

Province	Counted Population	Examined Population	Absent	Refusal	Rate of participation
Errachidia	5 688	5 415	258	15	95.2 %
Figuig	4 670	4 344	314	12	93.0 %
Ouarzazate	6 856	6 313	543	0	92.1 %
Tata	4 689	4 552	132	5	97.1 %
Zagora	5 039	4 818	214	7	95.6 %

Rates of participation to the inquiry were higher than 90 % in each province. The highest rate of absenteeism was registered in the province of Ouarzazate 7.9 %. Noting down that for the two targeted population, children under 10 years and women of more than 14 years those rates were higher than 95 %. Structures of population samples when they are respectively compared to each of the five provinces provided by the general census of the housing and population of 1994 (GCHP) reveals good samples representative ness.

Prevalence

The following charts illustrate prevalence of different forms of trachoma at the level of the five provinces.

1 . General results- global prevalence of trachoma (all signs confused)

Table 8 : The global prevalence of trachoma (presence at least of one sign of trachoma) varies between 4.2 % in Ouarzazate and 40.6 % in Zagora.

Province	Examined Population	Number of cases	Prevalence (%)	[IC at 95 %]
Errachidia	5 415	1 102	20.4	[17.1 - 23.6]
Figuig	4 344	227	5.2	[2.3 - 6.8]
Ouarzazate	6 313	263	4.2	[3.0 - 5.3]
Tata	4 552	816	17.9	[14.0 - 21.8]
Zagora	4 818	1 956	40.6	[33.7 - 47.4]

2 . Inflammatory trachoma

Table 9 : Prevalence of inflammatory trachoma FT and IT all age and sex confused

Province	#Examined persons	Number of cases		Prevalence (%)		[IC at 95 %]	
		FT	IT	FT	IT	FT	IT
Errachidia	5 415	190	37	3.5	0.7	[2.3-4.6]	[0.2-1.1]
Figuig	4 344	58	02	1.3	0.05	[0.9-1.8]	[0.02-0.1]
Ouarzazate	6 313	53	11	0.8	0.2	[0.5-1.1]	[0.02-0.3]
Tata	4 552	135	24	3.0	0.5	[1.8-4.1]	[0.06-1.0]
Zagora	4 818	510	32	10.6	0.7	[8.3-12.9]	[0.4 -0.9]

The global prevalence of follicular inflammatory trachoma (FT) all age and sex confused varies between 0.8 % in Ouarzazate and 10.6 % in Zagora, then that of intense trachoma (IT), varies between 0.05 % in Figuig 0.7 % in Errachidia and Zagora.

The analysis by age of the active trachoma (FT with or without IT) reveals that prevalence at children aged less than 10 years old, varies between 0.1 % in Figuig and 22.5 % in Zagora. The highest prevalence of intense trachoma (IT) was registered in the province of Errachidia and it does not exceed 1.6 %.

Table 10 : Prevalence of inflammatory trachoma FT and IT for children under 10 years.

Provinces /Sign-Keys	#Examined children	Number of cases	Prevalence (%)	[CI at 95%]
Errachidia				
FT	1 577	149	9.4	[6.5 -12.4]
IT		25	1.6	[0.5 -2.6]
FT /IT		159	10.1	[6.9 -13.2]
Figuig				
FT	1 044	1	0.1	[-00.6 -0.2]
IT		0	0	
FT /IT		1	0.1	[-00.6 -0.2]
Ouarzazate				
FT	1 922	13	0.7	[0.3 -1.5]
IT		01	0.05	
FT /IT		14	0.7	[0.3 -1.5]
Tata				
FT	1 301	67	5.2	[2.7 -7.6]
IT		8	0.6	[-0.2 -1.4]
FT /IT		69	5.3	[2.7-7.6]
Zagora				
FT	1 641	362	22.1	[16.9 -27.2]
IT		21	1.3	[0.6 -2.0]
FT /IT		369	22.5	[17.2 -27.8]

Among children aged less than ten years old, are those who have not yet five years old. Who are more affected since the prevalence of active trachoma (FT and / or IT) varies between 0.2% in Figuig and 30.1 % in Zagora. For the same age portion, the prevalence of the intense trachoma (IT) is a little improved since it does not exceed 2.2 %.

Table 11 : prevalence of inflammatory trachoma FT and IT for children under 5 years and those aged from 5 to 9 years.

Provinces/ Sign-Keys	# Examined Children 0-4 years	#cases	Prevalence (%)	# examined children 5-9 years	# cases	Prevalence (%)
ERRACHIDIA						
FT	712	97	13.6	865	52	6.0
IT		16	2.2		9	1.0
FT/IT		104	14.6		55	6.4
FIGUIG						
FT	444	1	0.2	600	0	0.0
IT		0	0		0	0.0
FT/IT		1	0.2		0	0.0
OUARZAZATE						
FT	808	3	0.4	1114	10	0.9
IT		0	0.0		1	0.1
FT/IT		3	0.4		11	1.0
TATA						
FT	557	42	7.5		25	3.4
IT		7	1.3		1	0.1
FT/IT		44	7.9		25	3.4
ZAGORA						
FT	735	216	29.4	906	146	16.1
IT		14	1.9		7	0.8
FT/IT		221	30.1		148	16.3

3 . Cicatricial trachoma

Table 12 : Prevalence (%) of ST all age and sex confused

Province	Number of examined persons	Number of cases	Prevalence (%)	[CI at 95%]
Errachidia	5 415	830	15.3	[12.2 -18.5]
Figuig	4 344	141	3.2	[1.9 - 4.6]
Ouarzazate	6 313	185	2.9	[2.0 - 3.8]
Tata	4 552	657	14.4	[11.3 - 17.6]
Zagora	4 818	1 441	29.9	[24.3 -35.5]

4 . Blinding trachoma

Table 13 : Prevalence of the trichomatous trichiasis and of cornea opacity all age and sex confused

Signs / Provinces	# Examined Persons	Number of cases	Prevalence (%)	[CI at 95%]
ERRACHIDIA				
TT	5 415	72	1.3	[0.9 -1.8]
CO		65	1.2	[0.8 -1.6]
FIGUIG				
TT	4 344	32	0.7	[0.3 -1.1]
CO		47	1.1	[0.7 -1.5]
OUARZAZATE				
TT	6 313	25	0.4	[0.2 -0.6]
CO		18	0.3	[0.1 -0.4]
TATA				
TT	4 552	60	1.3	[0.7 -1.9]
CO		57	1.3	[0.9 -1.6]
ZAGORA				
TT	4 818	108	2.2	[1.8 -2.7]
CO		50	1.0	[0.6 -1.4]

The prevalence of trichomatous trichiasis varies between 0.4 % in Ouarzazate and 2.2 %in Zagora. Women who are more affected (2 affected persons of trichiasis under three are women).

The data comparison of inquires led in 1997, 1999 and 2001 are given in table 14. The general tendencies of prevalence's fall of active trachoma seem to confirm for the five provinces. Prevalence of the active trachoma (FT and / or IT) for children under ten years have gone downhill in an important way since 1997 (fig 5, 6 and 7). Forms of serious intense trachoma (IT) are no more found especially for children less than five years who represent reservoir of the germ. On the other hand, prevalence of trichomatous trichiasis remain so high (> to 1 %) in the province of Errachidia, Tata and Zagora (Fig 8); certainly, there is a diminution in comparison to 1997 but this fall remains so reserved.

Fig. 5 : Evolution according to targeted provinces of the prevalence of follicular trachoma (TF) for children under 10 years, Morocco 1997, 1999 and 2001

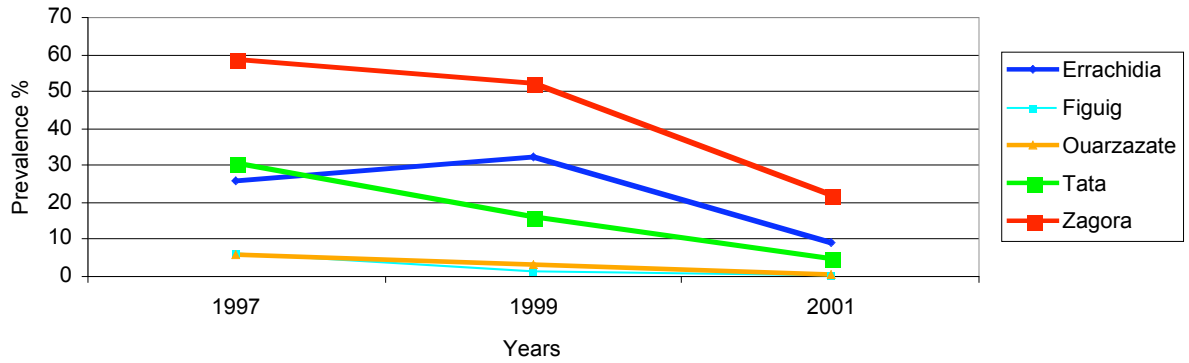


Fig. 6 : Evolution according targeted provinces of the prevalence of intence trachoma (TI) for children under 10 years, Morocco 1997, 1999 and 2001

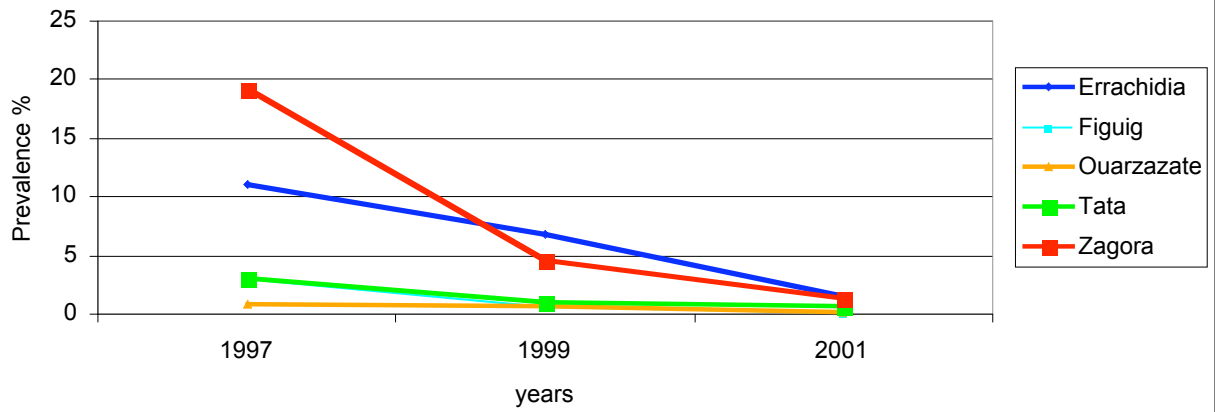


Fig. 7 : Evolution according to targeted provinces of prevalence of active trachom (TF/TI) for children under 10 years, Morocco 1997, 1999 and 2001

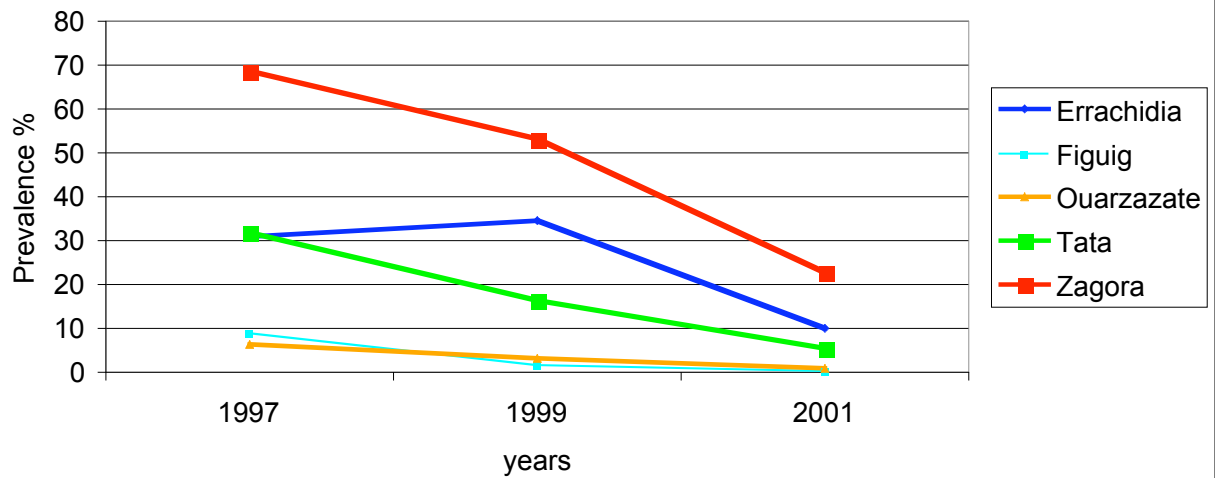


Table 14 : Evolution of prevalence (%)of trachoma per sign, per age group, and per province in accordance with the inquiries of trachoma prevalence in 1997, 1999 and 2001.

Trachoma/ Age Group	Errachidia			Figuig			Ouarzazate			Tata			Zagora		
	1997	1999	2001	1997	1999	2001	1997	1999	2001	1997	1999	2001	1997	1999	2001
At least one singe															
-10 years	32,1	37,4	12,4	8,7	1,2	0,2	6,7	3,6	0,7	33	17,1	6,4	69,5	55,9	26,7
10 years and more	32,7	38,8	23,6	14	12	6,8	15,3	9,5	5,7	36,3	28,4	22,5	70,1	59,3	47,8
Total	32,5	38,4	20,4	12,4	9,4	5,2	12,1	7,8	4,2	35,2	24,9	17,9	69,9	58,1	40,6
FT															
-10 years	25,6	32,5	9,4	6,1	0,9	0,1	5,9	3,2	0,7	30,8	16,0	5,1	58,5	52,4	22,1
10 years and more	7,5	6,8	1,1	9,0	4,9	1,7	6,3	3,1	0,9	23,1	13,8	2,1	40,2	11,5	4,7
Total	13,6	14,6	3,5	8,1	4,0	1,3	6,2	3,1	0,8	25,8	14,5	3,0	47,2	26,7	10,6
FT															
-10 years	11,1	6,8	1,6	2,9	0,5	0,0	0,9	0,6	0,1	3,1	1,0	0,6	19,2	4,6	1,3
10 years and more	5,5	2,6	0,3	0,5	1,2	0,1	0,8	0,9	0,2	1,2	0,8	0,5	10,6	1,7	0,3
Total	7,4	3,9	0,7	1,3	1,0	0,05	0,8	0,8	0,2	1,8	0,8	0,5	13,9	2,8	0,7
FT /IT															
-10 years	30,9	34,5	10,1	8,7	1,2	0,1	6,5	3,3	0,7	31,7	16,2	5,3	68,8	53,0	22,5
10 years and more	11,7	8,2	1,3	9,4	5,7	1,8	6,9	3,6	1,1	23,5	14,1	2,4	44,3	12,4	4,9
Total	18,2	16,2	3,8	9,2	4,6	1,4	6,7	3,5	1,0	26,4	14,7	3,2	53,7	27,5	10,9
Ts															
-10 years	1,9	3,8	2,4	0,0	0,1	0,1	0,1	0,6	0,0	2,4	1,7	1,2	2,3	4,8	5,1
10 years and more	22,6	32,3	20,6	4,9	8,0	4,2	7,8	6,3	4,2	17,2	20,9	19,7	43,3	51,2	42,7
Total	15,7	23,6	15,3	3,4	6,1	3,2	4,9	4,6	2,9	12,1	14,9	14,4	27,6	34,0	29,9
TT															
-10 years	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,2	0,0	0,0	0,5	0,1	0,1
10 years and more	2,0	3,2	1,8	1,0	0,7	1,0	0,8	1,1	0,6	2,7	2,0	1,8	5,1	4,7	3,4
Total	1,3	2,2	1,3	0,7	0,6	0,7	0,5	0,8	0,4	1,8	1,4	1,3	3,3	3,0	2,2
CO															
-10 years	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0
10 years and more	1,8	1,7	1,7	0,7	0,4	1,4	1,3	0,5	0,4	1,6	0,9	1,8	2,3	3,7	1,6
Total	1,2	1,2	1,2	0,5	0,3	1,1	0,8	0,4	0,3	1,1	0,6	1,3	1,4	2,4	1,0

Discussion

On the light of results of this inquiry, we remark that in the five provinces the endemic trachomatous has clearly pulled down. Indeed, the diminution is not uniform at the level of the five provinces and not for all the forms of trachoma. The prevalence of the active trachoma for children under five years has greatly pulled down and this, in accordance to targeted aims in short term by the NBCP (table...). This diminution of prevalence is especially to make under the count of the setting of the S.A.F.E. Strategy.

In effect, the regularly organization of campaigns of treatment by antibiotics particularly the use of azithromycin, associated to sensitizing campaigns of population which have facilitated the scattered documented information upon the promotion of individual and collective hygiene and upon the blinding risk of trachoma, has permitted to react upon the transmission of chlamydia within population and then to reduce the prevalence of the active forms of the disease (table 15). On the other hand, though the taken efforts in the matter of the taking of trichiasis surgical cases, the prevalence of this complexity still remains high in certain zones and additional efforts better targeted are to foresee during the next years.

Table 15 : Results (variation in % between the two inquiries: 1997 / 2001)

Trachoma Age Group	Errachidia			Figuig			Ouarzazate			Tata			Zagora		
	1997	2001	Var.(%)	1997	2001	Var.(%)	1997	2001	Var.(%)	1997	2001	Var.(%)	1997	2001	Var.(%)
FT (< 5 years)	27,7	6,0	-78,3	2,7	0,2	-92,6	5,9	0,4	-93,2	28,3	7,5	-73,5	57,9	29,4	-49,2
IT(< 5 years)	11,2	1,0	-91,1	3,8	0,0	-100,0	1,5	0,0	-100,0	5,6	1,3	-76,8	25,3	1,9	-92,5
TT(women > 15 years)	2,9	2,4	-17,2	1,9	1,3	-31,6	0,8	0,3	-62,5	3,3	2,5	-24,2	7,2	4,0	-44,4

CONCLUSION

The Moroccan program of the fight of blindness have engaged in the elimination of the blinding trachoma process since ten years ago, the objective of elimination is fixed on 2005 horizon. The analysis of the actual situation allows thinking that this objective could be achieved and finding its justifications in making level of knowledge and the availability, of technical means of human resources and of political will.

The S.A.F.E. Strategy is made in application in its four components, indeed curative components getting known of the trichiasis surgery and the antibiotic treatment of inflammatory forms, were easier to make in place to those relative to the sanitary education of the population and development of endemic communities. The latter are actually operational thanks to the commitment of the governmental partners, of the civil society and of the population itself. The results began to be "palpable":

- The benefits of the "advanced surgery of community basis" have allowed to sponge up in portion the backlog of trichiasis, the surgery is well accepted by the population and the operated patients are in most cases satisfied of the intervention's result thanks to the quality of the delivered benefit and of the following ups of the operated patients. The inflammatory forms of the disease seem to be controlled thanks to the yearly campaigns of mass treatment. The latter have become regularly because of the availability of qualified human resources and of antibiotics particularly the azythromycin.
- The participative approach made particularly in place for supplying with good water at the level of localities which lack the draining, to couple with the information, education and communication program targeted on vulnerable population and to governmental actions led in the frame of quinquennial plan 2000 - 2004 have allowed an improvement of individual and collective behavior on the level of hygiene.

It must be however, maintain and even intensify during the next three years i) the screening efforts and the surgery taking in charge in order to sponge up all the trichiasis backlog, ii) campaigns of treatment by antibiotics and of sanitary education of population to break off the transmission of chlamydia cycle, iii) the basis infrastructure development at the level of the more destituted localities, iv) the placement of a surveillance system organized to hope to reach the dream of the blindness elimination caused by trachoma on 2005 horizon.

Summary

The kingdom of Morocco has remained among the pioneers of the fight of trachoma and this in all fields, either on the matter of research, the screening and of treatment, or on the matter of prevention. Great specialist and experts as well as international agencies as WHO and UNICEF have contributed in the endemic reduction on the national level. This tradition is not as much lost and keeps on today, even if trachoma dose represent a problem only at the level of the five south eastern provinces namely Errachidia, Figuig, Ouarzazate, Tata and Zagora.

The fight of trachoma benefices in Morocco actually of political commitment and a will of highest level of the decision makers. This commitment is translated on the field by the availability of material resources especially human, motivated to destroy this bane near the year 2005. It could also rely on the technical and financial support in the frame of a partnership concluded between international organizations, national governmental partners and the civil society. Morocco has been one of the first countries to rally the WHO alliance for the world elimination of blinding trachoma near the year 2020, to actualize and restructure its program by making in practice and in developing in "parallel", the four component of SAFE Strategy ; in this frame of activity, the trichiasis surgery is gratuitous and accessible to the majority relaying on an advanced strategy of community basis thanks to the availability of material and human resources, a large part of the backlog was sponged and efforts are preserved and will continue to reach the target. The treatment of inflammatory forms by antibiotics is regularly organized each year and covers the totality of the targeted population. The therapeutic strategy is so good coded and controlled by the totality of participants. Antibiotics, of which azithromycin, are available and their distribution is managed in a rational way. The prevalence of inflammatory forms for children under ten years, a real reservoir of chlamydia, pulls down in a regular way since 1997. This reduction affects till 90 % in certain provinces; In addition to that, forms of intense trachoma are more and more rare. Their prevalence does not exceed 2%.

In terms of education of the population the program has privileged techniques of interpersonal communication and interventions of proximity. Canals of communication are so good hanged, spaces of communication are well known and activities are organized under the form of campaigns three times per year in parallel with proposed curative activities. In addition to that, the program has adopted the approach of community participation which has allowed counting on a partner of a shape authorizing a greater credibility of exempt benefit. The integration of the formal education in the fight of trachoma in the course of fundamental schooling education (primary and secondary) is an acquired of which

the impact will be positive in a long term. The intersectoral partnership established between the Ministry of Health, certain governmental partners and civil society with the support of international organizations, has allowed the achievement of a large number of projects in community development as the providing with clean water, the sanitation and specifically the integration of woman in the process of development by illiteracy and by putting on place the revenue generating.

All in All, since its putting on place, the national program of the fight of blindness was able to record a notable acquired in the implementation of different components of its strategy of the fight of trachoma. This strategy which is adapted to the context of endemic areas and which has evaluated with the recorded progress in the international scale have allied a coherent fanned out action which have articulated around the following axis:

- The undertaking of inflammatory forms of the disease and of its pre blinding complications,
- Prevention of trachoma by information and sensitizing of endemic population
- Reinforcement of the involvement of the civil society and of other social sectors for the development of the infrastructure basis of endemic communities.
- Evaluation of activities and epidemiological surveillance of trachoma and its complications.

The hope of eliminating the blinding trachoma is more than permitted, all ingredients are present namely i) The political commitment, ii) The support of the WHO and the International Trachoma Initiative, and iii) The commitment and the will of all participants to win the enemy judged: **Poverty.**