FAMILY PLANNING MONITORING (FPM) IN TUNISIA (1973-1979): FINDINGS AND IMPLICATIONS FOR THE NEXT FIVE-YEAR PLAN (1982-1986)

SURVEILLANCE DU PLANNING FAMILIAL (SPF) EN TUNISIE (1973-1979): OBSERVATIONS ET IMPLICATIONS POUR LE PLAN QUINQUENNAL (1982-1986)

Roger P. Bernard[1]
et
A. Charffedine[2]

An Inquiry into the Trends of (Incidence and Prevalence) of Protection and Fertility

Une Etude des Tendances des (Incidences et Prédominances) de Protection et de Fécondité

Report developed in April, 1980, subsequent to the Bilateral ONPFP/USAID Evaluation of the National Family Program in October, 1979 (Phase 1) and in March, 1980 (Phase 2).

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[1]Director of Field Epidemiology, International Fertility Research Program, and International Federation for Family Health, Geneva, Switzerland.

[2]Chef de Section de Surveillance Epidémiologique, Division de Recherche, Office National du Planning Familial et de la Population, Tunis, Tunisie.

RÉSUMÉ / ABSTRACT

Cette étude propose un examen approfondi des résultats obtenus par l'ONPFP durant les premières sept années de son existence (1973 - 1979).

L'approche méthodologique est, par excellence, celle de l'épidémiologie analytique: la prédominance de protection effective (PPE) ainsi que l'incidence du nouvel apport (INA) de planning familial sont étudiées dans le temps (une séquence de sept années) et dans l'espace (18 ou 15 entités géographiques: les gouvernorats) pour en dériver le potentiel d'impact selon les méthodes. De même, "l'oeil épidémiologique" prend sous sa loupe la tendance de fécondité par âge pour en crystalliser un réservoir à grand potentiel pour l'action de PF.

(1) L'étude des tendances de l'éventail des méthodes (incidence) au niveau du gouvernorat permet alors de proposer une meilleure répartition des méthodes de PF pour augmenter très sensiblement l'impact démographique du programme national durant le prochain plan quinquennal (1982-1986). Une période de transition de deux ans (1980-1981) est jugée nécessaire et suffisante pour l'adaptation à un régime d'incidences qui mènerait à cette nouvelle répartition. La composition de l'éventail des méthodes va subir un enrichissement autant qualitatif que quantitatif en introduisant - petit à petit - les injectables et en favorisant une *évolution naturelle* de la composition de l'éventail des méthodes vers les méthodes à rendement démographique plus conséquent. L'équilibre du nouvel apport annuel atteint à la fin du plan quinquennal serait alors comme suit: 20% de méthodes secondaires, 30% de pilules, 30% de D.I.U. et d'injectables, et 20% de ligatures des trompes (Fig. 19). Les avortements sociaux évolueraient sans avoir fixé des objectifs - témoignant ainsi de l'efficacité du programme.

(2) L'étude des tendances de fécondité par âge (incidence) a démontré l'existence actuelle d'un très grand réservoir de femmes mariées, dans leur trentaine et quarantaine, à risque élevé de voir continuer leur fécondité bien qu'elles soient, pour la plupart, des grandes multipares dont les risques accrus pour la santé de famille (mère *et* enfant) sont à redémontrer aussi en Tunisie (Etude genre OMS: santé familiale). La convergence de ces deux risques réels justifie amplement la "médicalisation du PF" en introduisant en priorité les injectables et les ligatures des trompes comme une prestation de routine dans chacun des 18 gouvernorats. Il n'y a pas tâche plus grande que de garantir la mise en place de ces prestations au niveau régional durant 1980 et 1981 (Fig.23).

(3) L'étude des tendances de prédominance de protection effective (PPE) a permis de constater un arrêt du *progrès de la protection* durant l'année 1979 pour la Tunisie entière; l'analyse géographique montre que cela est le résultat d'évolutions opposées au niveau régional. Trois gouvernorats ont vu leur taux de protection augmenter de plus de 1% des FMAR: Gafsa, Sousse et Siliana. Suivent alors quatre gouvernorats avec un accroissement de 0.5-0.9%: Kasserine, Béjà, Le Kef et Monastir; tandis que les cinq gouvernorats suivants ont subi un accroissement minime (0.03-0.25%): Jendouba, Kairouan, Zaghouan, Gabès et Bizerte. Par le recul de leur niveau de protection générée à travers les années par le programme national de PF, les 6 gouvernorats suivants ont réussi a neutraliser le peu d'avance enregistré durant 1979: Sfax, Medenine, Tunis, Mahdia, Nabeul et Sidi Bouzid. A eux seuls, ils groupent 46% des FMAR. Cette observation montre bien que le programme national de PF doit accentuer ses efforts autant dans les grandes villes que dans le rural. Un programme postpartum bien fourni devrait aider à surmonter assez rapidement les creux qui se tranchent actuellement à Tunis et à Sfax, parmi d'autres (Fig. 5). La mise en place d'un système de surveillance des soins de maternité (SSM) permettra - parmi d'autres considérations - de quantifier l'apport nouveau de PF dans les institutions par rapport au dénominateur de l'obstétricien: le nombre d'accouchements. Les maternités ont besoin de"leur étude épidémioloque".

(4) L'étude des prédominances de protection effective au niveau régional révèle une très faible protection pour les gouvernorats de la Tunisie centrale et la Tunisie du sud (Figs. 2,3 et 4). L'étude des tendances d'incidence par méthodes montre par ailleurs que l'apport à travers les années a été généralement faible (Série des Fig. 9, en annexe). Il est évident qu'un apport substantiel dans ces gouvernorats devra se planifier dans le contexte d'un programme de santé rurale à mettre sur pied sans attardement. L'aide bilatérale a ici une occasion unique puisque les besoins ont été identifiés avec une précision épidémiologique exceptionnelle. Le défi est de concevoir et aider à réaliser en commun un projet combinant les aspects essentiels de la "santé de famille et de reproduction" -- les deux éléments étant inextricablement liés.

(5) Ce n'est que par le truchement d'un dénominateur commun (les femmes mariées en âge de reproduction: FMAR) que ce véritable tissu d'études épidémiologiquesa vu se tisser en un temps record. La surveillance mensuelle du programme national de planning familial devient assez sophistiquée, puisque

l'Office a su se procurer les numérateurs par méthode et région, ainsi que les dénominateurs à travers le temps. Une ère nouvelle s'ouvre donc sur son deuxième septennat de travail ardu pour favoriser une pénétration équitable de l'action du PF à travers la Tunisie toute entière. La mise à jour systématique des profils épidémiologiques permettra de mieux saisir la nuance de l'effort nécessaire pour garantir un progrès réel dans chaque gouvernorat. Au moins deux fois par an une revue totale de l'évolution du programme de PF au niveau régional devient maintenant la réalité opérationnelle la plus promettante. Le programme est devenu transparent à ses propres points forts et faibles. L'analyse épidémiologique continue sera le meilleur garant pour le progrès optimal du programme national puisqu'elle agit comme agent promoteur au niveau régional.

(6) Une des finalités de la surveillance épidémiologique du programme national de planning familial est de déterminer ce qui est possible à réaliser dans le cadre d'un système grandissant, essentiellement mis en place durant le premier septennat de l'Office. Cette rétrospection quantifiée mène à prouver ce que les dirigeants de l'Office avaient commencé à percevoir il y bien des années: que la médicalisation du planning familial -- la responsibilisation du médecin -- doit nécessairement intervenir pour mener le programme national à ses potentiels réels. Il faut bien le souligner, l'aspect quantitatif n'est pas un but en soi. C'est la médicalisation du programme qui va enfin permettre à la "santé familiale" de se déployer professionnellement à travers tout le réseau de la santé publique. De la surveillance du programme de PF à la surveillance des soins de maternité il n'y a qu'un petit pas de technicité: le dénominateur commun (FMAR) est soumis à un échantillonage biologique: le souci de prévention et curatif se dirige surtout vers les femmes ensceintes qui accouchent et allaitent parmi toute les femmes mariées en âge de reproduction.(FMAR). Le médecin penche son regard sur ce sous-groupe à haut risque. Une des grandes tâches nouvelles de l'Office est donc de soutenir de plus en plus les facultés de médecine et le ministère de santé dans une recherche ardue et par une surveillance des soins de maternité -- allant du début de la grossesse jusqu'à la fin de l'allaitement en passant par l'accouchement -- afin de garantir l'évaluation continue de la santé de famille dont le planning familial n'est qu'un volet - bien que l'un des plus importants. Ainsi, la surveillance du programme de PF apparaît comme le premier pas vers une surveillance plus large; aussi la surveillance des soins de maternité apparaît comme l'extension naturelle d'un processus mis en route par l'Office à travers le pays.

(7) Le caractère mixte, bilingue, de cette mission tuniso-américaine d'évaluation a posé - une fois de plus, hélas - le problème de communication et de compréhension mutuelle, en particulier lorsqu'il s'agit de mettre sur papier les observations et recommandations. En outre, ce travail d'analyse et de synthèse se propose d'aller bien au delà d'un rapport à ranger dans la bibliothèque. Il s'agit d'acquérir une façon de penser et de travailler qui génère des solutions tout au long de l'évolution d'un programme dont la phase actuelle n'est que transition. Nous traitons d'un seul élan toute une série de questions dont chacune est en fait une étude particulière dans un contexte complexe dans le temps et dans l'espace. (1) "Où avons-nous abouti aujourd'hui?" est traité par la protection actuelle; (2) "Que faisons-nous aujourd'hui?" est traité par l'apport nouveau de protection; (3) "L'éventail des méthodes influe-t-il sur la protection démographique ultérieure?" trouve une réponse par une comparaison de la prédominance de protection et l'incidence des méthodes à travers le temps; (4) "A quelle vitesse faut-il développer le "progrès" des incidences d'apport pour chaque méthode?" doit trouver une réponse dans l'évolution du passé pour chaque méthode dans chaque région, c'est-à-dire dans une étude des méthodes dans le temps et dans l'espace; (5) "Quels sont les groupes prioritaires de population à atteindre dans un programme de PF visant à un impact démographique précoce?" trouve sa réponse dans l'étude des tendances des taux de fécondité par âge: un réservoir important de femmes à double risque néfaste fut identifié (Fig. 23); etc.
De répondre à ce tissu de questions d'une manière cohérente et en se basant sur les faits n'est possible qu'immédiatement après une telle mission à échanges de vues et d'informations multiples et en profitant pleinement du privilège d'accès aux données fiables et des plus récentes. D'où la responsabilité accrue de partager tout ce qui semble faire sens lors d'une synthèse épidémiologique. Mais il y a aussi apprentissage continu et il importe de donner les étapes. Une telle esquisse méthodologique demande documentation successive. Il nous a paru que le trait d'union entre membres de la mission mixte et les collègues à diverses spécilisations est l'image scientifique, le graphique. Un grand soin a été appliqué à l'élaboration de ces 38 (23+15) graphiques documentés; c'est la vraie structure de ce travail et ayant comme point de départ une "mini banque des données". Ces graphiques et 10 tableaux en content bien plus que le texte en serait capable dans une version française ou anglaise. Les perceptions sont plus nuancées à partir d'une exposition permanente et continue des faits et des options esquissées. Par ailleurs, la liste des figures ainsi que celle des tableaux ont été donné dans les deux langues.

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PF	Planning Familial	...	FP	Family Planning
Surveillance		...	Monitoring (Surveillance)	
SPF	Surveillance du Planning Familial		FPM	Family Planning Monitoring
SSM	Surveillance des Soins de Maternité		MCM	Maternity Care Monitoring
SSSP	Surveillance des Soins de Santé Primaire		PHCM	Primary Health Care Monitoring
SCT	Surveillance Cumulative des Tendances		CTM	Cumulative Trend Monitoring
Dénominateur		...	Denominator	
FMAR	Femmes Mariées en Age de Reproduction (15-49)		MWRA	Married Women of Reproductive Age (15-49)
Incidence (Taux pour 1000 FMAR)		...	Incidence (Rate per 1000 MWRA)	
INA	Incidence du Nouvel Apport de PF		INA	Incidence of New Acceptance of Family Planning
IN-APF	Indice de Nouvelle Activité de PF = La somme de 6 taux		IN-APF	Index of New Family Planning Activity = The sum of 6 rates
IN/LT	Incidence des Ligatures des Trompes		IN/LT	Incidence of Tubal Ligation
IN/AS	Indicende des Avortements Sociaux		IN/SA	Incidence of Social Abortions
IN/INJ	Incidence des Injectables (n'lles)		IN/INJ	Incidence of Injectables (primary)
etc			etc	
Prédominance (Taux pour 1000 FMAR)		...	Prevalence (Rate per 1000 MWRA)	
PPE	Prédominance de Protection Effective		EPP	Effective Protection Prevalence
PPE/TM	PPE par toutes méthodes		EPP/AM	EPP ascribed to All Methods
PPE/LT	PPE par Ligatures des Trompes		EPP/TL	EPP ascribed to Tubal Ligations
PPE/INJ	PPE par Injectables		EPP/INJ	EPP ascribed to Injectables
etc			etc	
Tendance	Evolution dans le temps	...	Trend	Evolution over time
ACT	Analyse Cumulative des Tendances		CTA	Cumulative Trend Analysis

TABLE DES CONSIDERATIONS / LIST OF CONSIDERATIONS

FAMILY PLANNING MONITORING (FPM) IN TUNISIA (1973-1979): FINDINGS AND IMPLICATIONS FOR THE NEXT FIVE YEAR PLAN (1982-1986)

R.P. Bernard and A. Charffedine

1. INTRODUCTION

Seven years have gone by since the creation of the Office National du Planning Familial et de la Population (ONPFP) in March of 1973. The "Office" has developed a program that may be envied by most countries regarding vision, humanitarian goals, technical execution and the capacity to monitor by both region and method across time.

Despite the non-availability of electronic equipment for data processing, it was possible to establish within a month a historical profile of the evolution of the Tunisia Family Planning Program (TFPP) spanning from the year 1973 through February, 1980. This Report is part of the Phase-2 mid-term GOT/USAID evaluation effort of March, 1980 and was developed during April, 1980 in Geneva after many discussions with the coauthor on field trips and in counterpart meetings at the Office in Tunis.

The epidemiological surveillance of FP evolution is the most important source of knowledge for improving the national program -- presently at a turning point. The major goal of this piece of analytical and synthetic work is to derive meaningful options for the (1) continued national penetration, (2) increased effectiveness, and (3) surveillance documentation.

This analysis comes at a time when options for the next five-year plan (1982-1986) have to be translated into quantified objectives. The payoff of this epidemiological review is to develop one set of options that builds upon the experience of the past 7 years (1973-1979). The next 7 years may be subdivided into a 2-year period of transition (1980-1981) and the actual five-year plan. The overall objective is to double the annual protection conferred by the National Program from 1979 to 1986. This can be achieved by shifting the method mix gradually towards greater demographic impact potential. In 1974, tubal ligations had a share of 20.8% of the primary methods; by 1979 that share had melted to 11.2%; the

goal is to carry that share back to 19.0% by the year 1986 and to be maintained at 20% during the subsequent five-year plan. For primary IUD insertions and tubal ligations, the conferred protection incidence would thus pass from 125.5 thousand couple years of protection (CYP) in 1979 to 237.2 CYP in 1986. The gradual introduction of injectables would complement the rapid increase in annual input of CYP and bring it well above double the rate experienced in 1979. Hence, by the end of the next five-year plan, the Effective Protection Prevalence would have increased sharply and thus have contributed directly to an acceleration in the decrease of national fertility. Indeed, the Crude Birth Rate (CBR) may be well below 29/1000 by 1986 if the goals are to be met from year to year.

The practical outcome of this analysis and forward projection of realistic objectives of increased program efficiency may be summarized as follows. The incidence of new IUD and Tubal Ligation acceptors -- expressed as mean work day by gouvernorat (300 workdays and 18 gouvernorats) -- would have to pass from 4.8 to 5.2 for IUDs and from 1.5 to 4.2 for Tubal ligation per day and gouvernorat from 1979 to 1986. It should be kept in mind that in 1974 the corresponding figures were 3.5 and 2.0, respectively; and that already in 1979 the mean work day performance of tubal ligation for Bizerte and Béja was 3.7, and 3.2, respectively, that is quite close to the 1986 'average goal'. Of course, with increasing "medicalisation" of the family planning program, and the systematic establishment of family planning sections in the many new maternités during the next few years, the targets appear modest. Nevertheless, the setting of objectives cementing the greatest revolution of the twentieth century : the family's right to plan the number and timing of offspring, should be such that it remains feasible within a context of various other development priorities.

A particular feature of this analysis is to study "regional case histories". In essence, each gouvernorat has its own administrative, sociocultural, and even motivational dynamics and many pilot projects have unfolded in this or that region. Hence, it is of utmost importance to document, by region, the patterns and trends of contraceptive input evolution, so to speak as a first step in the effort to determine which approach, or which elements of various approaches, are generating which results. Clearly, analytical epidemiology will thus set the stage for meaningful family planning penetration at the regional level during the Eighties. In addition, the documentation of the regional case histories may be a rich source for the arab/francophone countries.

2. MATERIALS AND METHODS

All source material was provided by the ONPFP. The numerators by primary methods and gouvernorat spanning from 1973 to February 1980 are readily available at the Division de Recherche. An important series that was carried from 1974 to the present is: Statistiques de Planning Familial . New acceptors , by method and gouvernorat, are tabulated each subsequent month after actual occurrence. Thus, the the bilateral mission had access to the January and February, 1980 figures towards the end of March, that is before terminating the second-phase evaluation. Immediate "historical/epidemiological" analysis of this information provided essential knowledge on the presently occurring new increase in performance that was incorporated in the final briefing session and then developed into a special section of this report.

The denominators were also immediately available. The Married Women of Reproductive Age 15-49 (MWRA) were derived from a special publication of the Office: Projections de la Population Tunisienne par Delegation, Sexe, Age et Année: 1975 - 1986 . In order to provide scope and continuity, backprojections were made for the years 1974 and 1973 (rb). In addition, the relevant trend studies provide for adding the 1980 performance in early 1981 in order to initiate participatory thinking by the délégués, FP staff and medical personnel at the regional level. Clearly, this sharing of information will lead to better performance at the regional and thus national level, since there is no greater motivation than that built upon known previous performance *within and across* regions.

The basic unit of measurement of performance, by region and method, is the number of new method-specific acceptors per 1000 MWRA. This applies also to the incidence of social abortions. By adding up all rates of method-specific acceptance -- inclusive of social abortions -- one can derive a summary Index of New Family Planning Activity (IN-FPA). For instance, in 1979 that index was 168.7/1000 MWRA for Sousse against only 39.0/1000 MWRA for Kairouan -- ironically, two adjacent gouvernorats showed an over fourfold difference in primary FP activity, which suggests the need for one gouvernorat helping the neighbor to seriously improve its performance during the years to come.

Annual new program performance (INCIDENCE) by gouvernorat determines,

together with the method specific decay rates (lowest for tubal ligation, much higher for all other methods), Effective Protection PREVALENCE (EPP), expressed as rate per 100 MWRA. The Office had available the EPP-Profile as of 1st January 1979 , and upon request, calculated the updated profile as of 1st January 1980 still during the bilateral evaluation mission in March of 1980. In other words, the truly exceptional situation has arisen, when both (1) Prevalence and (2) Incidence can be studied as (3) Trend in each (4) Gouvernorat for (5) all FP Methods. Actually, the material is so rich in completeness and information, that the analyst is now confronted with the "embarras du choix". Clearly, the present analysis can only be the beginning of the systematic application of principles of analytical epidemiology to surveillance data. A new methodological window opens into the 1980's, based on conscientious monitoring of new family planning input. Clearly, only electronic data processing and analysis could fully exploit the growing data bank -- an option that has to be deferred -- possibly for many years -- due to non-availability of equipment and software.

Meanwhile, the present analysis will adhere to the basics of analytical epidemiology, giving (1) intervention and (2) effect by (3) place and (4) time a major consideration and deferring more sophisticated inquiry of (5) cause-to-effect interaction to a time when electronic data processing and software packages are available.

Particular consideration has been given to (1) ranking of performance and protection rates by region, (2) the study of the method-specific trend by region, and (3) a cumulative trend analysis (CTA) , the latter by studying the "current year's performance in the making" (cumulative time windows). Instant accessibility of this information requires rich pictorial presentation for both central study and regional feedback in order to provide the information needed to steer and affect the annual performance at the regional and national levels.

Finally, the findings are the basis upon which the short and mid-range objectives have to be built. While looking backward seven years, realistic objectives are developed for the next seven years. Social abortions are considered as an indicator rather than as a family planning method per se. Hence no targets should be set in a country that has legalized and made available this "last resort method". But differential incidence by gouvernorat may signify differences in availability/accessibility - a matter of serious concern.

3. FINDINGS

3.1 Evolution of Protection

As shown in Fig. 1, the level of national protection prevalence generated by the Public Sector Program (bold line) increased with *acceleration* from 1974 to 1977 (+1.57, +1.79, +2.46 %age points); followed by a dramatic *deceleration* of build-up, reaching a perfect plateau at the end of 1979 (+2.46, +1.25, + 0.24, +0.04 %age points). This S-curve had its inflection point during 1977. In 1979, the total new input of the ONPFP's public program was just sufficient to maintain the protection prevalence attained at the beginning of that year.

Consideration 1: Routine Family Planning Monitoring (FPM) constitutes an *early warning system*: unless new life is injected into the ONPFP public sector program, the performance of 1980 will not be sufficient to maintain the protection level obtained by previous programmatic inputs. The public sector program would thus cease to directly contribute to a further lowering of the fertility rate.

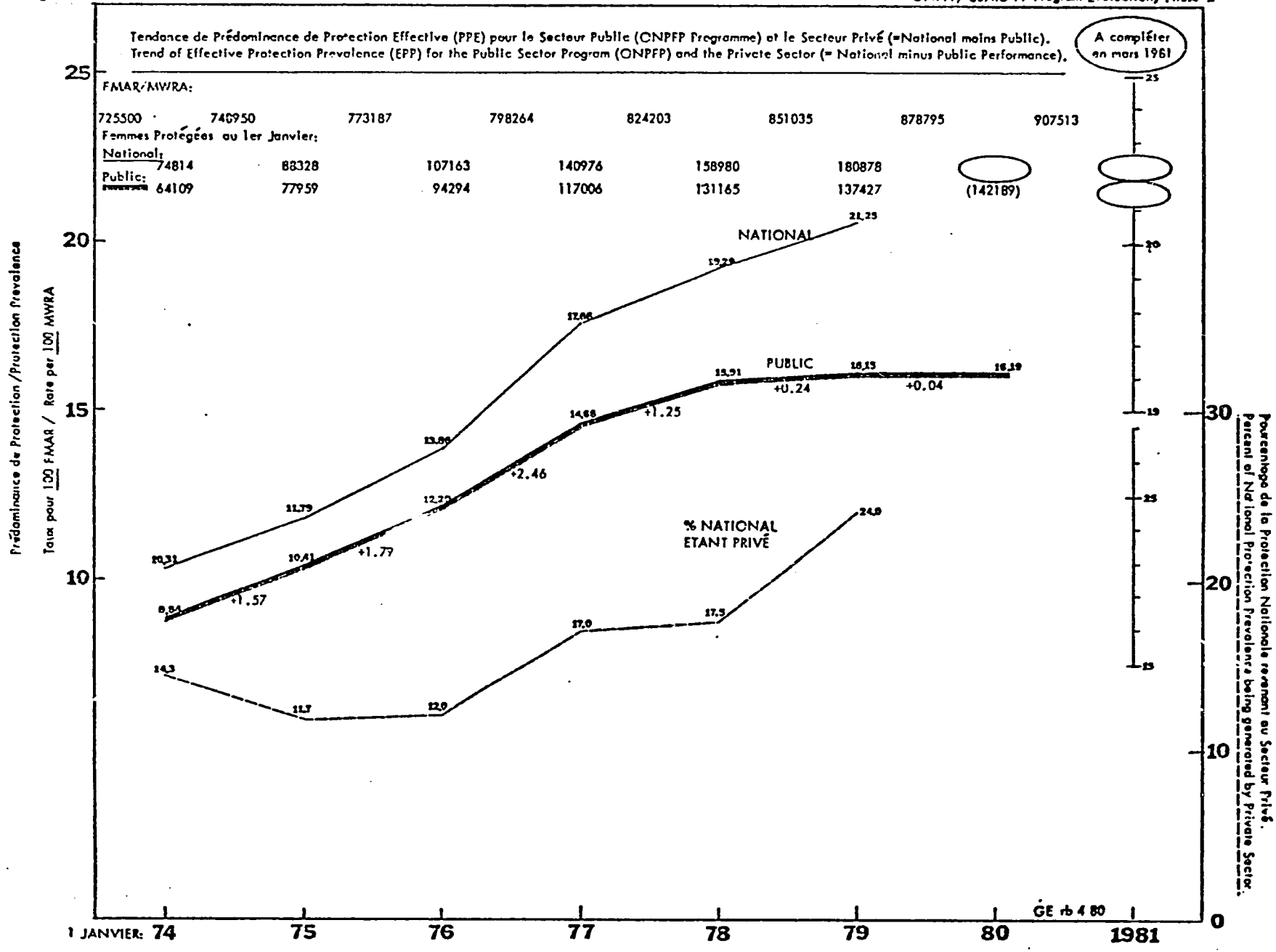
The *S-shaped trend* of the Effective Protection Prevalence (EPP) teaches a lesson insofar as the inflection point could have been spotted as an alarm sign already in early 1978, that is two years ago. At that time, the increase of protection prevalence during 1977 had been cut into half (1.25/2.46 = 0.508): that first alarm was missed, at least regarding its implications. One year later, in early 1979, a second alarm could have been sounded, since during 1978 the increase of protection prevalence was reduced to one tenth relative to the year 1976 (0.24/2.46 = 0.098). Presently, we are at a turning point because no action following the third alarm would mean the start of the decline of the protection prevalence acquired at high cost and with a great apparatus stretching into the 18 regions: the annual increase in protection prevalence during 1979 came to a virtual standstill (0.04/2.46 = 0.016).

The S-shaped trend indicates that the *present system* of PF intervention has yielded its best returns and that new avenues have to be searched for bringing about a positive inflection point. Per se this observation has no deprecatory implications on the program performance of the seventies. Any country has to start within many restrictions and it is only an epidemiological retrospection that can indicate new needs to be met for sustained program performance.

Fig. 1 also shows that the Private Sector takes an increasing share of the national protection prevalence, reaching almost one quarter at the end of 1978. Nevertheless, it is quite obvious that the desirable "fuite vers le secteur privé" cannot explain the major part of the increase of national

Figure 1. **TUNISIE**

ONPFP/USAID FP Program Evaluation, Phase-2



protection prevalence generated by the public sector program having come to a grinding halt.

Consideration 2: Stagnation of program performance has had two easy explanations: (1) Shift from public to private sector, and (2) gradual exhaustion of the reservoir of eligible couples. Careful study of these two questions leads to the following conclusions:

(1) While it is true that -- particularly in urban areas -- new acceptors may recruit themselves more and more into the private sector, and that the sales of orals and condoms have been on the increase, it is as much true that this is virtually restricted to urban centers. Around two thirds of the gouvernorats remain preponderantly rural and the private sector recruitment remains negligible. It is exactly these rural gouvernorats that show the lowest EPP, often much below 10% of MWRA. Clearly the lion's share of eligible couples (MWRA) has not been reached by neither the public and less the private sector. This leads to the second point.

(2) The reservoir of unprotected eligible couples remains very large. On average, absence of EPP for the following gouvernorats in combination is 93% of the eligible couples: Sidi Bouzid, Medenine, Kairouan, Gabes, and Kasserine and they constitute over one quarter of Tunisia's MWRA. A second quarter of the MWRA with an average of 85% unprotected women at the beginning of 1980 is made up by the following five gouvernorats: Zaghuan, Mahdia, Gafsa, Nabeul, and Sfax. Clearly, the argument of the exhausted reservoir will have to wait for another decade to become worthy of serious consideration, and only so if the annual programmatic input would generate annual increases in EPP of , say, 3-5 %age points -- a practical impossibility.

The experienced trend of the EPP curve in Fig.1 conveys one important additional lesson: It should be possible to achieve an increase of *two percentage points annually* by the public sector program of ONPFP, a rhythm basically attained during the calendar years 1975 and 1976. This figure should be retained as a feasible target.

3.2 Protection Prevalence by Gouvernorat and Method: Its recent trend

Fig. 2 gives the EPP by gouvernorat, and within gouvernorat for tubal ligations (white base) and all other methods (grey top), for the cutoff date of 1. January, 1980. The connection with Fig. 1 is given by the All-Tunisia value of 16.19 % EPP.

Three gouvernorats reached EPP values of 25% (Le Kef, Siliana, and Béja) that harbor one-eighth (12.6%) of all MWRA of Tunisia. These three gouvernorats have also the highest EPP pertaining to tubal ligations (EPP/TL), 18.6% for Siliana, 16.0% for Béja, and 11.5% for Le Kef. At the other extreme, four gouvernorats had EPP values well below 10% (Sidi Bouzid, Medenine, Kairouan, and Gabès); they contain over one-fifth (21.1%) of all MWRA of Tunisia, and the EPP/TL values were 1.5% for Sidi Bouzid, 2.1% for Medenine, and 4.4% for Kairouan. The next three gouvernorats (Kasserine, Mahdia, and Zaghuan) showed EPP values between 10.0 and 14.9% with EPP/TL ranging from 2.8% to 8.4%. Together with the lowest prevalence group, they make up one-third (33.2%) of all MWRA of Tunisia. Clearly, they constitute the gouvernorats that will need special programmatic attention by the ONPFP if a *growing gap in EPP* with many other gouvernorats is to be narrowed.

Because of their population size the three gouvernorats of Tunis, Sfax and Nabeul merit particular attention. Indeed, they contain almost one-third of all MWRA (32.2%): high values of EPP would affect quite dramatically the All-Tunisia protection prevalence. The recorded EPP values are 19.5, 17.3, and 16.9% MWRA, respectively for Tunis, Sfax and Nabeul, the corresponding values of EPP/TL being 7.1, 8.8, and 5.9% MWRA: not particularly high in the overall context. Disquieting is the fact, as noted by comparing the EPP values one year apart in Fig. 3, that all three gouvernorats sustained a *reduction* of their EPP levels during 1979; for Tunis from 19.9% to 19.5%, for Sfax from 17.4% to 17.3% and for Nabeul from 18.2% to 16.8%. In addition, while the EPP/TL is more resistant to "caving in", as noted by a concomitant increase of their values (from 6.3 to 7.1% in Tunis and 8.1 to 8.8% in Sfax), Nabeul managed to see its EPP/TL decrease from 6.0 to 5.9%.

Consideration 3: The one-year trend analysis of EPP identified Nabeul as being in serious trouble with a sinking of the prevalence by 1.3%age points. This needs immediate attention.

Figure 2. PREDOMINANCE DE PROTECTION EFFECTIVE (PPE): Selon Méthode de PF and Regions
EFFECTIVE PROTECTION PREVALENCE (EPP): by Method of FP and Region
Date: 1 January/Janvier, 1980

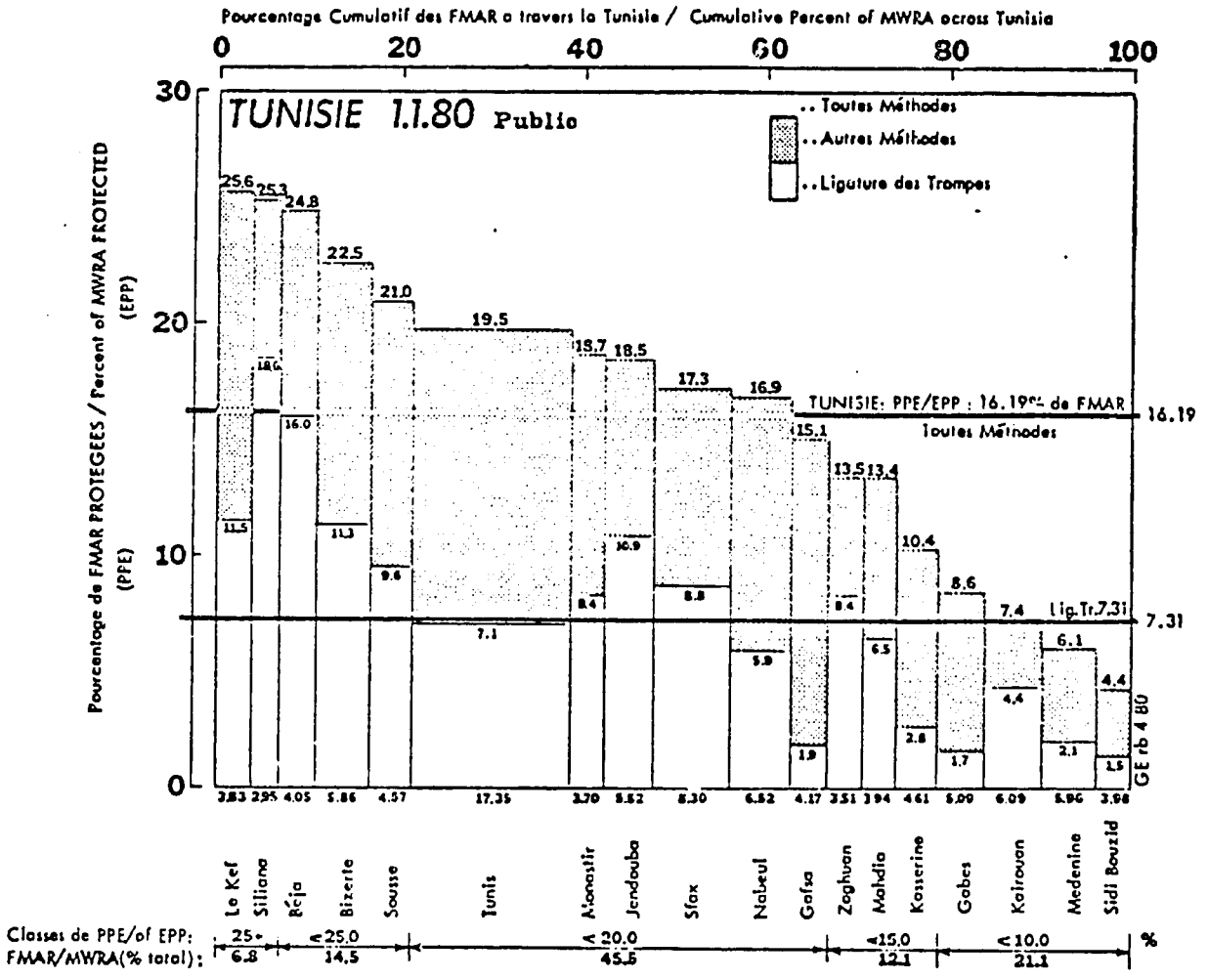
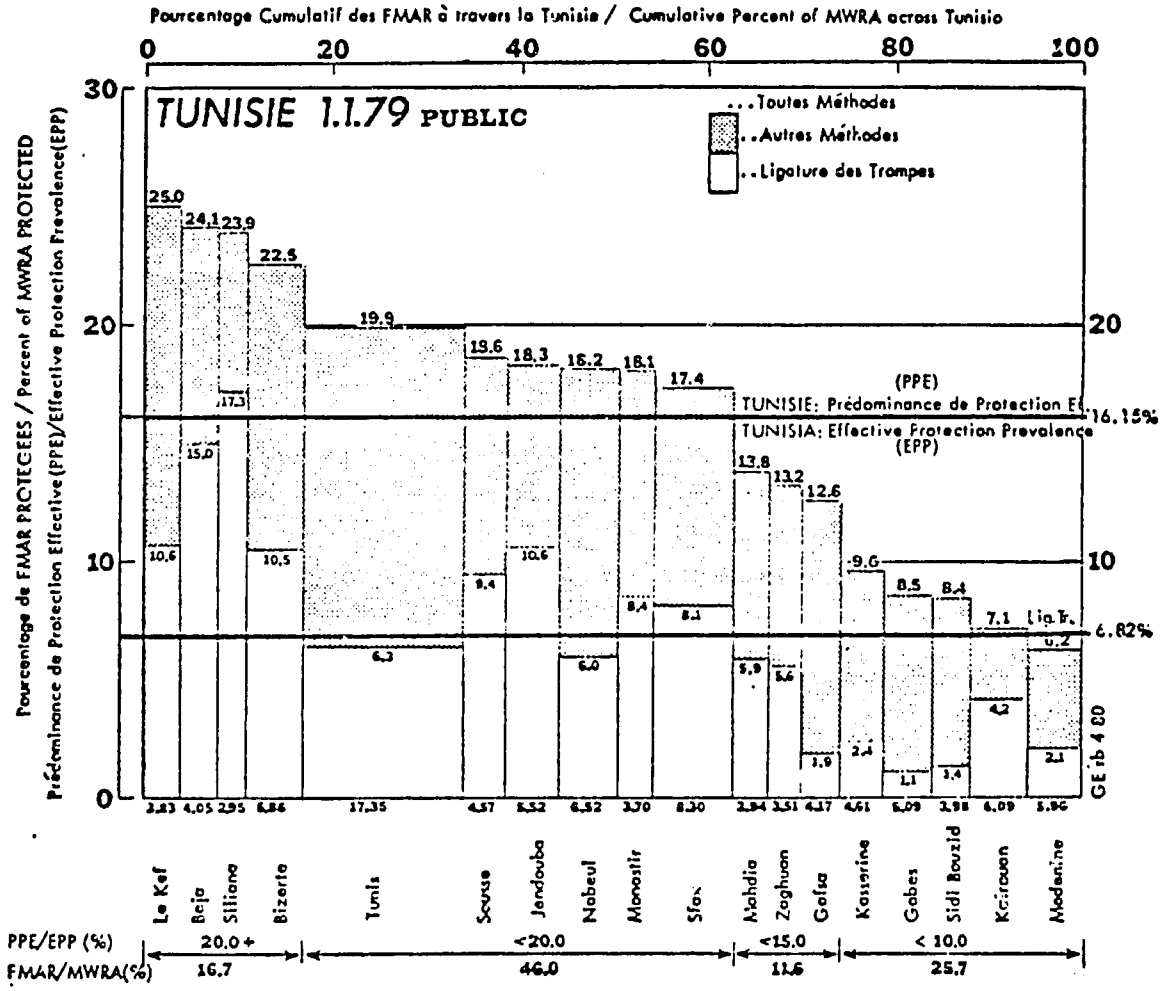


Figure 3. PREDOMINANCE DE PROTECTION EFFECTIVE (PPE): TOUTES METHODES, selon REGION
EFFECTIVE PROTECTION PREVALENCE (EPP): ALL METHODS BY GOUVERNORAT
1 Janvier 1979 — 1 January, 1979

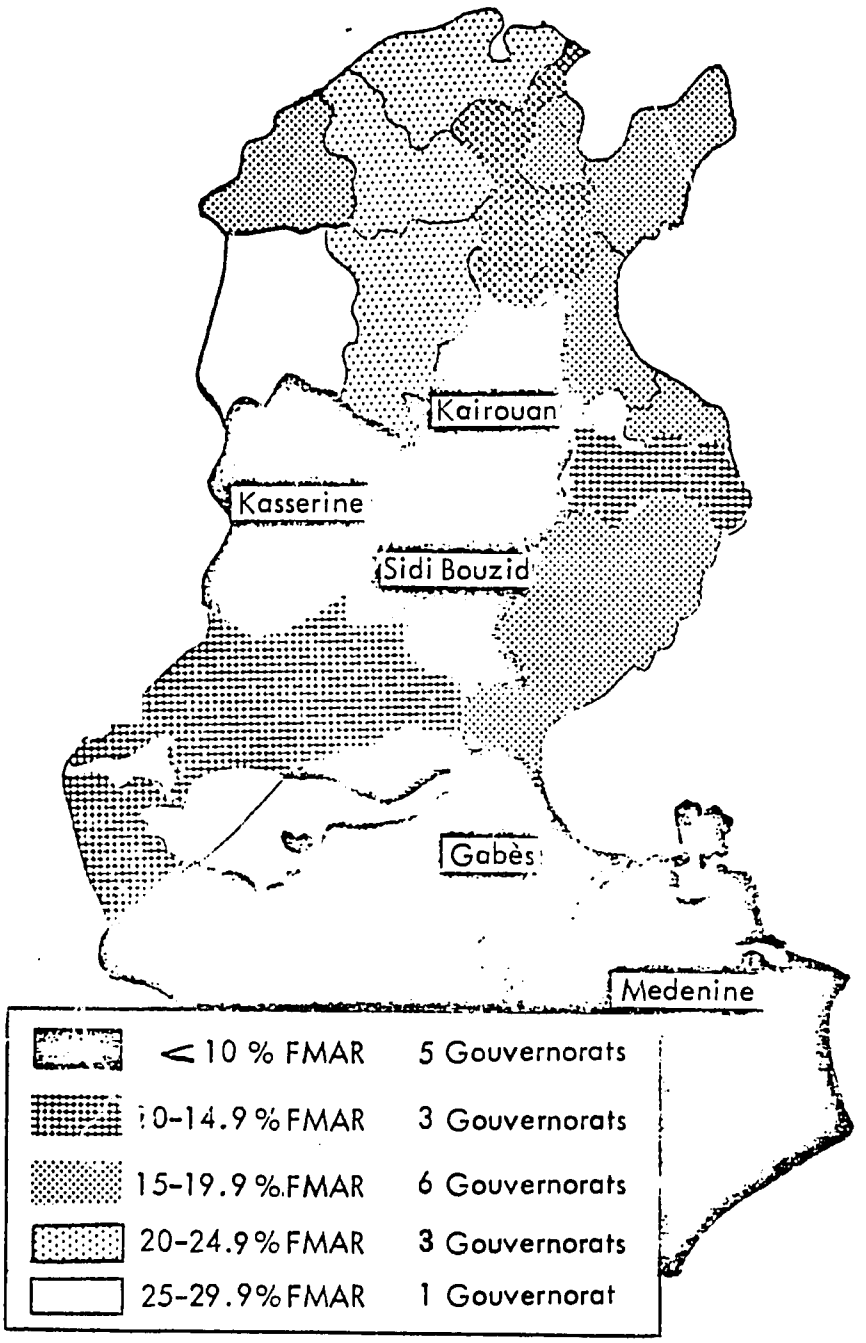


TUNISIE JAN. 1979

/Figure 4

PREDOMINANCE DE PROTECTION EFFECTIVE (PPE): TOUTES METHODES, selon REGION
EFFECTIVE PROTECTION PREVALENCE (EPP): ALL METHODS BY GOUVERNORAT
1 Janvier 1979 — 1 January, 1979

Protection très faible / Very low protection rate
ou / or
Fécondite très forte / Very high fertility rate
en 1979 — in 1979



Source: Evolution Récente du Programme National de Planning Familial par A. Charfeddine Tableau F. Revue Tunisienne des Etudes de Population. 1ère Année, No 1 , 1980. ONPFP, Tunis.

Reclassification des taux de protection: rb

GE rb 4 80

TABLE I

EFFECTIVE PROTECTION PREVALENCE (EPP) at the Beginning of 1979 and 1980, BY GOUVERNORAT.
Ranked by the Difference in Percentage Points.

Government of Tunisia FP Program

Rank	Gouvernorat	EPP[1] 1979	EPP[1] 1980	Difference[2]	MWRA[3] % Total	MWRA[3] Cumulative%
1	Gafsa	12.60	15.10	+2.50	4.17	4.17
2	Sousse	18.59	20.97	+2.38	4.57	8.74
3	Siliana	23.91	25.29	+1.38	2.95	11.69
4	Kasserine	9.64	10.38	+0.74	4.61	16.30
5	Béja	24.12	24.81	+0.69	4.05	20.35
6	Le Kef	25.03	25.62	+0.59	3.83	24.18
7	Monastir	18.13	18.72	+0.59	3.70	27.88
8	Jendouba	18.26	18.51	+0.25	5.52	33.40
9	Kairouan	7.12	7.35	+0.23	6.09	39.49
10	Zaghouan	13.24	13.45	+0.21	3.51	43.00
11	Gabès	8.51	8.56	+0.05	5.09	48.09
	TUNISIE	16.15	16.19	+0.04	100.00	--
12	Bizerte	22.49	22.52	+0.03	5.86	53.95
13	Sfax	17.36	17.30	-0.06	8.30	62.25
14	Medenine	6.21	6.06	-0.15	5.96	68.21
15	Tunis	19.88	19.49	-0.39	17.35	85.56
16	Mahdia	13.84	13.43	-0.41	3.94	89.50
17	Nabeul	18.22	16.92	-1.30	6.52	96.02
18	Sidi Bouzid	8.41	4.35	-4.06	3.98	100.00

[1]EPP: Effective Protection Prevalence by All Methods: Rate per 100 MWRA.

[2]Difference of EPP from 1979 to 1980 (1st January). Ranked from positive to neg.

[3]MWRA: Married Women of Reproductive Age (15-49).

Source of EPP: ONPFP, A. Charffedine, Tunis, March, 1980.

Furthermore, from the programmatic point of view it is unacceptable that the two most populous gouvernorats that contain over one-forth of all MWRA of Tunisia (25.7%) would see their level of protection decrease at a time when the program is expected to grow and with over 80% of the MWRA still unprotected through the public program. Clearly, these two *semi-urban programs* need renewed attention, perhaps with a much more deliberate operation at the maternity centers. Indeed, a meaningful *postpartum program* should be initiated without delay in all sizable maternités in Tunis, Sfax, and Nabeul, to start with. This should be functional latest by autumn of 1980, in order to reverse the trend of decreasing protection prevalence still during this year: Since this will affect one third of all MWRA, the national prevalence rate will be strongly affected by this specific "three gouvernorat action". The medical world must join hands.

Fig. 4 gives the values of Fig. 3 in a geographic overview. One notes that (1) central Tunisia, and (2) south Tunisia are the regions that will need the greatest attention in *rural Tunisia*. Indeed their recent very low protection prevalence is necessarily linked with a very high fertility rate for over one-fourth of all MWRA of Tunisia.

Consideration 4: Central and South Tunisia need a new family planning program effort that will have to go much beyond the present possibilities. If this were not to occur in the very near future, the presently growing gap in EPP with various northern gouvernorats would grow further with all its adverse implications to peaceful development of the Center and the South. Innovative programs with bilateral/multilateral AID have to be developed to cope during the early eighties with this growing problem of strong regional disparity.

Table I classifies the 18 gouvernorats according to their one-year change in Effective Protection Prevalence (EPP). Only 2 gouvernorats increased their EPP by over 2%age points: Gafsa and Sousse (+2.50; +2.38). Siliana was in third place with a gain of +1.38%age points. At the other extreme, six gouvernorats experienced a regression of their EPP: Sidi Bouzid, Nabeul, Mahdia, Tunis, Medenine and Sfax, while Bizerte and Gabès stood still. Clearly, these eight gouvernorats have to cope with the question: Can we afford *stagnation and even regression* of the previously acquired protection prevalence; are we indifferent to the birth rate ceasing to come down or even increase again? Indeed, there is a direct relationship between the increase in protection prevalence & the decline in the birth rate. Zaghouan, Kairouan, and Jendouba showed also very small progression in their EPP (+0.21, +0.23, +0.25%age points).

TABLE II

EFFECTIVE PROTECTION PREVALENCE BY TUBAL LIGATION (EPP/TL): 1979 & 1980 (Beginning of Year), BY GOUVERNORAT. ONE-YEAR TREND.

	Column	A	B	C	D	E	F	G	H	I
		MWRA 1978	♀ Protected by Tubal Ligation Number	Percent	MWRA 1979	♀ Protected by Tubal Ligation Number	Percent	Diff(%) 79-78	EPP 1980	Percent Total EPP pertaining to Tubal Ligation(1980)
1 [4]	Siliana	25983	4482	17.25	26357	4893	+18.56	+1.31	25.29	73.4
2	Béja	35392	5316	15.02	36061	5766	15.99	+0.97	24.81	64.4
3 [3]	Le Kef	33617	3574	10.63	34183	3937	11.52	+0.89	25.62	45.0
4	Bizerte	50477	5074	10.05	51819	5876	11.34	+1.29	22.52	50.4
5	Jendouba	47884	5077	10.60	48980	5335	10.89	+0.29	18.51	58.8
6 [2]	Sousse	38490	3622	9.41	39952	3819	9.56	+0.15	20.97	45.6
7	Sfax	71135	5780	8.13	73209	6421	8.77	+0.64	17.30	50.7
8	Zaghuan	30013	2274	7.58	30928	2587	8.36	+0.78	13.45	62.2
9	Monastir	31231	2630	8.42	32393	2706	8.35	-0.07	18.72	44.6
	TUNISIE	851035	58056	6.82	878795	64274	7.31	+0.49	16.19	45.2
10	Tunis	145280	9196	6.33	151265	10664	7.05	+0.72	19.49	36.2
11	Mahdia	33151	1957	5.90	34410	2242	6.52	+0.62	13.43	48.6
12	Nabeul	54473	3241	5.95	56753	3372	5.94	-0.01	16.92	35.1
13 [1]	Kairouan	51590	2151	4.17	53396	2353	4.41	+0.24	7.35	60.0
14	Kasserine	39051	937	2.40	40444	1124	2.78	+0.38	10.38	26.8
15	Medenine	51246	1068	2.08	52658	1114	2.12	+0.04	6.06	35.0
16	Gafsa	35492	660	1.86	36629	707	1.93	+0.07	15.10	12.8
17	Gabès	42864	476	1.11	44475	760	1.71	+0.60	8.56	20.0
18	Sidi Bouzid	39051	541	1.39	40444	598	1.48	+0.09	4.35	34.0

A Married Women of Reproductive Age for 1978
B Number of MWRA Protected by Tubal Ligation in 1978
C Percent of MWRA Protected by Tubal Ligation in 1978 (EPP/TL-1978)

D Married Women of Reproductive Age for 1979
E Number of MWRA Protected by Tubal Ligation in 1979
+F Percent of MWRA Protected by Tubal Ligation in 1979 (EPP/TL-1979) : ranked in descending order

G Difference of: EPP/TL 1979 minus EPP/TL 1978
H EPP: Effective Protection Prevalence by All Methods for 1980 (Beginning of Year)
I Percent All Method EPP pertaining to Tubal Ligation (F/H)

[1] EPP/TL is significantly below 5% of All MWRA. = Indentification of a seriously unmet need.
= The six gouvernorats need stronger FP Programs with full availability of Tubal Ligation Services.

[2] EPP/TL ranges from 5.0 - 9.9% of all MWRA. While the trend is on the increase, three of the 7 Gouvernorats, show no progress. They are:
Monastir (-0.07 %age points),
Nabeul (-0.01 "), and
Sousse (+0.15 "). They need to make available the ligation services.

[3] EPP/TL ranges from 10.0 - 14.9% of all MWRA. Of the three Gouvernorats, Jendouba shows the smallest progression (+0.29 %age points). Ligation services need to be made available more broadly.

[4] EPP/TL ranges from 15.0 - 19.9% of all MWRA. The two gouvernorats have the highest prevalence of ligated women which further increase swiftly.
Siliana (+1.31 %age points)
Béja (+0.97 ");
Note the virtual 10-fold prevalence of Tubal ligation for Siliana and Béja over Gabes and Sidi Bouzid.

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Consideration 5: Only three in eighteen gouvernorats showed a dynamic increase in their EPP (Gafsa, Sousse, and Siliana) pertaining to only 11.7% of all MWRA. A second group of four gouvernorats showed a just acceptable increase in EPP (Kasserine, Béja, Le Kef, and Monastir) pertaining to 16.2% of all MWRA. The remaining 72.1% of all MWRA in Tunisia experienced during 1979 stagnation and often serious regression in their EPP. Nationwide, this profile of EPP by gouvernorat led to a standstill of the buildup of the EPP, which may signify an arrest of the decrease of the birth rate in connection with the public FP program of Tunisia.

The gouvernorats should be oriented on the implications of above findings that are cause for serious concern in both urban (Tunis, Sfax) and rural Tunisia (Sidi Bouzid, to name just one gouvernorat)

It must be a priority goal of ONPFP to see the All-Tunisia, public sector generated EPP increase by *at least one percentage point annually* as was the case between 1974 and 1977 (see Fig. 1). Once that rate of increase is attained in the short term, the goal has to be shifted in successive steps to 1.5%-age points (as was the case between 1974 and 1976) and finally to 2.0 %age points (as was the case in 1977). Without this objective, the ONPFP-generated national protection prevalence would attain by the year 2000 a level significantly below that needed to attain the demographic goal formulated in 1967. The most crucial period for securing a smooth build-up of the national protection prevalence is now, at the first arrest of progression.

Adequate and realistic measures have to be taken during the year 1980 to secure a new takeoff of the increase of the national EPP. This may have to be one concern of the Conseil Supérieur de Population for its 1980 session.

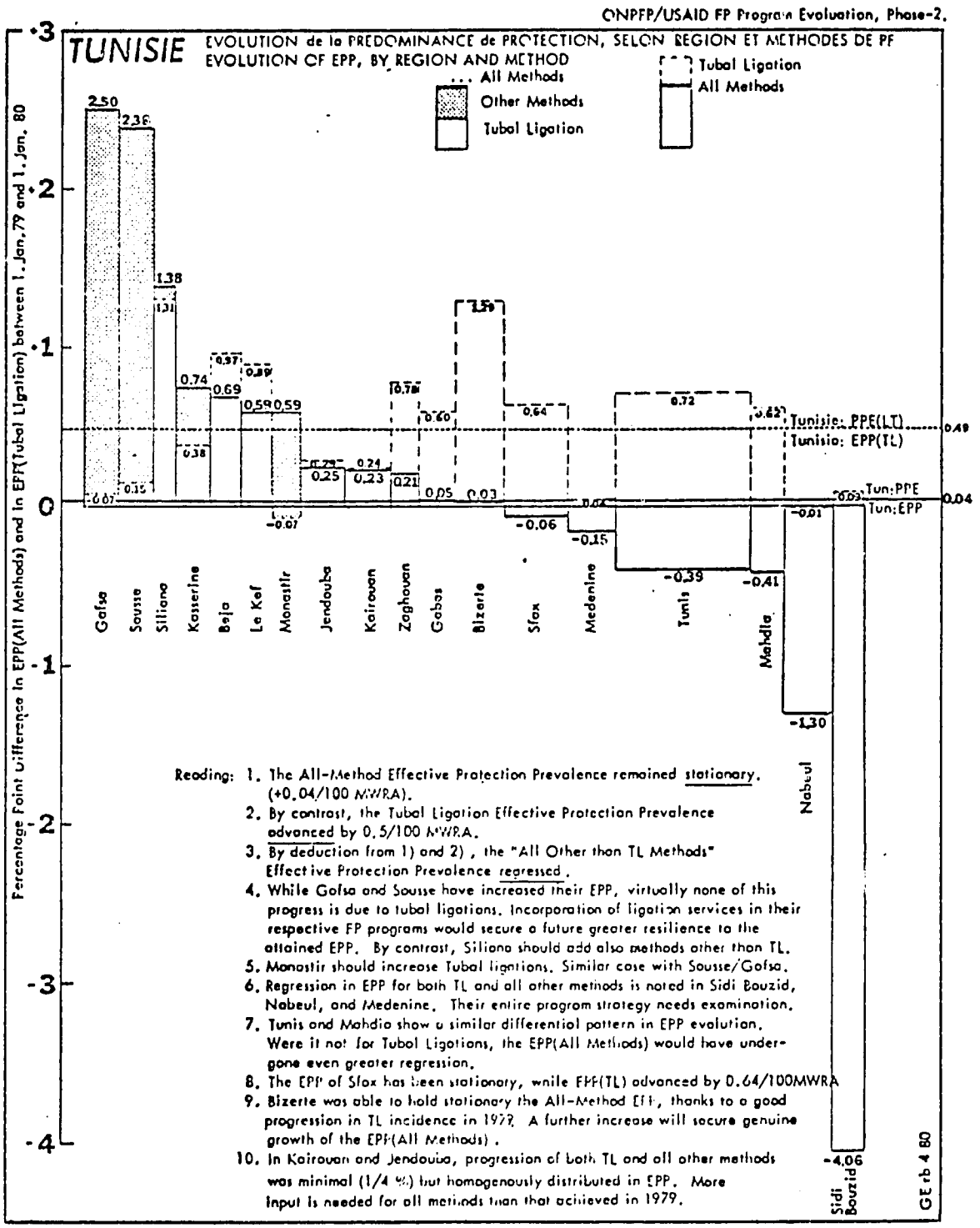
Table II then gives the Effective Protection Prevalence for ligated women at the beginning of both 1979 and 1980; and the latter rate per 100 MWRA is then studied as a proportion of the All-Method protection prevalence for 1. January 1980. For All-Tunisia, 45.2% of the All-Method EPP was due to women who had undergone tubal ligation. But this proportion is as high as 73.4% (Siliana), 64.4% (Béja), 62.2% (Zaghuan), and 60.0% (Kairouan). The lowest TL-shares are noted with 12.8% (Gafsa), 20.0% (Gabès), 26.8% (Kasserine). Furthermore, while there were six gouvernorats whose All-Method EPP had decreased from 1979 to 1980 (see Table I), there were only 2 noted decreases for EPP/TL. In other words, protection conferred by tubal ligation is more resistant to "prevalence decay" than the other methods. The findings have been charted in Fig. 5 with a reading in 10 points.

Figure 5. The State of the Nation's Protection Prevalence expressed as the DIFFERENCE from Beginning of the Year 1979 to the Beginning of the Year 1980

—— A) EPP due to All Methods

---- B) EPP due to Tubal Ligations

These Data refer only to the Prevalence Generated by the National FP Program ("Public":ONPFP)



Consideration 6: Tubal ligations emerge as the method of family planning with the greatest resistance to the early decay of its protection prevalence -- in both urban and rural areas, north and south, east and west. While the all-method protection prevalence has come to a standstill during the year of 1979, the tubal ligation protection prevalence advanced by one half percent from 6.82 at the beginning of 1979 to 7.31 at the beginning of 1980.

Clearly, a relative *moderate increase in the incidence of tubal ligations* would secure a very costeffective path to increase the effective protection prevalence across the nation.

The deduction is that with increasing "medicalisation" of family planning in Tunisia it should be possible to boost in a relatively short time (some years) the annual increase of EPP. It matters that potential candidates for ligation are indeed getting that service without much ado, swiftly, and professionally.

Fig. 5 shows that *such availability was conspicuously absent* in Gafsa, Sousse, Medenine, Nabeul, Sidi Bouzid, and Monastir. In addition, there was very limited access also in Kairouan, Jendouba, and Kasserine. At all these places, *an early review* should take place in order to identify and remedy the bottlenecks that presently secure so low incidences of tubal ligations. Possibly the sheer streamlining of such ligation services could dramatically improve the protection prevalence within 1-3 years.

TABLE III

ANNUAL METHOD SPECIFIC FP INPUT BY "ONPFP" DURING ITS FIRST SEVEN YEARS OF WORK
(Annual Frequency, Rate, and Method Cumulation)

A) Number of "New Acceptors"

METHOD	1973	1974	1975	1976	1977	1978	1979	% Change 1979/1977
Jelly	4237	3683	4426	5100	5727	4672	4736	-17.3
Condom	8407	7432	8678	11385	13125	12304	10442	-20.4
Orals	11194	10795	16310	25987	27567	27017	23608	-12.6
IUD	16790	19084	17307	20630	23879	26273	25756	+ 7.9
Tubal Ligation	4964	10757	9896	8269	7937	8832	8141	+ 1.9
Social Abortion	6547	12427	16000	20341	21162	20999	19248	- 9.0

B) Women at Risk (Married Women of Reproductive Age: MWRA)

MWRA	725500+	748950+	773187	798264	824203	851035	878795	+ 6.62

+Serial back-projection,-rb-.

C) Incidence of "New Acceptors", by Method (See Fig. 6)

Rate per 1000 MWRA

METHOD	1973	1974	1975	1976	1977	1978	1979	% Change 1979/1977
Jelly	5.84	4.92	5.72	6.39	6.95	5.49	5.39	-22.45
Condom	11.59	9.92	11.22	14.26	15.92	14.46	11.88	-25.38
Secondary Methods	17.43	14.84	16.94	20.65	22.87	19.95	17.27	-23.73
Orals	15.43	14.41	21.09	32.56	33.45	31.75	26.86	-19.70
IUD	23.14	25.48	22.38	26.09	28.97	30.87	29.31	+ 1.17
Tubal Ligation	6.84	14.36	12.80	10.36	9.69	10.38	9.26	- 4.44
Social Abortion	9.02	16.59	20.69	25.48	25.68	24.67	21.90	-14.72

D) Incidence of "New Acceptors", including Social Abortions, Decomposition of Method Cumulation (See Fig. 7)

Rate per 1000 MWRA

	1973	1974	1975	1976	1977	1978	1979	
TOTAL	71.86	85.68	93.90	115.14	120.66	117.62	104.60	-13.31
..minus Social Abortion	62.84	69.09	73.21	89.66	94.98	92.95	82.70	-12.93
..minus Jelly/Condom	45.41	54.25	56.27	69.01	72.11	73.00	65.43	- 9.26
..minus Orals (=IUD/Tub.Ligation)	29.98	39.84	35.18	36.45	38.66	41.25	38.57	- 0.23
..minus IUD (=Tubal Ligation)	6.84	14.36	12.80	10.36	9.69	10.38	9.26	- 4.44

Source: ONPFP, GOT, Tunis (A) Statistiques de Planning Familial, No 16, année 1978
No 4, année 1974
Personal Communication to -rb- for année 1979

(B) Projection de la Population Tunisienne par Délégation, Sexe, Age et Année 1975-1986
+Serial Backprojection to enable 7-year trend study.-rb-

Calculations: TU-GE rb 3 80

Illustrations: Figures 6 and 7. GOT/USAID Midterm FP Services Evaluation, Phase 2

3.3 Evolution of FP Incidence, by Method (1973/5 - 1979)

While the previous section gave information on the most recent *1-year evolution of Effective Protection Prevalence by gouvernorat and method*, the present section shall treat the last seven years' *evolution of incidence of the method acceptance for Tunisia as a whole.*

The relevant data has been organized in Table III and Figs. 6 and 7. The figures have already been described in the Phase-1 mission report, but are now updated for the year 1979. As noted in Fig.8(old Fig.3 of Phase-1 report), the "six-month" trend windows were highly predictive of the entire year's performance. Relative to 1978, *all methods* had undergone a notable decline during 1979 as measured for the first semester (Phase-1 evaluation) and now for the entire year. As shown in Figs. 7 and 8, for most methods, the peak year of incidence was 1977. Relative to this year it is then possible to calculate the positive and negative change of incidence of all methods as suggested in Fig. 7 and summarized below (Table IV):

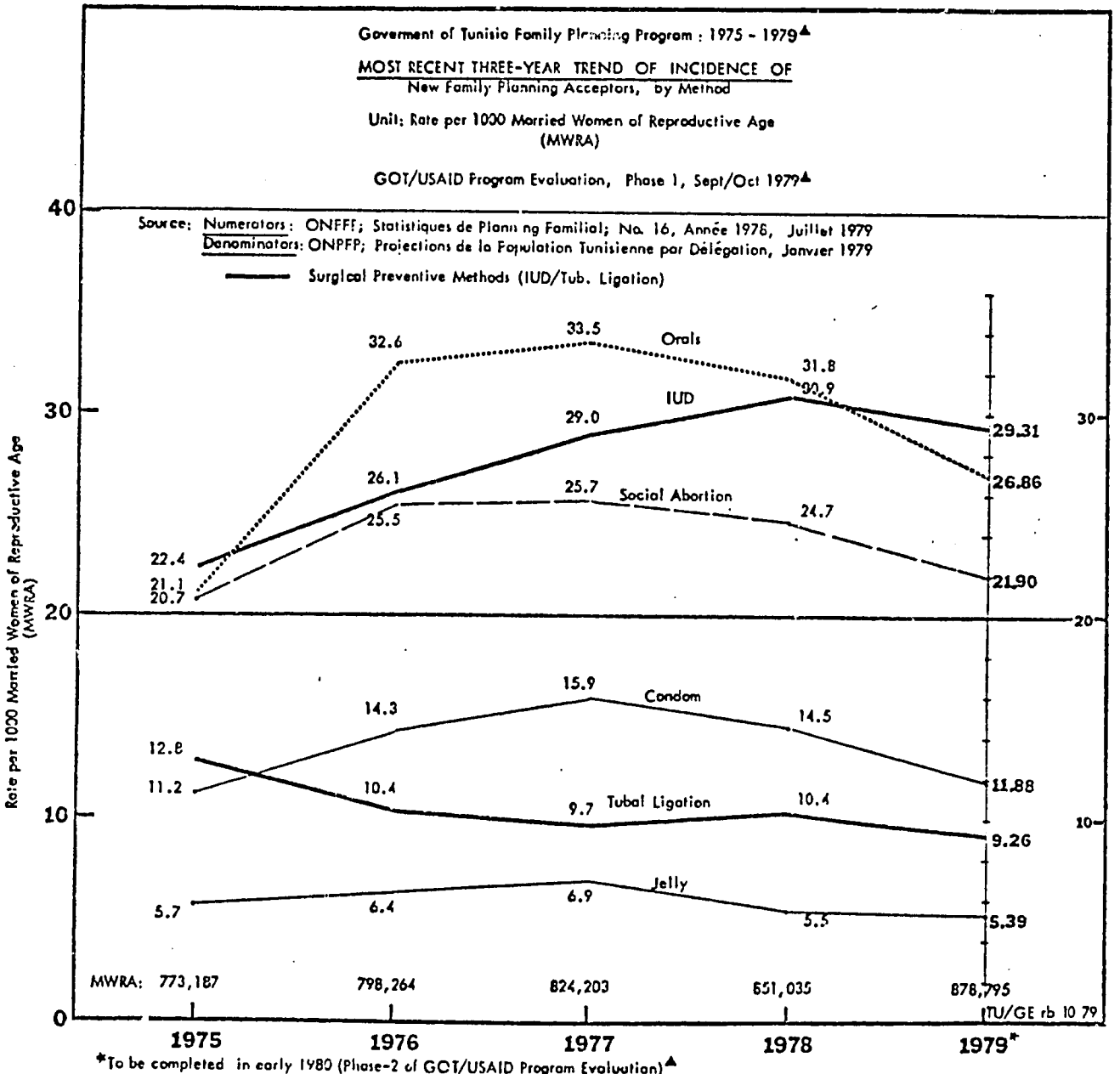
TABLE IV: Change of Incidence of FP from 1975 to 1979
Percent Change of Incidence Rate

METHOD	1977/1975	1979/1977
Jelly	+21.5	-22.5
Condom	+30.5	-25.4
Orals	+58.6	-19.7
IUDs	+29.5	+ 1.2
Tubal ligation	-24.3	- 4.4
Social abortion	+24.1	-14.7
All Methods	+28.5	-13.3

Note a real strength of this program: there is a *quite balanced method mix, including social abortions*. However, contrary to desirable and necessary evolution, tubal ligations were on a continued decrease. If the latter curve could be elevated to around twice the present level, an almost ideal method mix would ensue with a progressive gradient as follows: (1) Jelly, (2) Condom, (3) Social Abortions, (4) Tubal ligations, (5) IUDs, and (6) Pills.

Consideration 7: By doubling the incidence of tubal ligations, a virtual ideal method mix could be developed by ONPFP for the people of Tunisia during the early 1980s.

Figure 6.



*To be completed in early 1980 (Phase-2 of GOT/USAID Program Evaluation)▲

▲Updated for 1979 Year; TU/GE rb 4/80: The "first Semester" Trend study was highly predictive for the "total year" Trend (See Fig. 3 of Phase-1 Report).

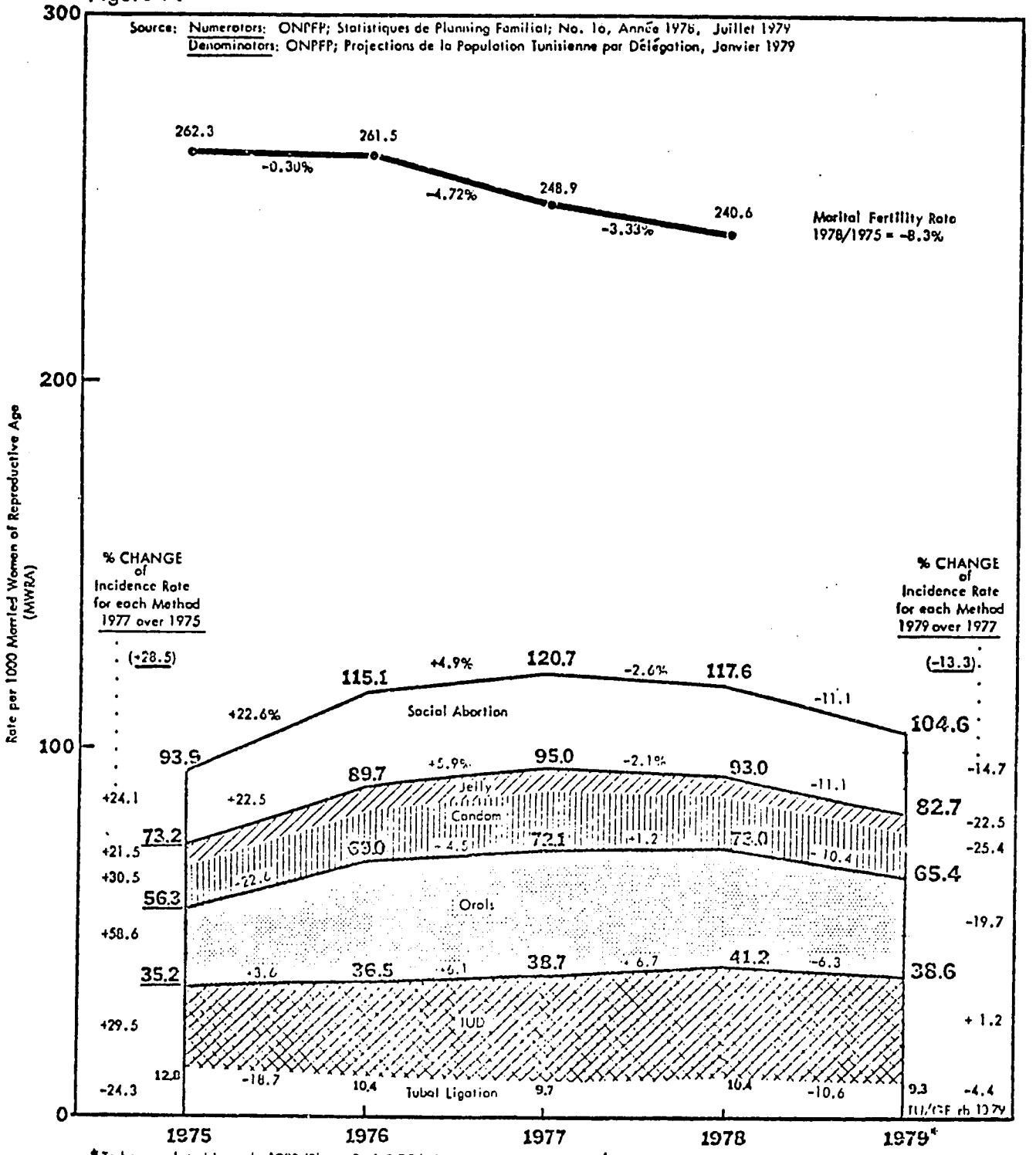
Government of Tunisia : 1975 - 1979▲

MOST RECENT THREE-YEAR TREND OF INCIDENCE OF

(A) ACCEPTANCE OF FAMILY PLANNING, BY METHOD
(B) FERTILITY ("Marital").

Unit: Rate per 1000 Married Women of Reproductive Age (MWRA)

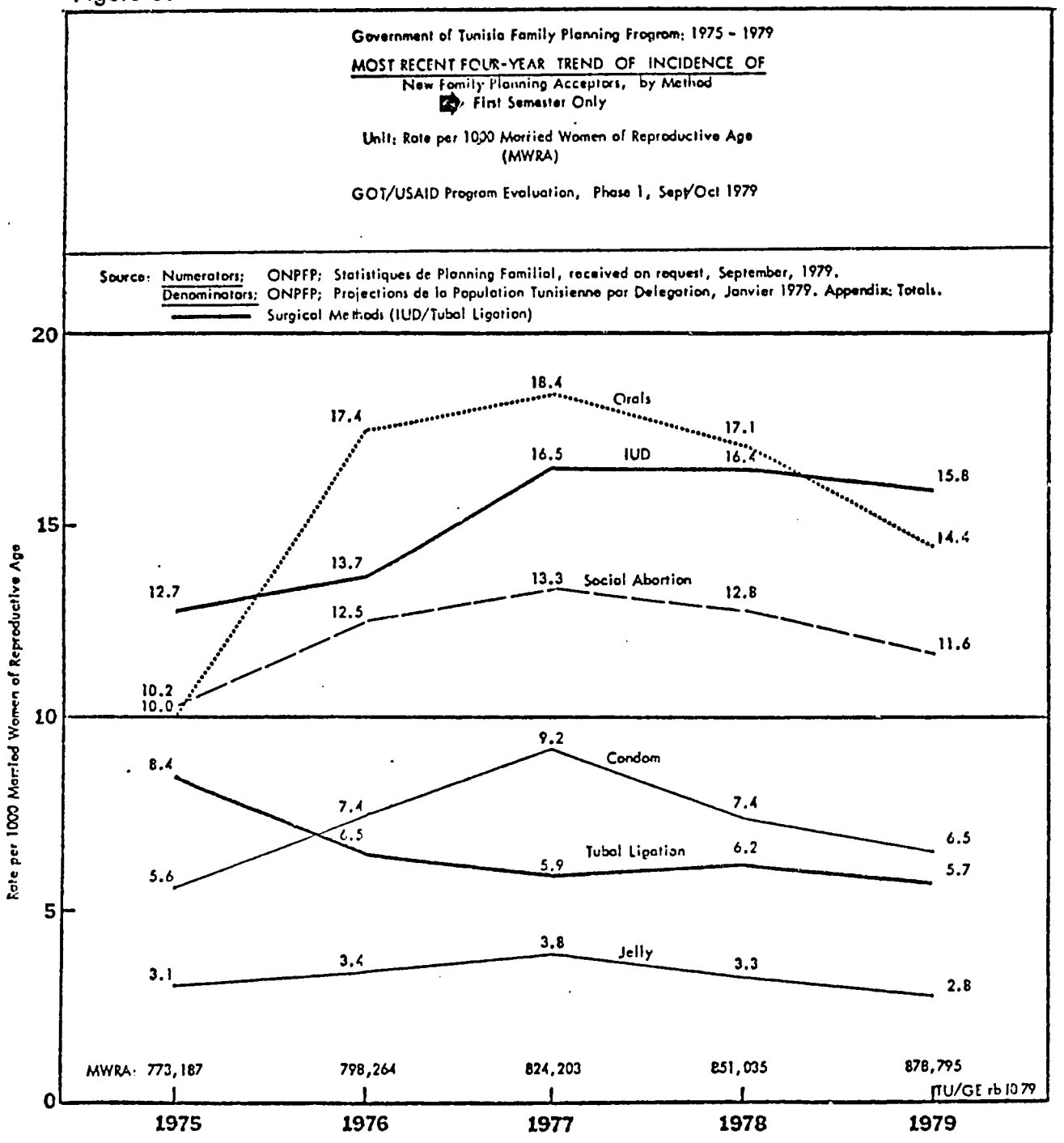
Figure 7. GOT/USAID Program Evaluation, Phase 1, Sept/Oct 1979▲



*To be completed in early 1980 (Phase-2 of COT/USAID Program Evaluation)▲

▲Updated for Year 1979 : TU/CE rb 4/80; The "First Semester Trend study was highly predictive for the "total year" Trend. (See Fig. 4 of Phase-1 Report).

Figure 8.


Government of Tunisia Family Planning Program: 1975 - 1979
MOST RECENT FOUR-YEAR TREND OF INCIDENCE OF
New Family Planning Acceptors, by Method
First Semester Only
Unit: Rate per 1000 Married Women of Reproductive Age (MWRA)
GOT/USAID Program Evaluation, Phase 1, Sept/Oct 1979
Source: Numerators; ONPFP; Statistiques de Planning Familial, received on request, September, 1979.
Denominators; ONPFP; Projections de la Population Tunisienne par Delegation, Janvier 1979. Appendix: Totals.
Surgical Methods (IUD/Tubal Ligation)
Rate per 1000 Married Women of Reproductive Age
20
15
10
5
0
Orals
IUD
Social Abortion
Condom
Tubal Ligation
Jelly
18.4
17.4
17.1
16.5
16.4
15.8
14.4
13.7
12.7
13.3
12.8
12.5
11.6
10.2
10.0
9.2
8.4
7.4
7.4
6.5
6.5
6.2
5.9
5.7
5.6
3.8
3.4
3.3
3.1
2.8
MWRA: 773,187
798,264
824,203
851,035
878,795
ITU/GE rb 1079
1975
1976
1977
1978
1979

3.4 Evolution of FP Incidence, by Method and Gouvernorat (1974-1979)

While Fig. 6 provides a national overview of the method specific trend of incidence of new acceptance, it is quite obvious that trend studies have to be made at the *regional level* if indeed meaningful changes are to be effected to improve the national incidence. This forbidding task was undertaken immediately after phase-2 mid-term evaluation for 15 regional entities of Tunisia. The charts are given in appendix according to the format of Figure 9 (All Tunisia) as Figs. 9-1 through 9-15. The following considerations are incorporated:

(1) Give rates by method for the period 1974 to 1979.

(2) Provide now for the space to update in one year the current calendar year (1980).

(3) Calculate for each year an index of primary FP activity, (IN-FPA) , the sum of the rates of the six categories of interventions (new jelly, new condom, new pill, new IUD, tubal ligation and social abortion). Display conspicuously this index and classify the 15 figures according to this index attained for the year 1979.

(4) Give the percent change of this index for the last two years.

(5) Document the denominator used for each year and in each gouvernorat (MWRA). Provide now the denominator for 1980.

(6) Give the rates of incidence, by method, adjacent to the curves, in order to be able to derive new combinations of tables for inter-regional and inter-method comparisons with initiative at the regional *and* central levels.

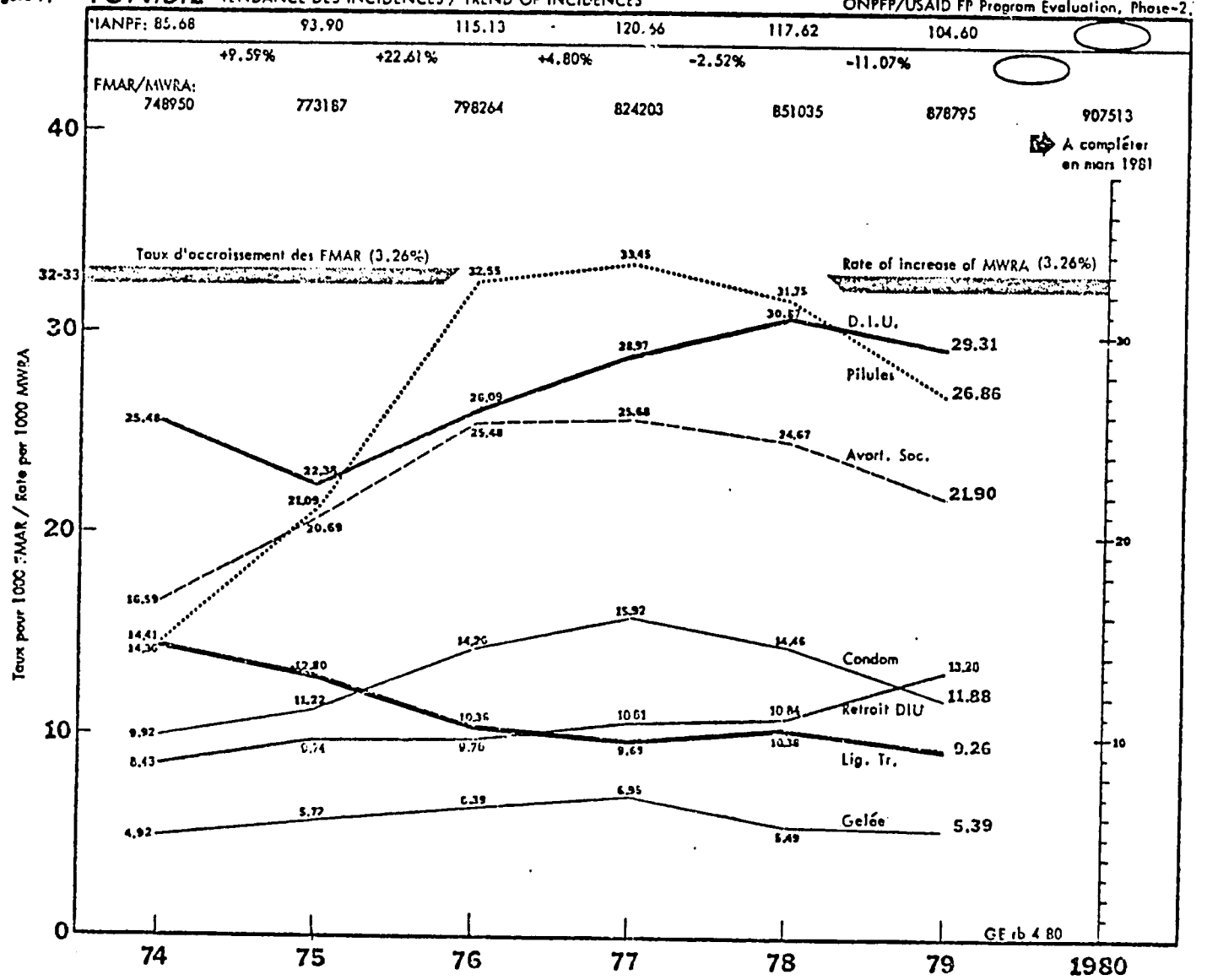
Of course, the rationale of this exercise is multifold.

(1) Establish the method trend for each region to serve as a *case history* of "FP program evolution" during the seventies. Each délégué should have early access to all 15 case-histories, in order to initiate a creative investigative dialogue among the délégués. Délégués should have multiple copies and share the information in workgroups of clinical staff and also among physicians, etc. Performance must come to be based onto a quantified baseline.

(2) For the ONPFP/HQ, the 15 case histories will suggest what kind of directives have highest, intermediate and low *priority* in each gouvernorat treated as individual entities.

(3) Sooner or later a *linkage* is to be made between the trend of prevalence of protection (see section 3.2) and the latest-year incidence of method-specific FP input. For instance, in March 1981, the new prevalence profile, by gouvernorat should be studied against the input during the year 1980. This is a must for "guidance by monitoring" of the medical division of ONPFP.

Figure 9. TUNISIE TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase-2



* IANPF: Index d'Activité Nouvelle en Planning Familial : C'est la somme des 6 taux à l'exclusion du taux des retraits de DIU.
PFPAI: Primary Family Planning Activity Index: This is the sum of the six input rates, excluding the rate of IUD removal.

Note: For region-specific "method-specific trend profiles" see Figs. 9-1 to 9-15 in the Appendix (pp. 67-83).

(4) The regional case histories should be studied in the context of any special program input organised during the seventies, such as in Sfax (PFAD), Jendouba (PFPC), Le Kef (MCH program), Nabeul, Gafsa, etc. Clearly, this should provide the elements of a cause-to-effect reasoning and suggest which elements have been most "productive", and which least. This approach leads to *crystallize new options*.

(5) The regional case histories constitute also a *teaching* series for program responsibles from arab and francophone countries in particular and family planning administrators in general. Similarly, Medical Schools should use this material.

(6) Last and most important, "living/working with the growing case histories" is the best guarantee that the right local initiatives are explored and taken in order to improve the overall *regional FP INPUT performance from year to year*. In other words, understanding the "creation of the trend curves " cannot but lead to high motivation to improve the program performance where and when it is weakest.

The year-by-year updated trend series should become the basis of the HQ-Regional dialogue.

A cursory contemplation of the 15 method-specific trend studies gives an overwhelming flow of impressions, thoughts and ideas: quite bewildering! That is one reason why the 15 déléguées have to put their brains to work perhaps in cooperation with their regional peers. Nevertheless, an attempt is made here to bring some order into this exhibit of tempestuous dynamics of performance of FP input in Tunisia. One may add up the six curves and produce thus an Index of New Family Planning Activity (IN-FPA). Table V gives an overview by gouvernorat and calendar year. One notes:

(1) The year of *peak activity* was mostly 1977 or 1978, except for Nabeul and Kasserine whose peak activity was reached in 1976, and a continuous decline thereafter. Overall then, the quantified program input is declining.

(2) In 1979, there was an over fourfold activity of new input in Sousse as compared with Kairouan (168.7/39.0). Sousse performed 61.3% above the national average (106.3 per 1000 MWRA); Kairouan, by contrast, 62.7% below. In order to get at a glance a feel for the whole evolution, Figure 10 was constructed. It gives the evolution of FP activity for the five highest (Sousse, Gafsa, Tunis, Bizerte and Monastir) and five lowest (Kairouan, Medenine, Mahdia, Jendouba, and Kasserine) levels attained in 1979 as well as the All-Tunisia curve. It appears now that *for many years* Sousse has had the highest activity , Kairouan the lowest. Tunis had the second highest and Medenine the second lowest.

TABLE V

TREND OF NEW FAMILY PLANNING ACTIVITY, BY GOUVERNORAT[5] / TENDANCE DE NOUVELLE ACTIVITE DE PLANNING FAMILIAL, SELON REGION[5]

Unit: Rate per 1000 MWRA (Sum of 6 methods) Unité: Taux pour 1000 FMAR (La somme de six méthodes)

Rank[4]	Gouvernorat[5]	INDEX OF NEW FAMILY PLANNING ACTIVITY (IN-FPA)[6] INDEX DE NOUVELLE ACTIVITE EN PLANNING FAMILIAL (IN-APF)[6] 1974 A	1975 B	1976 C	1977 D	1978 E	1979 F	A compléter en mars 1981 1980 G	PERCENT CHANGE 1978/1977 E/D	1979/1978 F/E	1980/1979 C/F	6-YEAR MEAN[7] H	% CHANGE OVER 6-YR M F/H	Rank
1	Sousse	96.7	127.0	178.8	(192.2)	166.3	168.7	____	-13.5	+ 1.4	____	155.0	+ 8.8	4
2	Gafsa[1]	74.9	97.1	130.0	140.6	(147.2)	135.4	____	+ 4.7	- 8.0	____	120.9	+12.0	2
3	Tunis[2]	119.5	134.5	157.3	154.1	(162.0)	134.2	____	+ 5.1	-17.2	____	143.6	- 6.5	12
4	Bizerte	108.4	104.6	115.3	124.1	(140.9)	130.9	____	+13.5	- 7.1	____	120.7	+ 8.5	5
5	Monastir	90.5	86.7	115.3	134.2	(147.2)	121.3	____	+ 9.7	-17.6	____	115.9	+ 4.7	6
6	Nabeul	148.9	151.1	(159.4)	153.7	122.9	117.0	____	-20.0	- 4.8	____	142.2	-17.7	15
7	Le Kef[3]	120.0	101.2	114.8	125.2	(142.1)	115.8	____	+13.5	-18.5	____	119.9	- 3.4	9
8	Sfax	113.0	125.2	149.9	(150.2)	128.7	113.9	____	-14.3	-11.5	____	130.2	-12.5	14
	TUNISIE	85.7	93.9	115.1	(120.7)	117.6	104.6	____	- 2.6	-11.1	____	106.3	- 1.6	
9	Béja	94.3	85.8	116.4	(124.4)	103.7	96.6	____	-16.6	- 6.8	____	103.5	- 6.7	11
10	Gabès	65.8	82.5	107.9	(121.5)	121.5	93.3	____	-13.0	-11.6	____	98.8	- 5.6	10
11	Jendouba	71.7	54.4	74.4	(103.7)	85.8	87.3	____	-17.3	+ 1.7	____	80.0	+ 9.1	3
12	Kasserine	41.7	44.0	(124.8)	94.0	90.4	81.0	____	- 3.8	-10.4	____	79.3	+ 2.1	7
13	Mahdia	41.7	77.6	91.9	89.4	(96.1)	77.3	____	+ 7.5	-19.6	____	79.0	- 2.3	8
14	Medenine	36.9	41.4	56.6	55.9	(68.7)	63.2	____	+22.9	- 8.0	____	53.8	+17.5	1
15	Kairouan	45.9	48.2	40.9	43.4	(46.3)	39.0	____	+ 6.7	-15.8	____	44.0	-11.4	13

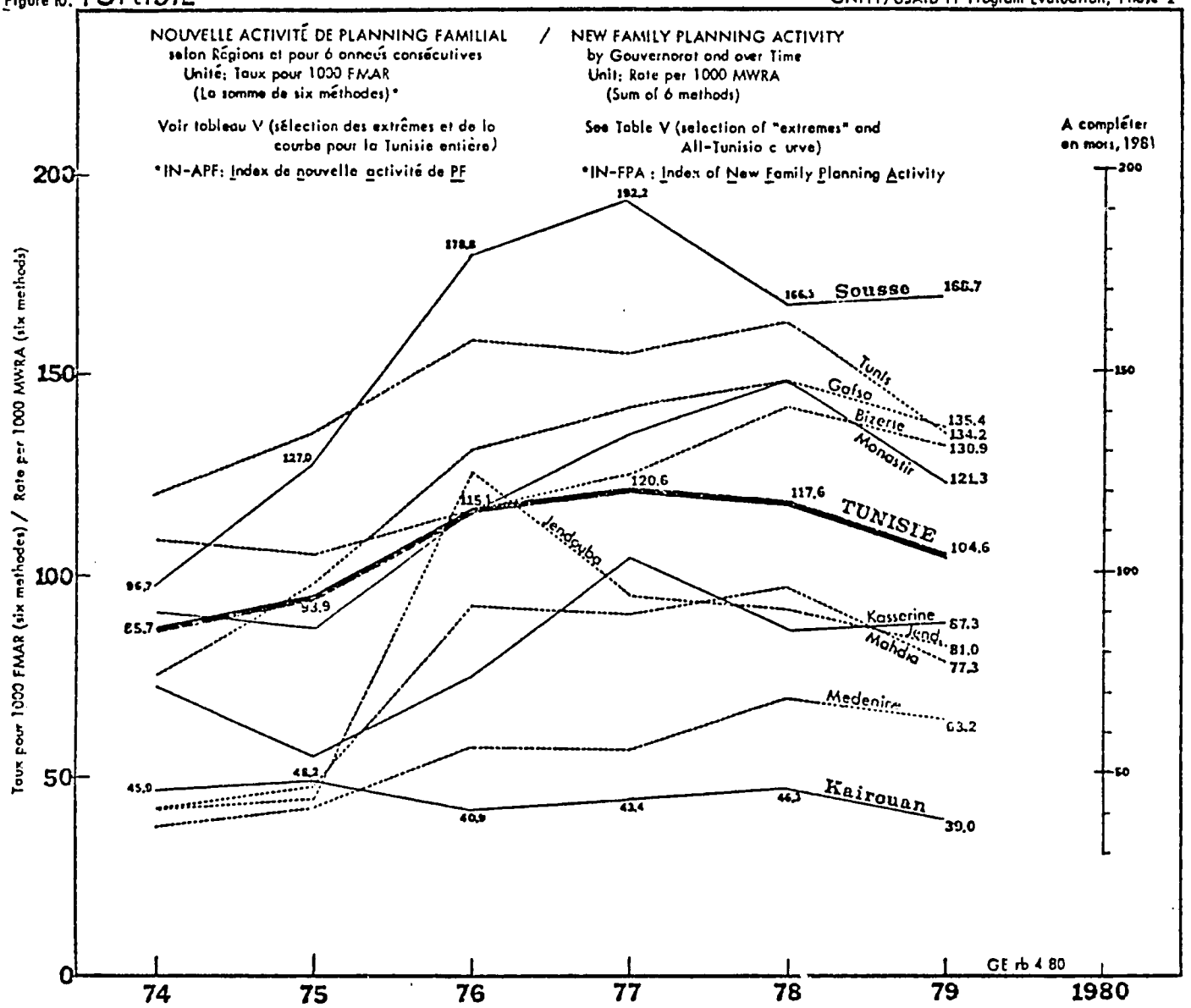
[1] Social Abortions and Tubal Ligations of Sidi Bouzid have been included, together with that denominator, in Gafsa.
[2] " Zaghouan " , in Tunis.
[3] " Siliana " , in Le Kef.
[4] Descending Rank order for IN-FPA of 1979.
[5] Except for above notes, Sidi Bouzid, Zaghouan, and Siliana could not be considered in this breakdown.
[6] This Index is the sum of 6 rates/1000 MWRA (New IUD, New pill, New jelly, New condom, new tub.lig, & social ab.)
[7] The six-year mean of the IN-FPA: Permits ranking of 15 gouvernorats by 6-year overall new activity. Such means may be established in cuts of 2-years , in order to study *shifts of activity across broader time segments.*

( ) Peak Activity Year / Année d'activité de pointe

GE rb 4 80

Figure 10. TUNISIE

ONPFP/USAID FP Program Evaluation, Phase-2



(3) As done in Table V (col. H), one can calculate a 6-year mean of IN-FPA (1974-1979), and then study the 1979 variation relative to this 6-year average performance. The greatest relative increases are noted for Medenine (+17.5%) and Gafsa(+12.0%), the greatest declines for Nabeul (-17.7%) and Sfax (-12.5%). All-Tunisia decreased by 1.6%.

Consideration 8: Kairouan is singled out as the gouvernorat in greatest need of improving overall performance, followed by Medenine. While the latter experiences a slow rise in performance, Kairouan is not only the lowest performer but also further regressing in 1979. In both gouvernorats *special task forces* have to be formed and the various members must be fully aware that they have a record of lowest national input that has to be corrected *from within that gouvernorat*. Basic needs to improve the annual performance from 1980 onwards have to be identified by these tack forces and their report must receive high priority at both the (1) Ministry of Health and (2) ONPFP. Major cooperation between MOH and ONPFP has to occur electively in such gouvernorats.

It should be noted that there is no obvious relationship between effective protection prevalence and overall activity. Activity includes such actions as social abortion and secondary methods. Hence, it is essential to study the data according to Table V, but substituting the IN-FPA by the 6 component parts leading thus to 6 new tables (and many overview charts). This analytical work should be done at ONPFP/HQ, in the following sequence: (1) tubal ligation, (2) IUD, (3) Pills, (4) Condom, (5) Gelée , and , of course, (6) induced abortion , the latter possibly before the secondary methods. Given the extraordinary position tubal ligation has for rapid build-up of resilient protection prevalence (see Figs. 2,3,4), specific analytical work has been initiated below.

Table VI and Figure 11 summarize the findings of Trends in Tubal Ligation. Note the following points:

(1) The year of *peak activity* in tubal ligation was 1974, overall and in the greatest number of gouvernorats (Béja, Bizerte, Jendouba, Sfax, Mahdia, Medenine, and Gafsa/Sidi Bouzid); the peak was in 1975 for another three gouvernorats (Sousse, Kairouan, and Kasserine); the only peak noted in 1976 was for Nabeul. Most interesting, during the peak year of overall activity in 1977 (120.6/1000 MWRA) there was not a single peak of tubal ligation! In 1978, there were two spastic peaks (Monastir and Le Kef/Siliana). Finally, in 1979 there were two peaks (Tunis and Gabes).

This pattern of peaks across gouvernorats translates momentary efforts to increase tubal ligations. Clearly, in 1974, there must have been a tubal ligation drive, with some echoes in 1975. That drive was not sustained; that is not incorporated into the day-to-day operation. "Flash in the pan" efforts are noted in 1978.

(2) Fig. 11 and Table VI (col. F) show that in 1979, there was an over 20-fold ligation activity in Béja (26.8/1000MWRA) as compared with Gafsa/Sidi Bouzid (1.3/1000MWRA). Béja performed 188.2% above the national average (9.3/1000MWRA); Gafsa/Sidi Bouzid, 86.0 below. Fig. 11 gives the evolution of tubal ligation incidence for the five highest (Béja, Bizerte, Sousse, Jendouba, and Kef/Siliana) and five lowest (Gafsa/Sidi Bouzid, Medenine, Gabès, Kasserine and Tunis/Zaghouan) 6-Year mean incidence attained (col. H in Table VI) between 1974 and 1979. At a glance one notes that Béjà has had a continued record of high performance that averages to 29.08 tubal ligations per 1000 MWRA, contrasting with a continued low performance in Gafsa/Sidi Bouzid that averages 2.05 per 1000 MWRA -- a 14-fold difference in average annual tubal ligation input. The contrast with Medenine (2.98/1000) is ninefold, as it is with Gabès (3.02/1000). Fig. 11 also shows *very great variation across years* for certain gouvernorats. For instance, relative to 1975, the Sousse incidence of tubal ligation (37.1/1000 MWRA = 100) was 57.4 in 1976, 27.8 in 1977, 14.0 in 1978, and 20.4 in 1979. Kef/Siliana's 1978 peak of 28.9/1000MWRA =100) fell to 42.2 in 1979, a one-year drop to less than half. Table VI shows other such dramatic decreases. Jendouba's incidence of tubal ligation dropped from 28.0/1000MWRA in 1974 to 8.3/1000MWRA in 1978. In Nabeul the incidence dropped from 15.1/1000MWRA in 1977 to 4.5/1000MWRA in 1979, etc.

Tunis and Bizerte stand out. A crisp increase in incidence of tubal ligation is noted since two years: from 5.2/1000 to 11.5/1000 for Tunis/Zaghouan & from 11.8/1000 to 21.3/1000 in Bizerte. Care should be taken to keep this increase on the increase and to secure an institutionalized work performance of perhaps 25/1000 MWRA, annually, in order to reach the performance level of Béja in some years. The three (four) gouvernorats house 27.3%(30.8%) of Tunisia's MWRA and the demographic impact would be rather important for the all-nation fertility decline.

Consideration 9 : Three early actions are suggested by the trend studies:

1. Secure a continued growth of the expanding annual incidence rate of tubal ligation in Tunis/Zaghouan and Bizerte; and, of course, secure continued performance of between 25.0 and 30.0/1000 MWRA in Béja. Further investments in equipment, training are warranted in both Tunis and Bizerte to secure the breaking of "flash in the pan" tubal ligation performance.

2. Secure through specific training and investements and specific interfacing of maternity centers and ONPFP teams, to boost the ligation rates within 1-3 years to the national average, that is to *annually one percent of the MWRA* in central and south Tunisia. Then let the curves evolve slowly upwards.

3. Sousse, Sfax, Nabeul and Jendouba must *reconquer rates of past performance*. This can only be achieved by creating the material conditions and a smooth cooperation between the maternity centers and the regional delegation of ONPFP. If additional training and equipment is warranted, then it should be provided on a priority basis, that is in 1980.

TABLE VI

TENDANCE DES LIGATURES DES TROMPES, SELON REGION
Unité: Taux pour 1000 FMAR.
COMPARAISON DE L'ENJEU LES LIGATURES EN INCIDENCE et PREDOMINANCE DE PROTECTION

TREND OF NEW ACCEPTANCE OF TUBAL LIGATION, BY GOUVERNORAT
Unit: Rate per 1000 MWRA.
JUXTAPOSITION of the LIGATION's SHARE IN INCIDENCE AND PROTECTION PREVALENCE.

		INCIDENCE															PREVALENCE	
		INCIDENCE OF TUBAL LIGATION / INCIDENCE DES LIGAGURES DES TROMPES						Rate/1000 MWRA/FMAR	PERCENT CHANGE			Rate/ 1000 MWRA	1979 Incid. relative to 6-Year Mean		ALL METHODS	TUB.LIG over ALL MTHS	EPP that is TUBAL LIGATION	
Rank[4]	Gouvern.[5]	1974	1975	1976	1977	1978	1979	1980[6]	1978/ 1977	1979/ 1978	1980/ 1979[6]	6-YEAR MEAN	1979 %Change OVER 6-YR M.		6-YEAR MEAN	% ALL METHODS	ZEPP/AM being TL	
		A	B	C	D	E	F	G	E/D	F/E	G/F	H	F/H	Rank	I	H/I	K	Rank
1	Sousse	25.2	(37.1)	21.3	10.3	4.8	7.6	____	-53.4	+58.3	____	17.72	-57.1	13	155.0	11.43	45.6	7
2	Gafsa[1]	(3.8)	2.8	2.1	1.5	0.3	1.3	____	-46.7	+62.5	____	2.05	-36.6	9	120.9	1.70	12.8	15
3	Tunis[2]	9.6	10.4	6.9	5.2	8.7	(11.5)	____	+67.3	+32.3	____	8.72	+31.9	2	143.9	6.06	36.2	10
4	Bizerte	(28.2)	17.5	12.9	11.8	19.8	21.3	____	+67.8	+ 7.6	____	18.58	+14.6	3	120.7	15.39	50.4	5
5	Monastir	19.2	12.3	12.2	8.6	(29.4)	4.4	____	+241.9	-85.0	____	14.52	-69.7	15	115.9	12.53	44.6	9
6	Nabeul	14.4	12.6	(16.9)	15.1	7.2	4.5	____	-52.3	-37.5	____	11.78	-61.8	14	142.2	8.28	35.1	11
7	Le Kef[3]	13.8	11.5	10.6	14.9	(28.9)	11.9	____	+93.7	-58.8	____	15.27	-22.1	7	119.9	12.74	45.0	8
8	Sfax	(20.3)	13.9	12.7	16.8	13.9	11.4	____	-17.3	-18.0	____	14.83	-23.1	8	130.2	11.39	50.7	4
	TUNISIE	(14.36)	12.80	10.36	9.69	10.38	9.26	____	+ 7.12	-10.79	____	11.14	-16.88		106.3	10.48	45.2	
9	Béja	(35.1)	26.3	27.7	34.0	24.6	26.8	____	-27.7	+ 8.9	____	29.08	- 7.8	5	103.5	28.10	64.4	1
10	Gabes	4.8	2.6	1.9	1.2	0.8	(6.8)	____	-33.3	+750.0	____	3.02	+125.2	1	98.8	3.06	20.0	14
11	Jendouba	(28.0)	18.4	14.5	14.1	8.3	8.4	____	-41.1	+ 1.2	____	15.28	-45.0	11	80.0	19.10	58.8	3
12	Kasserine	1.4	(8.2)	7.8	6.2	4.4	5.8	____	-29.0	+31.8	____	5.63	+ 3.0	4	79.3	7.10	26.8	11
13	Mahdia	(14.8)	10.1	9.9	12.7	9.0	9.9	____	-29.1	+10.0	____	11.07	-10.6	6	79.0	14.01	48.6	5
14	Medenine	(4.6)	3.8	4.2	2.7	1.1	1.5	____	-59.3	+36.4	____	2.98	-49.7	12	53.8	5.54	35.0	13
15	Kairouan	10.8	(18.2)	8.9	5.9	3.7	5.1	____	-37.3	+37.8	____	8.77	-41.8	10	44.0	19.93	60.0	2

[1] Includes numerator and denominator of Sidi Bouzid; [2] Includes numerator and denominator of Zaghuan; [3] Includes numerator and denominator of Siliana
[4] Descending Rank order for IN-FPA of 1979 (similar as organization in TABLE V).
[5] Sidi Bouzid, Zaghuan and Siliana are absorbed into Gasa, Tunis, and Le Kef, respectively.
[6] Should be completed in March, 1981.
[7] See also Figs. 11 and 12.

Figure 11. **TUNISIE** TENDANCE DES LIGATURES DES TROMPES / TREND OF TUBAL LIGATIONS ONPFP/USAID FP Program Evaluation, Phase - 2.

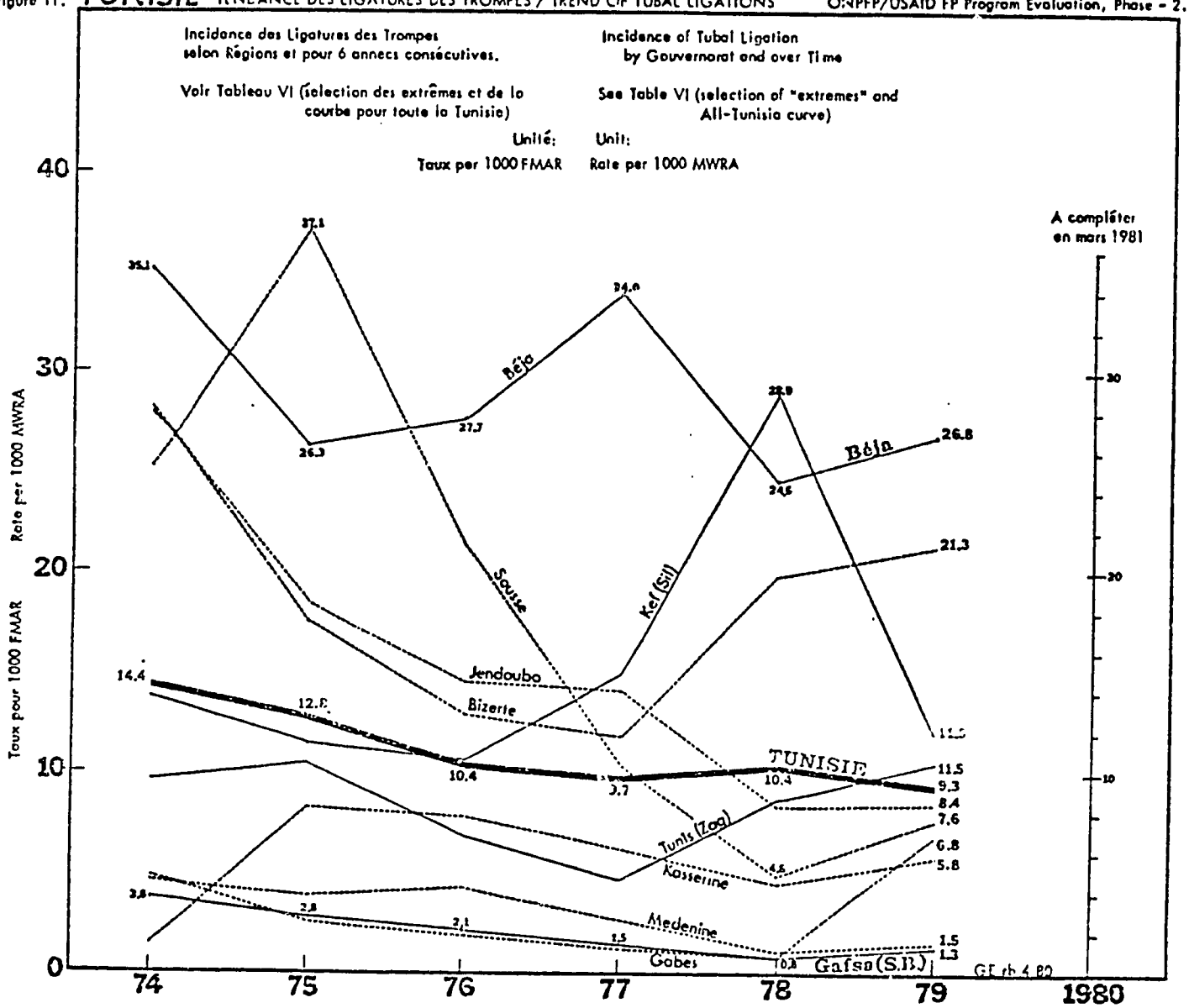
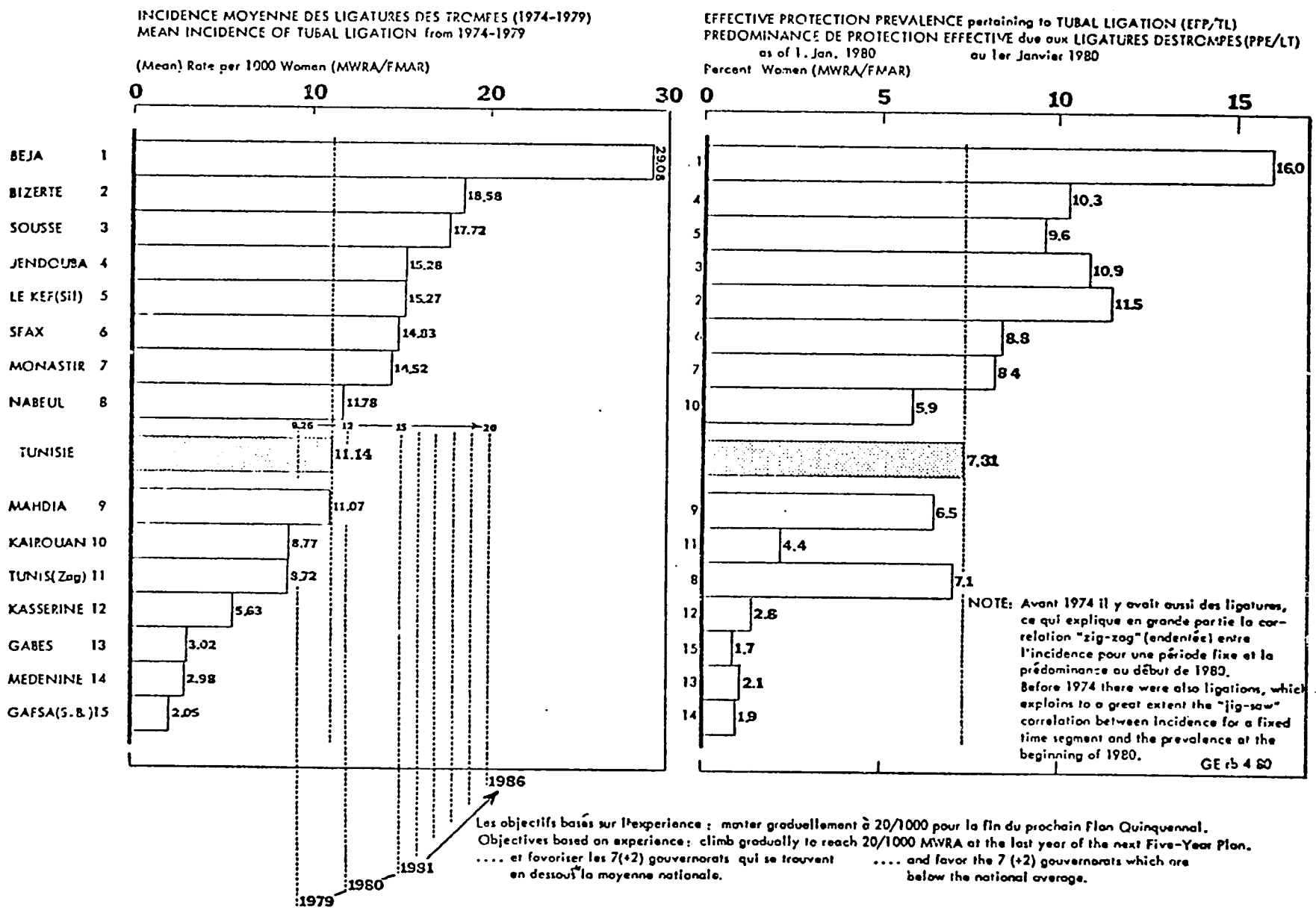


Figure 12. From INCIDENCE TO PREVALENCE. INCIDENCE ..... PREVALENCE



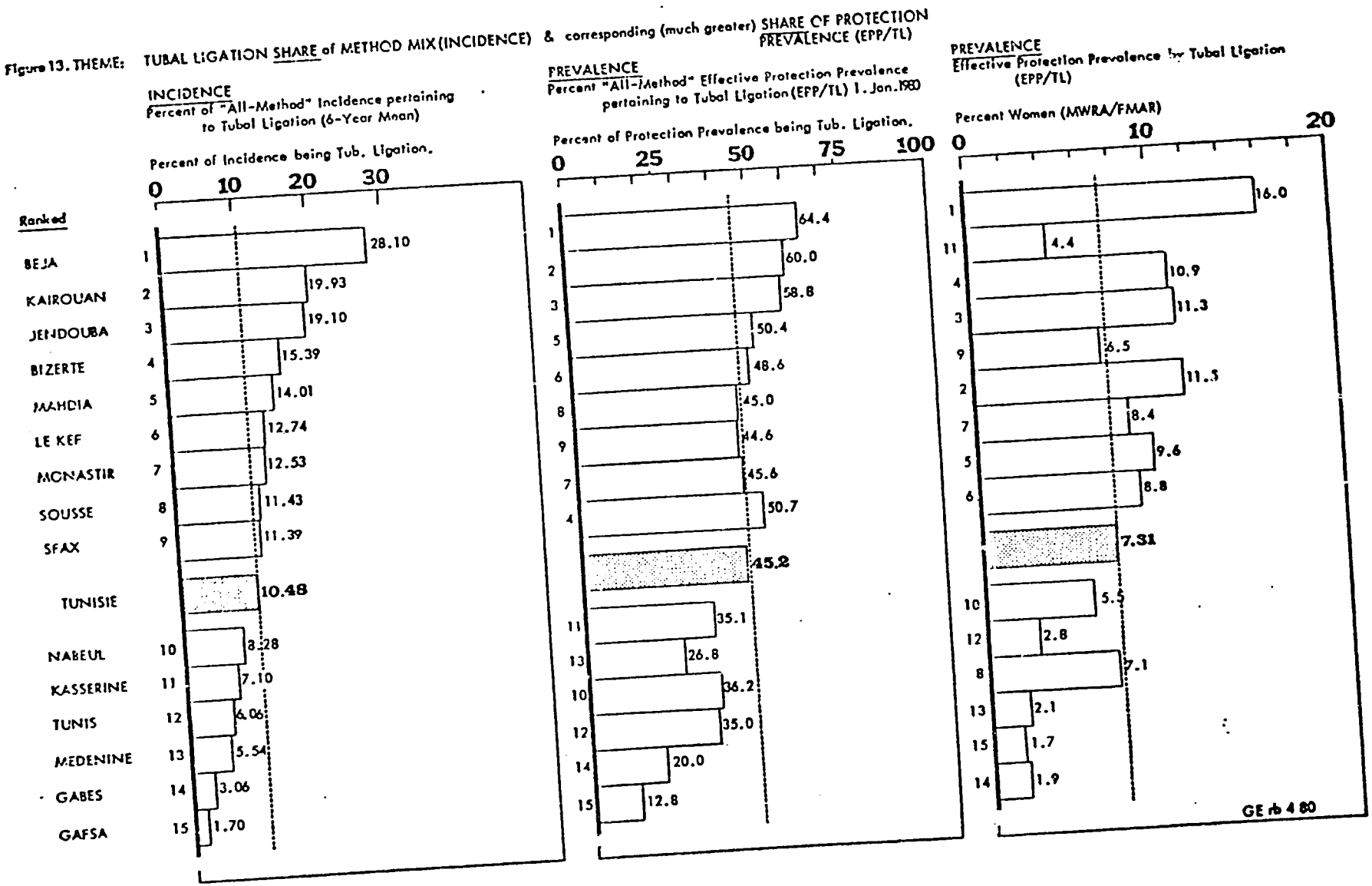
Consideration 10: Because of the very great variation *among* gouvernorats of the performance rates as well as *over time* within the individual gouvernorats, it is irrealistic to assess annual progress with national figures as the reference. Increases in performance of some gouvernorats were "cancelled" by decreases in performance among others between 1974 and 1979. Hence it is suggested that performance be assessed by region from year to year. This is particularly important for the high impact method of sterilisation. It should be kept in mind that at the end of 1979, 45.2% of Tunisia's entire protection prevalence generated by the ONPFP over the seven years of its existence was pertaining to tubal ligations (7.31/16.19) and that one year earlier it was 42.2% (6.82/16.15). In other words, the ligations' share to the nation's protection prevalence is slowly increasing even under adverse conditions. Is it not preferable to favor this evolution as *the resilience of a nation's acquired protection prevalence is very sensitive to the magnitude of the ligations' share.* Following the progress of tubal ligation incidence at the gouvernorats' level will keep the délégués alerted to the magnitude of the tasks ahead.

3.5 Linkage of Incidence and Prevalence of Tubal Ligation, by Region.

Table VI then was used to construct Figure 12 and Figure 13. In essence, given the low attrition rate of tubal ligation it is possible to calculate a mean annual input rate for the 6-year period, and to compare this for each gouvernorat with mean Effective Protection Prevalence (EPP) for the end of that period (Figure 12) on the one hand, and on the other, to compare the relative shares of tubal ligations in both incidence and prevalence of the "All Method Protection" (Figure 13). The following observations are made:

(1) There is a quite strong (pictorial) correlation between the tubal ligations' incidence and prevalence across the 15 geographic entities (Fig. 12). Small input (incidence) leads to low EPP/TL : the gouvernorats of central and southern Tunisia appear at the bottom of the Figure 12; despite the seven years work, there are less than 5% of all MWRA effectively protected by tubal ligation in Gafsa/Sidi Bouzid, Medenine, Gabès, Kasserine and Kairouan. Given that the reservoir for potential availability for tubal ligation is between 1/4 and 1/3 of all MWRA, the present EPP/TL has remained insignificant and the birth rate is much higher than it ought to be at this time because adequate ligation services have not been provided in general -- probably due to lack of medically trained manpower, and insufficient coordination between ONPFP and the MOH. These days are now probably gone by, since such cooperation has been amply discussed during the second phase evaluation mission.

Figure 13. THEME: TUBAL LIGATION SHARE of METHOD MIX (INCIDENCE) & corresponding (much greater) SHARE OF PROTECTION PREVALENCE (EPP/TL)



(2) Figure 12 is also important insofar as it contains the information necessary *to set objectives for the next five year plan that are to be realistic in the Tunisian context.* Look at Figure 12. For a mean annual incidence of 11.1 tubal ligations / 1000 MWRA over the last 6 years (+ a certain amount of ligations earlier) the nation reached an EPP/TL of 7.3 percent MWRA as of the end of 1979. Béja that contains one twentyfifth of All-Tunisia's MWRA had a mean annual input of 29.1 TL/1000 MWRA, generating an EPP/TL of 16.0 percent of all MWRA at the end of 1979. The first author, in discussion with Tunisian colleagues, has picked the half-way figure of 20/1000 MWRA to be reached at the end of the next five-year plan (1986) and to be maintained as feasible incidence of tubal ligations from then onward (halfway between 11.1 and 29.1 = 20). Of course, this is arbitrary, but it is halfway between the mean annual incidence of All-Tunisia experienced over the last 6 years and the gouvernorat with the highest performance. This would lead to a EPP/TL of between 12.0 and 15.0% MWRA by 1986. The major consideration is a *steady build-up of both incidence and prevalence* avoiding the "flash in the pan" peaks of TL incidence. If this can be achieved gradually, then the stage is set to let the "system" grow from within and that its carefully prepared momentum would then carry the EPP/TL from around 15/100 MWRA in 1986 to well over 20/1000 MWRA in 1991, that is at the end of the subsequent five year plan. The corresponding demographic impact would be salient, and there would then be available still two other five-year plans for achieving the demographic objectives by the year 2001 (Italy's profile of age-specific fertility rates of 1967). In essence, the four next five-year plans must be planned by ONPFP not so much in terms of births to be averted as in terms of Effective Protection Prevalence to be attained by (1) Tubal Ligations, and (2) All other methods. Of course, the "Prevalence Approach" stimulates regional performance and hence will automatically boost the number of births averted beyond any figure that would be advanced without passing through the "prevalence approach". Doctors will fully understand the Prevalence Approach because the concept is really one of preventive medicine with a given protection prevalence producing health benefits to be shown by MCM!

(3) Figure 13 gives another relationship: The relative share of tubal ligations in the incidence and prelavence rates of All Methods for 15 Tunisian geographic entities. For All-Tunisia, 10.5% of the "All Method" incidence pertained to tubal ligation; the correlative share in EPP/AM (Effective Protection Prevalence /All Methods) was 45.2 % for tubal ligations. For Béja, the corresponding figures were 28.1% for the incidence and 64.4% for the EPP/AM. At the other extreme, the figures in Gafsa were 1.7% for incidence and 12.8% for the prevalence. As a very approximate interpolation, one may estimate that the relative share of tubal ligations in the incidence of all methods should grow to around 20% by 1986 and that this may bring the relative share of tubal ligations in the EPP/AM to around 55-60%. What matters is to understand that the future protection prevalence in Tunisia will be mainly due to tubal ligation; leaving around 40% to all other methods.

TABLE VII

TREND ANALYSIS BY TIME FENESTRATION: Eight Consecutive Januaries from 1973 to 1980. All Primary Methods, including Social Abortions. Primary Family Planning Activity Index.
Succinct Reading: (1) 1977 emerges as the peak year. The 1980 performance proceeds at a rate lying between 1975 and 1976.
(2) Time Fenestration Methodology enables to study program dynamics concomitant with program occurrence.

		JANVIER / JANUARY									
		1973	1974	1975	1976	1977	1978	1979	1980	80/77(%)	80/79(%)
	FMAR:	725500	748950	773187	798264	824203	851035	878795	907513		
D.I.U.	Fr.	790	1371	1484	1512	1914	2017	2301	2285		
	T.M.	1.089	1.831	1.919	1.894	2.322	2.370	2.618	2.518		
	T.A.	13.067	21.967	23.032	22.729	27.867	28.441	31.420	30.214	+8.42	-3.84
Pilules	Fr.	940	757	1071	1900	2345	2359	2111	1807		
	T.M.	1.296	1.011	1.385	2.380	2.845	2.772	2.402	1.991		
	T.A	15.548	12.129	16.622	28.562	34.142	33.263	28.826	23.894	-30.87	-17.11
Méth. Sec.	Fr.	844	926	870	1205	1666	1332	1339	1281		
	T.M.	1.163	1.236	1.125	1.510	2.021	1.565	1.524	1.412		
	T.A.	13.960	14.837	13.500	18.114	24.256	18.782	18.284	16.939	-30.17	-7.36
Lig. Tr.	Fr.	227	963	855	774	808	691	864	651		
	T.M.	0.313	1.286	1.106	0.970	0.980	0.812	0.983	0.717		
	T.A.	3.755	15.430	13.270	11.635	11.764	9.743	11.798	8.608	-26.83	-27.04
Les Quatre Catégories	Fr.	2801	4017	4280	5391	6733	6399	6615	6024		
	T.M.	3.861	5.364	5.536	6.753	8.169	7.519	7.527	6.638		
	T.A.	46.329	64.362	66.426	81.041	98.029	90.229	90.328	79.655	-18.74	-11.82
Avort. Sociaux	Fr.	411	852	1111	1537	1847	1752	1769	1486		
	T.M.	0.567	1.138	1.437	1.925	2.241	2.059	2.013	1.637		
	T.A.	6.798	13.651	17.243	23.105	26.891	24.704	24.156	19.649	-26.93	-18.66
Toutes Catégories	Fr.	3212	4869	5391	6928	8580	8151	8384	7510		
	T.M.	4.427	6.501	6.972	8.679	10.410	9.578	9.540	8.275		
	T.A.	53.127	78.013	83.669	104.146	124.921	114.933	114.484	99.304	-20.51	-13.26

Fr.: Fréquence/Frequency; T.M.: Taux mensuel/Monthly Rate. Taux/Rate: pour 1000 FMAR/per 1000 MWRA. T.A.: Taux annuel, Annual Rate. Toutes Catégories: INDEX d'ACTIVITE NOUVELLE DE PF / PRIMARY FP ACTIVITY INDEX. TU-GE rb/ch 4 80

Consideration 11: The trend studies of both incidence and prevalence of protection of all methods in general and of tubal ligation in particular led to (1) defining feasible objectives for the future incidence rate of tubal ligations (20 per 1000 MWRA by 1986), and (2) estimating the relative share of tubal ligations in the incidence of all methods (20% by 1986) and in accumulated effective protection prevalence of all methods (55-60% by 1986 up from 45% in 1980). This information, derived from the national program experience of the seventies will be very helpful to design an overall scheme of objectives from year to year up to 1986. This realistic *planning built upon experience* has a greater chance of succeeding than any other approach.

3.6 Evolution of All Methods of FP: Monitoring by Cumulative Trend Analysis (CTA)

3.6.1 January 1980 versus earlier Januaries

Table VII and Figure 14 gives a trend analysis by time fenestration. Monthly and annual rates have been computed for all methods -- single and combined -- for eight consecutive Januaries (1973-1980). At a glance one notes that the performance in January 1980 was significantly smaller than one year earlier. All methods, including social abortions, were performed at a rate 13.3% smaller than in January 1979 with the greatest decrease in tubal ligations (-27.0%), followed by social abortions (-18.7%) and new pill acceptors (-17.1%). The smallest decrease was noted with IUDs (-3.8%). Figure 14 shows also that even the "January window" quite nicely portrays the trend as known from trend analyses pertaining to the entire year. In sum, the expected reversal had not yet occurred in January of 1980. Figure 14 is ready for charting in February of 1981 the method-specific performance of the year 1980.

Consideration 12: Figure 14 is a typical "early feedback chart" that should reach the délégués with some comments by both the statistical division and the medical division, for instance. What matters is that the délégués perceive that the annual performance can be measured during its month-to-month build-up and that hence monitoring can help to "catch up" still during the calendar year. *As important, note the concept of MONITORING PLANNING (MP).*

3.6.2 January, February & March, single and combined as 1st quarter

At the end of the mission, the figures of February, 1980 became available. A master table has been developed (Table VIII) that enables comparison of performance for the first three months, single and combined relative to the same period one year earlier. Clearly, a sudden change has occurred as the activity

Figure 14

GOT/USAID FP Program Evaluation, Phase-2.

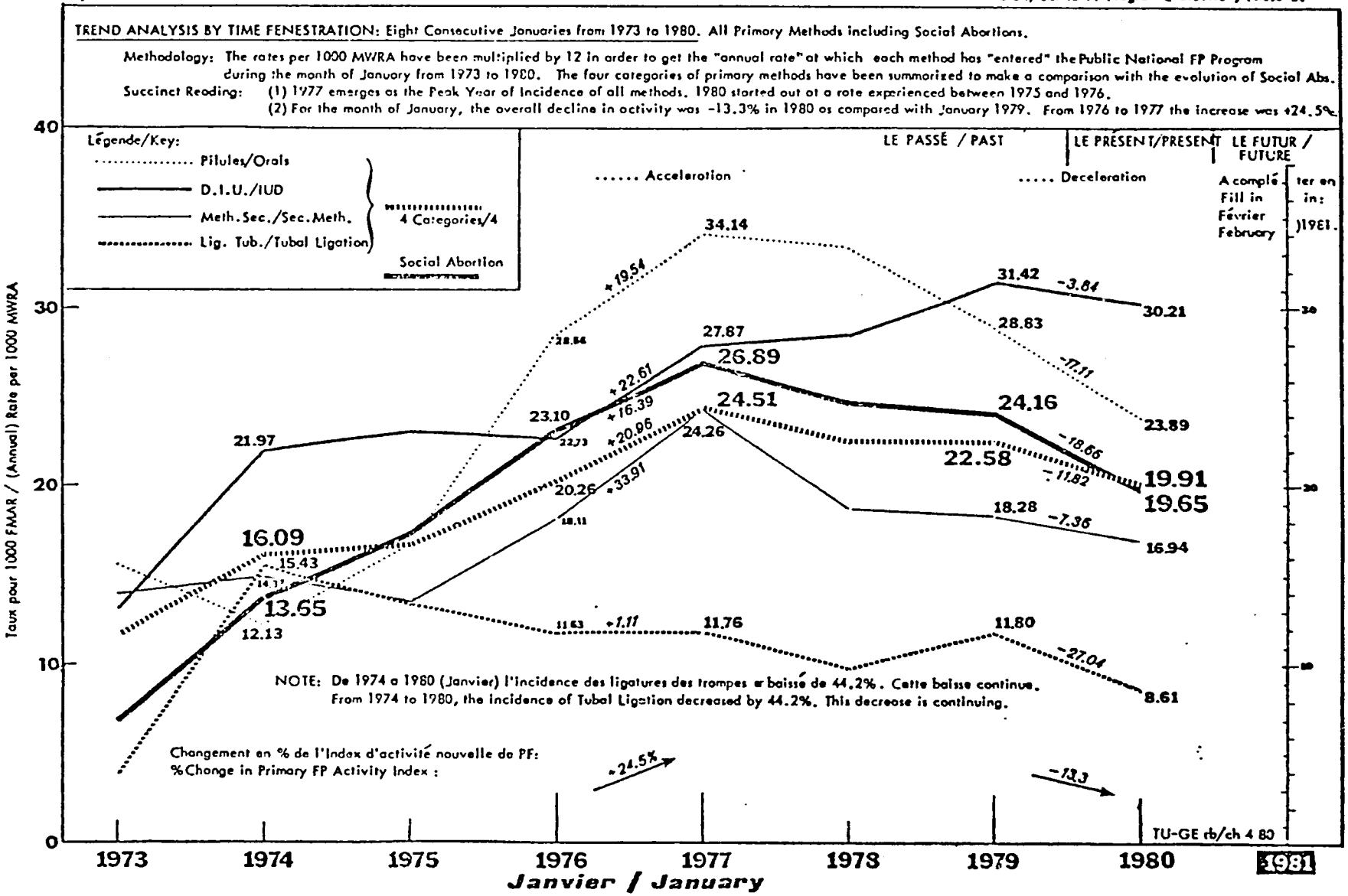


TABLE VIII

CUMULATIVE TREND ANALYSIS (CTA) OF METHOD-SPECIFIC FAMILY PLANNING INPUT 1980 over 1979: FIRST QUARTER.
(This Table may be completed at the end of April, 1980 and the right column figures transferred into "1-3" Line of Table II.
Latest by mid-May, the findings of the first quarter 1980 should be in the hands of the regional delegates: to stimulate 2nd++

		JANVIER			FEVRIER			MARS			1er TRIMESTRE		
		1979	1980	80/79-%	1979	1980	80/79-%	1979	1980	80/79-%	1979	1980	80/79-%
	FMAR:	878795	907513		878795	907513		878798	907513		878798	907513	
D.I.U	Fr.	2301	2285		2027	2691		2614			6942		
	T.M.	2.618	2.518		2.307	2.965		2.975			7.899		
	T.A.	31.420	30.214	-3.84	27.678	35.583	+28.5	35.694	____	◯	31.598	____	◯
Pilules	Fr.	2111	1807		1736	1975		2281			6128		
	T.M.	2.402	1.991		1.975	2.176		2.596			6.973		
	T.A.	28.826	23.894	-17.11	23.71	26.115	+11.0	31.147	____	◯	27.893	____	◯
Méth.Sec.	Fr.	1339	1281		1124	1279		1515			3978		
	T.M.	1.524	1.412		1.279	1.409		1.724			4.527		
	T.A.	18.284	16.939	-7.36	15.348	16.912	+10.1	20.687	____	◯	18.107	____	◯
Lig.Tr.	Fr.	864	651		801	977		1036			2701		
	T.M.(T)	0.983	0.717		0.911	1.077		1.179			3.074		
	T.A.	11.798	8.608	-27.04	10.937	12.919	+18.1	14.147	____	◯	12.294	____	◯
Les Quatre Catégories	Fr.	6615	6024		5688	6922		7446			19749		
	T.M.(T)	7.527	6.638		6.473	7.627		8.473			22.473		
	T.A.	90.328	79.655	-11.82	77.670	91.529	+17.8	101.676	____	◯	89.891	____	◯
Avort. Sociaux	Fr.	1769	1486		1467	1792		1849			5085		
	T.M.(T)	2.013	1.637		1.669	1.975		2.104			5.786		
	T.A.	24.158	19.649	-18.67	20.032	23.695	+18.3	25.248	____	◯	23.145	____	◯
Toutes Catégories	Fr.	8384	7510		7155	8714		9295			24834		
	T.M(T)	9.540	8.275		8.142	9.602		10.577			28.259		
	T.A.	114.486	99.304	-13.26	97.702	115.225	+17.9	126.924	____	◯	113.036	____	◯

Fr. Fréquence/Frequency. T.M. (T): Taux mensuel (trimestriel)/ Monthly Rate (quarterly).
Taux/Rate: pour 1000 FMAR/ per 1000 MWRA. T.A. : Taux annuel / Annual Rate.
Toutes Catégories: INDEX d'ACTIVITE NOUVELLE de PF (ne mesure pas le suivi) / PRIMARY FP ACTIVITY INDEX (does not measure the follow-up) TU-GE rb/ch 4 80

++ Quarter performance. In like manner, the first semester analysis should reach the delegates before September, 1980.

Figure 15. GOT/USAID FP Program Evaluation, Phase-2

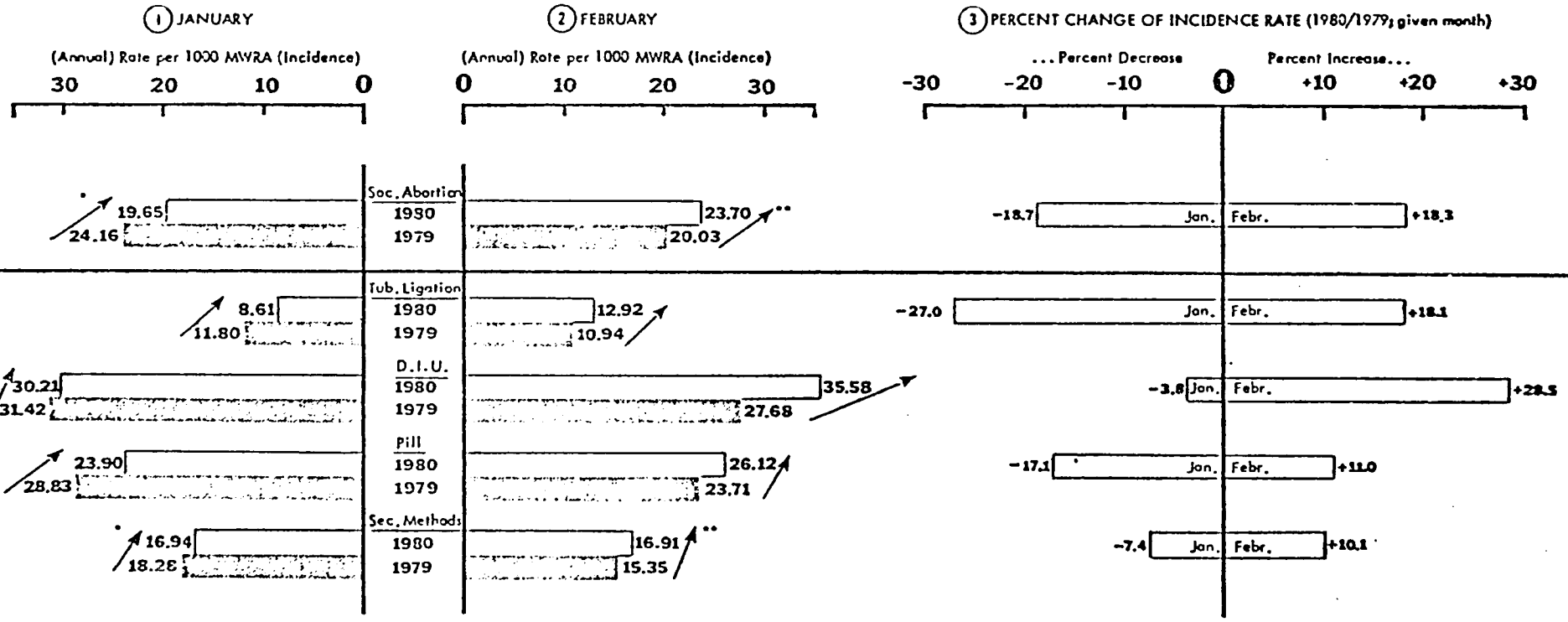
ON FP PROGRAM PERFORMANCE: January and February, 1980 as compared with 1year earlier(Jan, Febr. 1979).

Principles of Analytical Epidemiology applied to month-by-month FP Core Monitoring shows a Reversal of Trend (from decrease to increase) for all methods during the month of February, 1980.

(1) (Annual) Incidence of New Acceptors for the Month of January in 1979 and 1980

(2) (Annual) Incidence of New Acceptors for the Month of February in 1979 and 1980

(3) Percent Change of Incidence in 1980 over 1979 . Note: see below.



NOTE: While in January 1980 the incidence of all primary methods was still on the decrease, a sudden rise for all methods was noted in February, 1980. If this new trend were to be confirmed in March, then the National Family Planning Program would have reached an inflection point in February 1980. By comparing the %-changes with those derived from the "exercise projections" in Figure 4, it becomes obvious that the FP Program has considerable potential for rapid increase in performance. Note also that Social Abortions experienced an important increase in February, 1980.

* decrease
** increase

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in February 1980 was greater by 17.9% as compared with one year earlier. However, this February was a leap year. Nevertheless, the activity was significantly greater even if 4% are 'subtracted' for the equivalent of one work day. This turn around in February could signal that the performance curve has reached beyond a positive inflection point. The figures of March, 1980 will tell. Table VIII is ready for completion for March and the first quater. No doubt, the first quater findings should be fed back to the délégués latest by mid-May in order for them to adapt to that outcome quite before the Summer "valley" in the performance curve. Fig. 15 is one way of showing the apparent inflection.

3.6.3 1st Quarter, 1 Semester, and Entire Year Monitoring

Table IX and Fig. 16 expand the Cumulative Trend Analysis (CTA) of method-specific family planning input with *cumulative time fenestration points* at 3, 6, and 12 month. What matters is to put the latest findings into the context of earlier "windows". In other words, one of the most powerful approaches in monitoring methodology is to "carry time" at the same time "two-dimensionally": (1) trend study across years for (2) cumulative time windows. Let's study Figure 16, that may be read as follows:

(1) In 1973, the program was *expanding* quite rapidly as there was a true *acceleration* on account of various methods (we chose as indicators the "three surgical methods": they are "system-bound" and hence reflect the capacity of absorption regarding service provision!). The three curves (quarter/semester/year) are stacked positively, that is the annual incidence rates increased each time a next time segment was added.

(2) In 1975, this remained true, when passing from the 1st quarter to the 1st semester, for all three methods. But during the second semester the activity fell dramatically for tubal ligations and also for IUDS, while abortions were still slightly expanding within and across years.

(3) In 1977, the program was *regressing* as there was a true *deceleration* on account of all three methods. The three curves are stacked negatively, that is the annual incidence rates decreased each time a next time segment was added. In addition, it is clear, that the big deceleration occurred during the second semester. Furthermore, the method that showed the greatest "resistance" or resilience was social abortions.

(4) In 1979, the program continued to regress *within that year* on account of all three surgical methods, social abortions being again least sensitive to *seasonal* variations.

(5) The first seven years of the ONPFP Program performance, treated by analytical epidemiology in a two-dimensional time frame, are a very fine base upon which to project feasible objectives and monitor their "coming to be reality" within a given calendar year!

TABLE IX

CUMULATIVE TREND ANALYSIS (CTA) OF METHOD-SPECIFIC FAMILY PLANNING INPUT 1973-1979: AGAINST WHICH TO MEASURE the ONPFP PROGRAM PERFORMANCE OF 1980 AT THREE TIME POINTS (1st Quarter; 1st Semester; and Entire Year). "Three-Point Monitoring/Feedback". Figures for Years are Rates per 1000 MWRA; Figures in brackets are % Change of R/1000

MWRA		725500		773187		824203		878795		907513	
METHOD	PERIOD	1973	75/73	1975	77/75	1977	79/77	1979	80/79	1980	Feed-back:
Jelly	1-3	1.20	(+15.0)	1.38	(+34.8)	1.86	(-29.6)	1.31	(.)		1
	1-6	3.15	(- 4.1)	3.02	(+26.2)	3.81	(-27.0)	2.78	(.)		2
	1-12	5.84	(- 2.1)	5.72	(+21.5)	6.95	(-22.4)	5.39	(.)		3
Condom	1-3	2.97	(-25.6)	2.21	(+97.7)	4.37	(-26.5)	3.21	(.)		1
	1-6	6.54	(-14.7)	5.58	(+64.3)	9.17	(-29.1)	6.50	(.)		2
	1-12	11.59	(- 3.2)	11.22	(+30.5)	15.92	(-25.4)	11.88	(.)		3
Orals	1-3	4.16	(+ 7.0)	4.45	(+111.0)	9.39	(-25.8)	6.97	(.)		1
	1-6	8.59	(+16.4)	10.00	(+83.9)	18.39	(-21.7)	14.40	(.)		2
	1-12	15.43	(+36.7)	21.09	(+58.6)	33.45	(-19.7)	26.86	(.)		3
IUD	1-3	4.23	(+36.6)	5.78	(+40.0)	8.09	(- 2.3)	7.90	(.)		1
	1-6	10.93	(+16.5)	12.73	(+29.2)	16.45	(- 3.7)	15.84	(.)		2
	1-12	23.14	(- 3.3)	22.38	(+29.4)	28.97	(+ 1.2)	29.31	(.)		3
Tubal Ligation	1-3	1.09	(+241.3)	3.72	(+12.9)	3.24	(- 5.2)	3.07	(.)		1
	1-6	2.35	(+258.3)	8.42	(-30.2)	5.88	(- 3.1)	5.70	(.)		2
	1-12	6.84	(+87.1)	12.80	(-24.3)	9.69	(- 4.4)	9.26	(.)		3
Social Abortion	1-3	1.68	(+163.1)	4.42	(+49.1)	6.59	(-12.1)	5.79	(.)		1
	1-6	3.85	(+164.2)	10.17	(+30.9)	13.31	(-12.7)	11.62	(.)		2
	1-12	9.02	(+129.4)	20.69	(+24.1)	25.68	(-14.7)	21.90	(.)		3
ALL METHODS	1-3	15.33	(+43.2)	21.96	(+52.7)	33.54	(-15.7)	28.25	(.)		1
	1-6	35.41	(+41.0)	49.92	(+34.2)	67.01	(-15.2)	56.84	(.)		2
	1-12	71.86	(+30.7)	93.90	(+28.5)	120.66	(-13.3)	104.60	(.)		3
Within Year Change relative to previous reference year ('column')		*fall*		*fall*		*rise*			?		3
Between Year Change relative to previous reference year ('row')		*rise*		*rise*		*fall*			?		1 2 3

[1] 1980-1st Trimester figures to be computed at the End of April, 1980. Feedback to Gouvernorates should be made during May 1980 to affect 1st Semester.

[2] 1980-1st Semester figures to be computed at the End of July, 1980. Feedback to Gouvernorates should be made during August 1980 to affect 2nd Semester.

[3] 1980-Entire Year figures to be computed at the End of January, 1981. Feedback to Gouvernorates should be made during February 1981 to affect first Quarter.

Thus , this table is to be filled in three stages and the latest trend to be explained in a short text for feedback: and hence motivation for "Program steering from within" at the regional level. Regional Delegates must get a feel for total work.

Source of Raw Data: ONPFP, see also Table III Calculations GE rb 4 80
Illustrations: Figure 16 and 17.

(6) The tubal ligations have been projected according to previous steps of reasoning (Fig. 12; Cons. 10). What matters is that the quarterly achievement may be inscribed in Fig. 16 latest by May 1980. The délégués and the medical profession performing ligations will then know where "they stand" in the nation's 1st quarter over-all performance. Whatever, the outcome, ONPFP must then unleash some "animation professionnelle" to secure an *acceleration* in the program performance of tubal ligations, which in turn is measurable in August, 1980, as the curve "1-6" should come to lie above the "1-3" curve. In essence, continued monitoring "*along a given year*" is now possible and according to the outcome in August 1980 for the first six months, the medical division can take programmatic steps to be implemented for the months September - December of the same year. What matters is that the "minimal target" of an annual rate of 12/1000 MWRA is going to be reached "by the end of that year". It should also be noted that programmatic steps may mean alerting the medical profession on the facts, and that their cooperation is essential insofar as they must consider tubal ligation as one priority task of dispensing obstetrics/gynaecology and family health care. Truly, the medical division of ONPFP has a most important task to orient the Tunisian medical world on what signal contribution it makes to national development by sticking to targets expressed as annual incidence of contraceptive protection by tubal ligation, among others. If this is handled adeptly, then one has to foresee that the modest targets will be surpassed without much ado. This is the "*Promotion from within*" aspect of CT-Monitoring!

(7) Because "more tubal ligations" may often mean "selecting IUD candidates", the minimal target projection of IUDs has been kept low. Actually, it is being carried backward to a rate 25/1000 MWRA by 1983. What matters is that the minimal target is going to be reached by the end of 1980, that is 28/1000 MWRA. Of course, cumulative trend figures at 3 and 6 months into 1980 can be charted in Figure 16. Similarly, Social abortions can be monitored. Injectables were also inscribed according to agreements reached during the 2nd phase evaluation.

(8) Figure 17 was constructed as an outgrowth of Fig. 16. , but expanding to all six primary methods and showing the annual incidence as occurred in 1977 and 1979 as well as the annual target rates for 1980 (left side). The relative change of method specific performance in 1979 and that to be expected for programmed objectives in 1980, as compared with the peak year of 1977, has been calculated (right side). Note that the only important increase is to occur with tubal ligations (+23.8%). Social abortions, by contrast, have no targets, as they are an indicator rather than an objective per se.

Consideration 13: Method-specific trend monitoring with early feedback to the regions for corrective adaptation is practicable at 1, 3, 6, and 12 months of a given year. Objectives, realistic in terms of annual rates of incidence to be reached may be "steered" in March, May, & August, respectively. In turn, ONPFP demographic division can translate these rates into actual births averted. The medical profession in turn will understand the concept of growing protection prevalence. The three concepts of quantified performance link three ONPFP divisions with the regional efforts.

Figure 16

GOT/USAID FP Program Evaluation , Phase-2.

CUMULATIVE TREND ANALYSIS (CTA) For Three Methods of Family Planning (Surgical) During the First Seven Years of ONPFP's Operation (Baseline).
Grafting of reasonable TARGET RATES on PAST PERFORMANCE to cover the next Five Year Plan (1982-1986). Exercise.

The three surgical methods studied are: (1) Intrauterine Device (D.I.U.)..new acceptors
(2) Tubal Ligation (L.T.)
(3) Social Abortion (A.S.)

In Addition (4) Injectables are also considered.

Unit of Measurement: Rate per 1000 MWRA / Unité de Mesure: Taux pour 1000 FMAR.

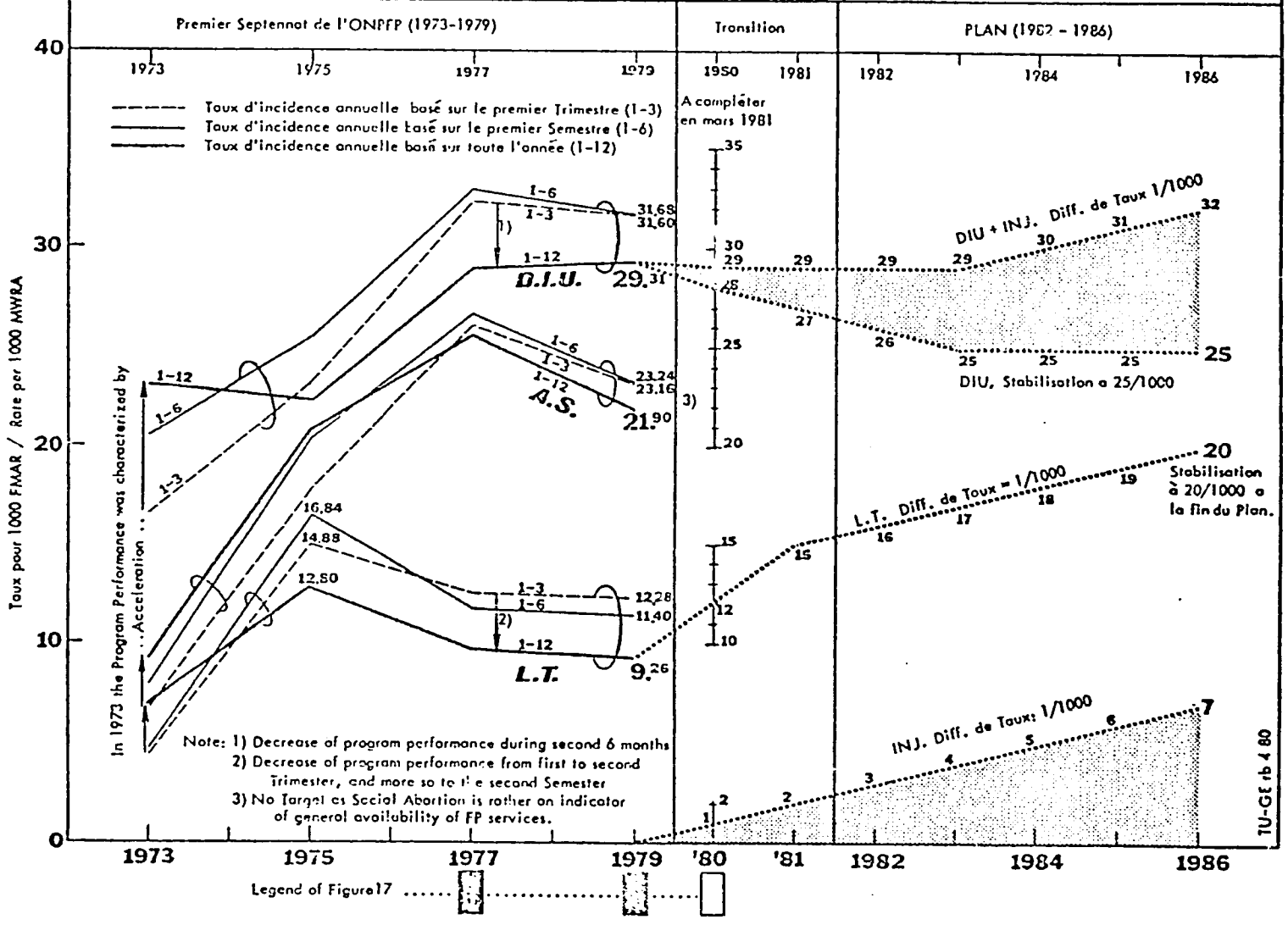


Figure 17

GOT/USAID FP Program Evaluation, Phase-2.

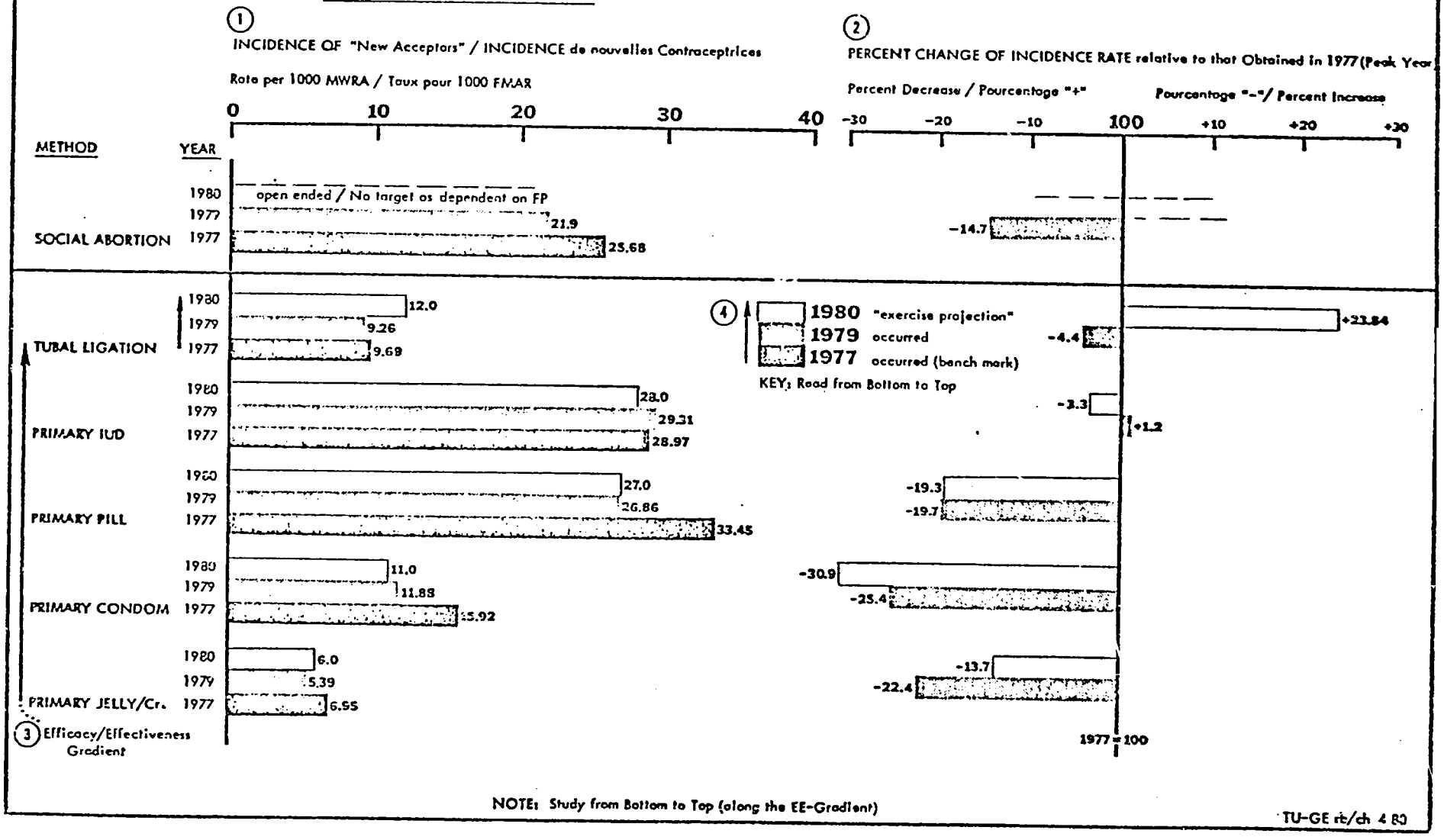
ONPFP FP PROGRAM PERFORMANCE 1977, 1979 -- Upon which 1980 EXERCISE PROJECTIONS are built ("Target Setting from Within")

(1) Annual Incidence of New Acceptors, by Method (Rate per 1000 MWRA)

(2) Change in Incidence relative to that obtained in 1977 (Percent of 1977 Incidence Rate)

(3) Gradient of Efficacy/Effectiveness: Corresponding Incidence Rates lead to National Efficacy/Effectiveness PROFILE

(4) Projected short term TREND built upon recent past (Exercise)



NOTE: Study from Bottom to Top (along the EE-Gradient)

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4. OBJECTIVES FOR THE FIVE-YEAR PLAN

In Tunisia, the medical and paramedical manpower is the key to meeting objectives, because of the very nature of the FP Program. "Clinics" play a key role and a spirit of 'medicalisation' of FP is now conquering the three universities, the ministry of health, and, of course, the Office itself. No doubt, the eighties will experience an important 'integrative expansion' and hence penetration of FP because the medical profession it to cooperate more fully. Meanwhile, the work of the Office pioneered, among other paths, the one leading to know what it will take to achieve planned and feasible progress.

Monitoring led to new thinking. This section nails down feasible objectives for the next five year plan:

Step 1: Define annual incidence rates by method from 1980-1986, based on knowledge acquired through monitoring.

Step 2: Derive the method mix profile by transforming step 1 into proportions of actual activity.

Step 3: Calculate the annual new protection conferred by this scheme. Focus, for the time being, on the two most efficient methods (new IUD acceptance and tubal ligation).

Step 4: Have the Office calculate the births averted according to the "incidence package", past (1973 - 1979), present (1980 & 1981), and during the five-year plan (1982 - 1986).

Step 5: Calculate the All-Tunisia Average work day performance for the two above methods; and study the shifting "ligation to IUD" ratio.

In essence, set targets in terms of regional achievement as measured regionally and nationally by *incidence rates per 1000 MWRA* which in turn are transformed by demographers into a parallel scheme of *births averted to enter the 5-Year Plan: meeting objectives will then take a new meaning!* A series of charts and tables has been developed below with two critical cutpoints: (1) from past to present, and (2) from present to future (5-year plan). The outcome of this "pragmatic, monitoring-generated planning" is the doubling of the annual input of new protection within 7 years.

4.1 Incidence of FP Input, Past and Future

Table X and Fig. 18 give past and projected incidences of primary acceptance. The idea is to reconquer in a reaonable time the level of incidence of tubal ligation of 1974 and then to build very gradually to an incidence level

TABLE X

NOUVEL APPORT DE PF, PAR ANNÉE ET MÉTHODE POUR TROIS PÉRIODES: Le Proche Passé, Le Présent, et Le Proche Futur. Effectifs, *Taux pour 1000 Femmes Mariées en Age de Reproduction*, Pourcentage global.

INCIDENCE OF NEW ACCEPTANCE, BY CALENDAR YEAR AND METHOD FOR THREE PERIODS: Near Past, Present, Near Future. Number of cases, Rate per 1000 Married Women of Reproductive Age, Percent Total.

PERIODE / PERIOD		LE PASSÉ / PAST						LE PRÉSENT / PRESENT		PLAN QUINQUENNAL 1982-1986 / FIVE YEAR PLAN 1982-1986				
ANNÉE / YEAR		1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
♀ au Risque (FMAR)		748950	773187	798264	824203	851035	878795	907513	937198	970547	1005084	1040849	1077886	1116242
1. [4]Lig. Trompes	[3]Eff.	10757	8926	8269	7987	8832	8141	10890	14058	15529	17086	18735	20480	22325
	[1]Taux	*14.36*	*11.80*	*10.36*	*9.69*	*10.38*	*9.26*	*12.00*	*15.00*	*16.00*	*17.00*	*18.00*	*19.00*	*20.00*
	[2]%Tot	20.79	17.48	11.55	10.37	11.17	11.20	14.12	16.48	17.02	17.53	17.82	18.45	19.05
2. [4]DIU Prim.	[3]Eff.	19084	17307	20830	23879	26273	25756	25410	25304	25234	25127	26021	26947	27906
	Taux	*25.48*	*22.88*	*26.09*	*28.97*	*30.87*	*29.31*	*28.00*	*27.00*	*26.00*	*25.00*	*25.00*	*25.00*	*25.00*
	%Tot	36.88	30.53	29.10	31.02	33.22	35.44	32.94	29 67	27.66	25.77	24.75	24.27	23.81
3. Nlles Pilule	[3]Eff.	10795	16110	25987	27567	27017	23608	24503	26242	28146	30152	31226	32337	33487
	Taux	*14.41*	*21.30*	*32.55*	*33.45*	*31.75*	*26.86*	*27.00*	*28.00*	*29.00*	*30.00*	*30.00*	*30.00*	*30.00*
	%Tot	20.86	28.51	36.31	35.81	34.16	32.48	31.77	30.77	30.85	30.90	29.70	29.13	28.57
4. Injectables	Eff.	-	-	-	-	-	-	908	1875	2912	4020	5204	6467	7814
	Taux	-	-	-	-	-	-	*1.00*	*2.00*	*3.00*	*4.00*	*5.00*	*6.00*	*7.00*
	%Tot	-	-	-	-	-	-	1.17	2.20	3.19	4.12	4.95	5.82	6.67
5. Condom,Nlles	Eff.	7432	8678	11385	13125	12304	10442	9983	11246	12617	14071	15612	16168	16744
	Taux	*9.92*	*11.22*	*14.26*	*15.92*	*14.46*	*11.88*	*11.00*	*12.00*	*13.00*	*14.00*	*15.00*	*15.00*	*15.00*
	%Tot	14.36	15.33	15.91	15.09	15.55	14.37	12.94	13.19	13.83	14.43	14.85	14.56	14.28
6. Gelée,Nlles	Eff.	3683	4426	5100	4426	4674	4736	5445	6560	6794	7036	8327	8623	8930
	Taux	*4.92*	*5.72*	*6.39*	*6.95*	*5.49*	*5.39*	*6.00*	*7.00*	*7.00*	*7.00*	*8.00*	*8.00*	*8.00*
	%Tot	7.12	7.82	7.13	5.75	5.91	6.51	7.06	7.69	7.45	7.22	7.92	7.77	7.62
Toutes Méthodes	Eff.	51751	56617	71571	76984	79100	72683	77139	85285	91232	97492	105125	111022	117206
	Taux	*69.1*	*73.2*	*89.7*	*95.0*	*92.9*	*82.7*	*85.0*	*91.0*	*94.0*	*97.0*	*101.0*	*103.0*	*105.0*
	%Tot	100	100	100	100	100	100	100	100	100	100	100	100	100
Avort. Sociaux	Eff.	12427	16000	20341	21162	20999	19248	Pas de projections pour cet indicateur du système national de PF						
	Taux	*16.59*	*20.69*	*25.48*	*25.68*	*24.67*	*21.90*							
Toutes Méth.+AS	[5]Eff.	64178	72617	91912	98146	100099	91931							
	[5]*Taux*	*85.7*	*93.9*	*115.2*	*120.7*	*117.6*	*104.6*							

TU-GE rb/ch 3 80

[1] *Les Taux sont illustrés en Figure 18.* [2] *Les Pourcentages sont illustrés en Figure 19.*

[3] *Les Effectifs pour ces trois méthodes ont été divisés par 30 pour obtenir l'apport nouveau moyen pour trois méthodes pour un jour de travail national en matière de PF. Les tendances ont été esquissées en Figure 20.*

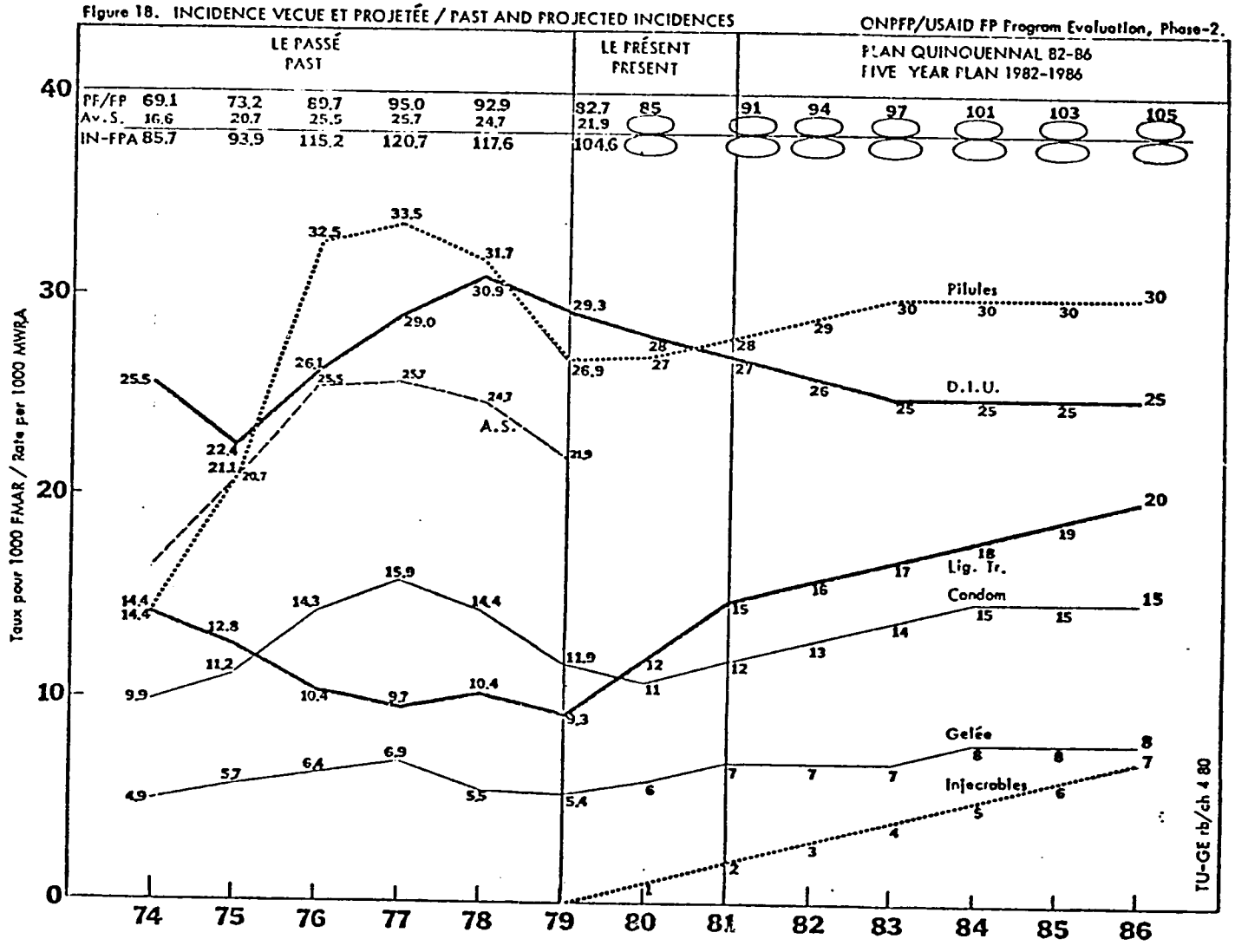
[4] *L'apport de la nouvelle protection par DIU et Lig. des trompes a été estimé à raison de 7.5 années de protection par couple pour 1 ligature des trompes et de 2.5 années pour une nouvelle contraceptrice par D.I.U. Le resultat a été illustré en Figure 22.*

[5] *Le taux global comprenant toutes les méthodes nouvelles y-inclu les avortements sociaux est lui-même un index d'activite nouvelle en matière de PF . Son acronyme est IN-AIPF, un indicateur experimental. Voir aussi Table V.*

This table needs to be converted into "births averted" to enter the next Five-Year Plan. Thus, there will come to exist for the first time a Table of Correspondence linking the Ministry of Plan (MP) with a feasible and to be monitored Family Planning Action Plan (FPA-Plan).

Figure 18. INCIDENCE VECUE ET PROJETÉE / PAST AND PROJECTED INCIDENCES

ONPFP/USAID FP Program Evaluation, Phase-2.



of 2% of MWRA to undergo tubal ligation at the end of the next five years plan. While this is a modest target (in light of the MWRA increasing by around 3.2% annually: see Fig.9) it is considered perfectly feasible in the context of the performance during the year of the World Population Conference (Bucharest, 1974), and with the recent training of over a score physicians in the techniques of modern fertility care and the placement in each gouvernorat of at least one coelioscope. It is a "*minimum objective*" that will secure an important increase in the annual protection input. However, if the medical profession were to let evolve the surgical methods openendedly,quite higher incidence rates may actually be attained which would contribute to bring the crude birth rate below 30/1000 population *by several years earlier than with the present projections*.

The rationale is to *reverse the method shift of the seventies* during which period IUDs expanded impressively somewhat at the cost of tubal ligations. Given that a very great reservoir of women are indeed ready for tubal ligations a certain part of them should be offered ligation services rather than IUDs in the first place. This then explains that the new IUD incidence rates are carried from 29.3/1000 MWRA in 1979 to reach 25/1000 MWRA in 1983, while tubal ligations are increased from 9.3/1000 MWRA to 17/1000 MWRA. The latter figure is only 2.6 /1000 MWRA higher than the rate attained in 1974 (14.4/1000 MWRA).

The incidence of pill acceptance is to be carried slowly to 30/1000 MWRA, a conservative figure as well in light of the performance reached in 1977 (33.5). The rationale is that a given part of new pill candidates can be shifted to injectables that will exhibit a much lower decay rate than pills. By 1983, all'systemic'acceptance (pill and injectables) will have surpassed the peak year incidence of 1977 (34 vs 33.5/1000 MWRA).

A very unique aspect of the Tunisian FP program is its equilibrated method mix. Secondary methods have definitely their important place. Hence, condoms and jelly have been projected in light of past attainments during the peak year of 1977 (15.9+6.9=22.8/1000 MWRA). By 1984 they will make up 23/1000 MWRA (15+8) and carried at this level.

Of course, if tubal ligation services become more readily available -- a key responsibility of the medical establishment -- so would the services of social abortions. It must be fully realized that social abortions are the valve of security of the nation's FP program. Were it not for providing that

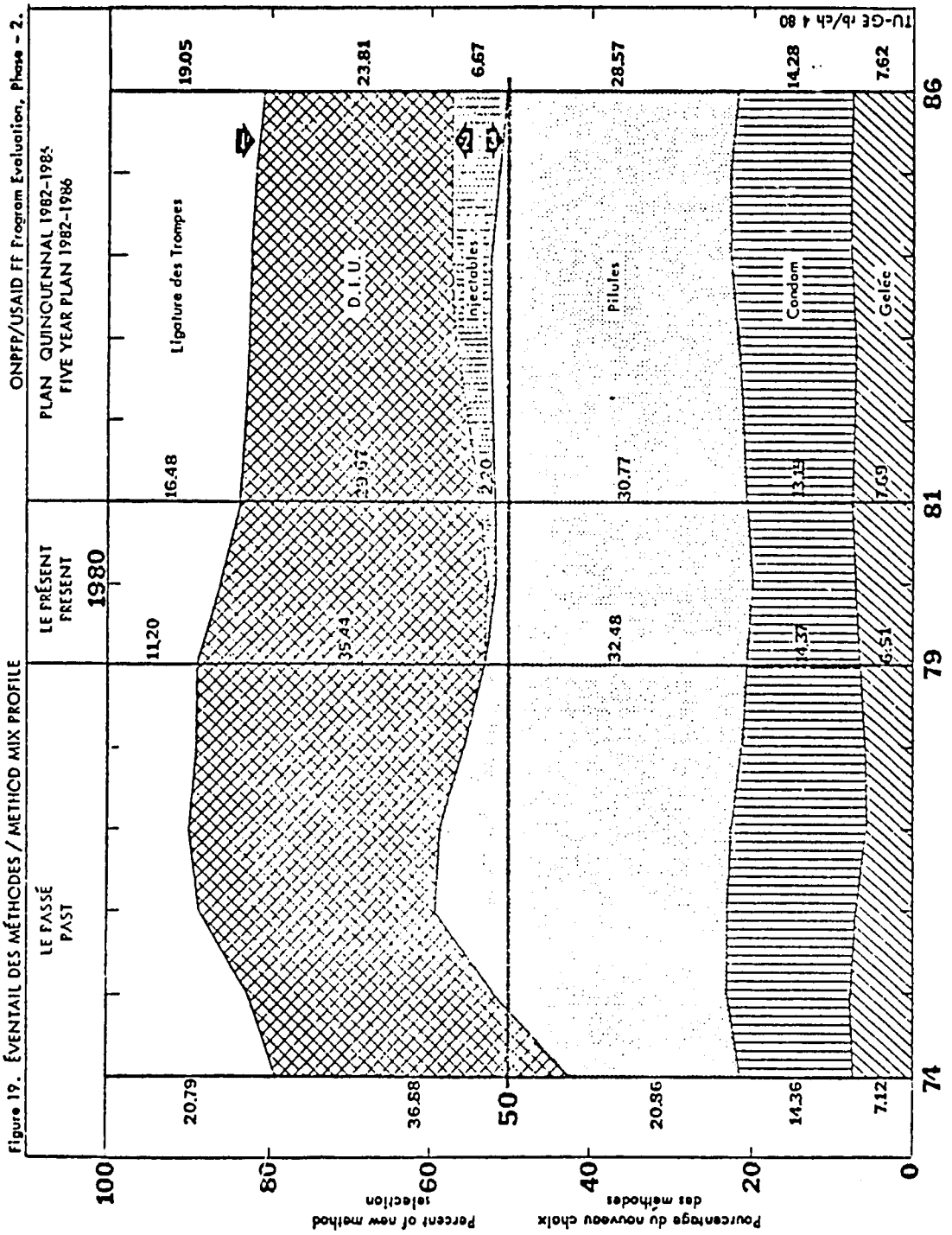


Figure 19. ÉVENTAIL DES MÉTHODES / METHOD MIX PROFILE

[1]Expansion of Ligations at "expense" of multiparous IUD candidates.

[2]Expansion of Injectables ... " " " .

[3]Expansion of Injectables " Pill " .

service, the annual crude birth rate would have remained higher since the beginning of the national FP Program. The study of the trend of method-specific incidence rates in each gouvernorat tells a telling tale which may be explored by ONPFP during the next few years. What matters is to do such an analysis in the context of an existing conflict between the desire to discontinue an unwanted pregnancy and the difficult availability of pregnancy termination (PT) services. By comparing the making available of PT services in Sousse (Fig. 9-1) with many other gouvernorats, one gets the impression that a very great job by the *medical profession* remains to be done in most gouvernorats to incorporate the surgical methods of tubal ligation and pregnancy termination more fully in their professional activities. On the other hand one is also impressed by the trend of method-specific incidence in Béja (Fig. 9-9). It may be surmised that the profile of both tubal ligations and social abortions have a relationship, and that the important decrease in the incidence of pregnancy termination is at least partially a result of having made adequately available the services of tubal ligation for a certain number of years. All this to justify the concept that social abortions in Fig. 18 are not to be projected but rather to be watched as a very complex indicator that hides such elements as availability of services of (1) present pregnancy termination and (2) past high efficiency methods of family planning. The careful study of evolutionary abortion profiles will be most productive if carried on at the regional level (see also pp 67 and 68).

Note in Fig. 18 that the sum of all FP methods (excluding abortions) reached 95/1000 MWRA during the peak year of 1977 as compared with only 82.7 two years later. The concept underlying Fig. 18 is to reconquer the peak performance in new acceptance by 1983 (97/1000 MWRA) and then to let it climb very gradually to a target level of 105/1000 MWRA. Furthermore, by adding the activity of social abortion, one obtains the Index of New Familiy Planning Activity (IN-FPA). which reached 120.7 /1000 MWRA in the peak year (1977). It is surmised that by 1986, that is at the end of the next five year plan, social abortions may have decreased to around 15/1000 MWRA if the FP-mix is being adhered to, and that the IN-FPA of 1986 might thus reach around 120 / 1000 MWRA. The incidence curve of social abortions in Fig. 18 would develop a *second mode* during the early eighties (better availability of abortion services in *all* gouvernorats) with an important "second decline" due to much greater availability of efficient family planning methods in all gouvernorats (the first decline being mainly due to insufficient availability of abortion services in many gouvernorats).

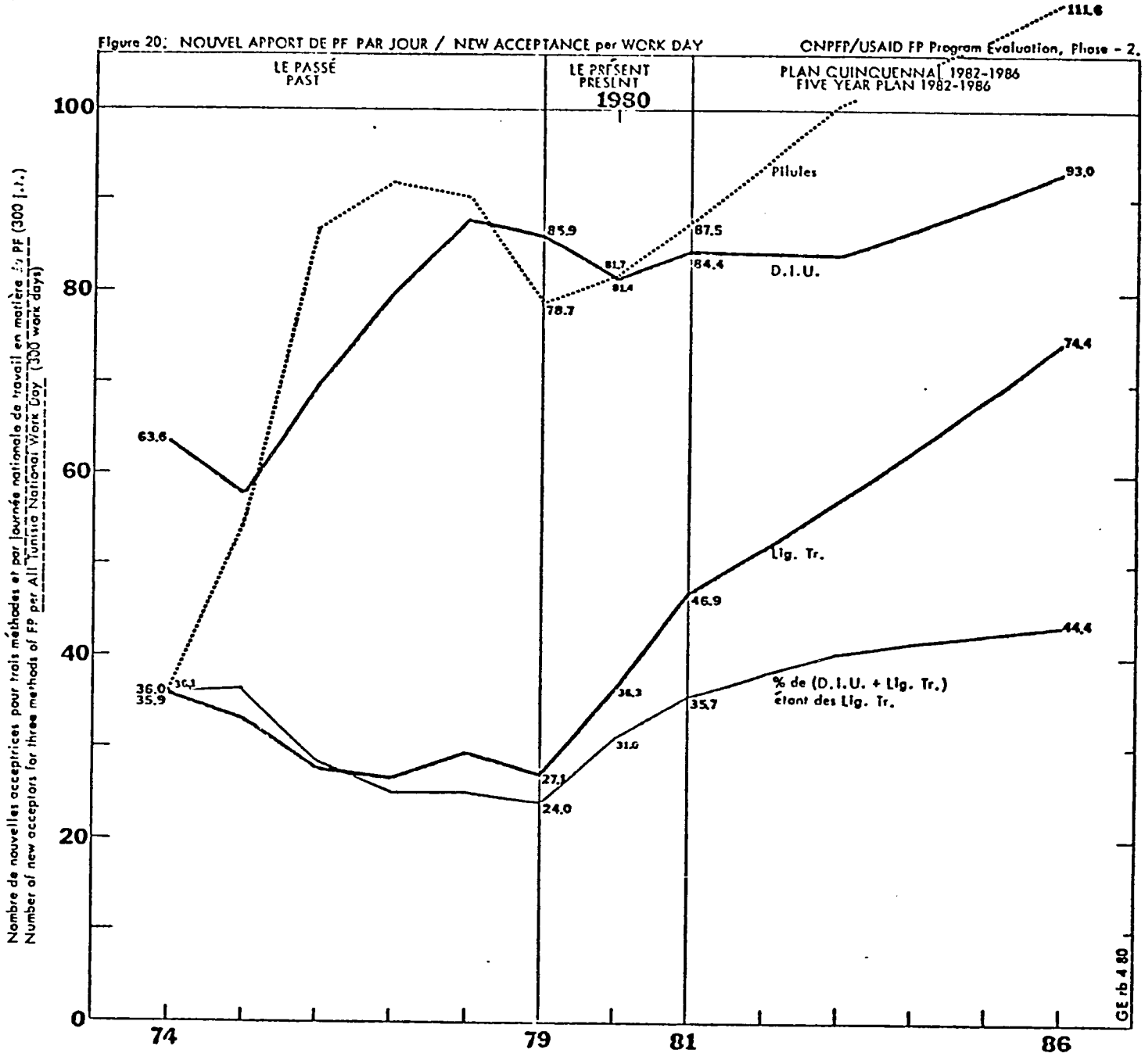


Figure 20: NOUVEL APPORT DE PF PAR JOUR / NEW ACCEPTANCE per WORK DAY
ONPFP/USAID FP Program Evaluation, Phase - 2.
LE PASSÉ
PAST
LE PRÉSENT
PRESENT
1980
PLAN QUINQUENNAL 1982-1986
FIVE YEAR PLAN 1982-1986
Nombre de nouvelles acceptrices pour trois méthodes et par journée nationale de travail en matière de PF (300 j.t.)
Number of new acceptors for three methods of FP per All Tunisia National Work Day (300 work days)
Pilules
D.I.U.
Lig. Tr.
% de (D.I.U. + Lig. Tr.) étant des Lig. Tr.
111.6
93.0
87.5
85.9
84.4
81.7
81.4
78.7
74.4
63.6
46.9
44.4
36.3
36.0
35.9
35.7
31.6
27.1
24.0
0
20
40
60
80
100
74
79
81
86
GE rb 4 80

4.2 Method Mix, Past and Future

One may organize the incidence of acceptance of FP methods -- past and projected as realistic objectives -- in a method mix profile. The concept is to show the relative importance of each method by organizing them from least "use-effective" (secondary methods) to the method of highest "use-effectiveness" and hence demographic impact (tubal ligation). Fig. 19 gives the relevant findings.

The dynamics of past and future method mix are apparent.

(1) Keep secondary methods at a similar level (around 1/5th of the entire method mix).

(2) Keep pills at a similar level (around 3/10th of the entire method mix).

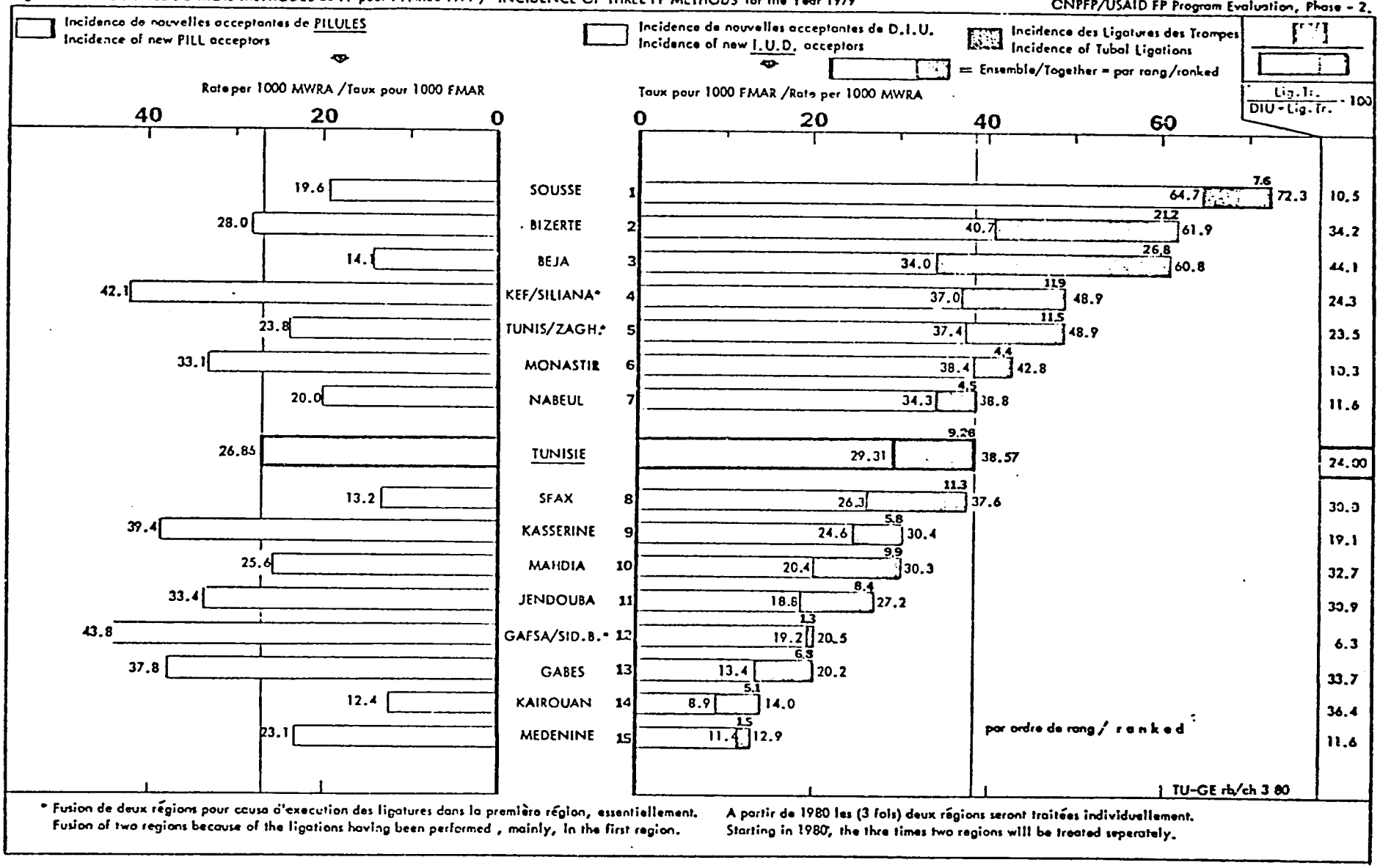
In combination, secondary methods and pills contribute around half to the entire method mix input.

(3) Shift part of conventional IUD candidates to other long term methods of higher demographic impact, that is injectables and tubal ligations. While the incidence of IUD's will slowly decrease from over 1/3 of the entire method mix share to around 1/4th by 1986, the newly introduced injectables may reach around 1/15th of the entire input and the tubal ligations could pass from around 1/9th in 1979 to 1/5th in 1986, a proportion originally obtained in 1974.

The most important step is to occur in 1980 and 1981 as during that time the relative share of tubal ligations should shift from 11.2% in 1979 to 14.1% in 1980 and to 16.5 in 1981. This means shifting from 8141 ligations in 1979 to 10890 in 1980 and to 14058 in 1981. The medical division of ONPFP has a major responsibility to involve the medical establishment across the country to secure these "minimal objectives" in the context of the development of an ideal method mix for the national program during the next few years. The task looks less formidable if one considers that the average All-Tunisia work day in tubal ligations (300 annual work days) should evolve from 27.1 in 1979 to 36.3 in 1980, to 46.9 in 1981. Divide this by 18 to obtain the average regional work day: 1.51 in 1979, 2.02 in 1980, and 2.61 in 1981. Clearly, if reduced to the scope of daily work at the regional level, the figures look extremely modest when viewed as an average. It is the medical division's prerogative to look to it that the pace of tubal ligations is productive while not strained. A gouvernorat-by-gouvernorat review is needed to ascertain that ligation services are functional in at least one institution per gouvernorat by September, 1980. By 1982, each gouvernorat should have at least two coelioscopes in working condition and at least two trained physicians. Continuous review!

Figure 21. INCIDENCE DE TROIS MÉTHODES de PF pour l'Année 1979 / INCIDENCE OF THREE FP METHODS for the Year 1979

CNPFP/USAID FP Program Evaluation, Phase - 2.



* Fusion de deux régions pour cause d'execution des ligatures dans la première région, essentiellement.
Fusion of two regions because of the ligations having been performed , mainly, in the first region.

A partir de 1980 les (3 fois) deux régions seront traitées individuellement.
Starting in 1980, the thre times two regions will be treated seperately.

4.3 National Work Day Performance, Past and Future — NWD=National Work Day

The "Ligation-to-IUD" ratio, by gouvernorat

Fig. 20 reviews the *national work day performance* for three methods of FP in the past and projected future. The "IUD-to-Ligation Shift" is displayed.

The future "work profile" is seen to the right. The incidence of pills is highest (112 new acceptors per NWD), followed by new IUD acceptance (93/NWD); and finally tubal ligations (75/NWD) in third position (followed by condom, gelée, and injectables, in this order, as shown in Fig. 19).

The greatest change is noted in the relationship of primary IUD acceptance and tubal ligations. The relative share of tubal ligations for the two methods combined (tubal ligation and IUD) was 36.1% in 1974 and decreased to 24.0% by 1979. The goal is to reconquer the ratio of 1974 within 2 years (35.7%) and to let it gradually evolve towards 45% which is virtually reached by the end of the next five-year plan.

Given the great importance ascribed to fully understanding the needed shift from primary IUD acceptance to tubal ligation, the 1979 annual performance of incidence of three methods has been given by gouvernorat in Fig. 21.[1] The combined incidence of IUD acceptance and tubal ligation has been ranked in descending order to the right, and the corresponding incidence of new pill acceptance was given to the left. One notes:

(1) Two of the 15 regional study entities have reached in 1979 incidence rates of tubal ligation beyond that expected for the nation as a whole by the end of the next five-year plan (Béja and Bizerte with 26.8 and 21.2 vs 20/1000 MWRA); As seen in the column to the right in Fig. 21, Béja has also reached the projected ratio: (tubal ligation/IUD+tubal ligation) with the calculated value of 44.1% (vs 44.4% for Tunisia as a whole by 1986). Bizerte, in turn has reached what is expected nationwide by 1981 (34.2% vs 35.7%). Clearly, much is to be learned by ONPFP from these two regions that could be adapted (not necessarily adopted) to other regions. In essence, it is these two regions that show through their 1979 performance the way to other regions for attaining both performance and method mix needed to double the annual protection input from 1979 to 1986 (see also below, Fig. 22). As shown in the trend studies, Béja has already a long standing tradition of "optimal ratio" performance as far back as 1974 (Fig. 9-9), whereas Bizerte is only recently (1978 and 1979) reconquering the optimal ratio attained in 1974 (Fig. 9-4). These two *regional case histories* merit particular attention for (1) maintaining the performance and optimal ratios, and (2) learning what might be adapted to other regions. This is the "*learning from within*" aspect of Regional FP Monitoring. The 2 gouvernorats house 1/10th (9.9%) of Tunisia's MWRA.

[1] This chart is the "updated" Figure 6 (1st Semester window) of Phase-1 Evaluation Report: it was highly predictive, since rank order and ratios have barely changed.

(2) Another 7 regional study entities have reached in 1979 incidence rates of primary IUD insertion much beyond or similar with the rate expected for the nation as a whole from 1983 onwards (25.0/1000 MWRA); by contrast, their respective rates of tubal ligation are below the level expected for the nation as a whole by 1980 (12.0/1000 MWRA). As shown in Fig. 21, these seven regional entities are: Sousse, Kef/Siliana, Tunis/Zaghuan, Monastir, Nabeul, Sfax, and Kasserine. Nevertheless, three of these seven regional case histories are very close: Kef/Siliana (11.9/1000), Tunis/Zaghouan (11.5/1000), and Sfax (11.3/1000). By studying the recent trends, one notes that Tunis/Zaghuan is on the expansion (5.2, 8.7, 11.5; Fig. 9-3), whereas Sfax (16.8, 13.9, 11.4; Fig. 9-8) and Kef/Siliana are in regression (14.9, 28.9, 11.9; Fig. 9-7). Clearly, these three regional entities should try during 1980 to gain ground in tubal ligations, preferably at expense of primary IUD insertion. The new FP clinic opened in March 1980 in Tunis should help to boost the metropolitan ligation rate beyond the projected national average of 1980. Sfax needs to review the reasons for the decline in tubal ligations since 1977. It is presumed that a good coordination with the new maternité now functional should lead to a reversal during 1980.. Kef/Siliana need also an early review. The dramatic drop in tubal ligations from 1978 to 1979 would indicate serious problems in recent availability of surgical services of contraception. Since very modern facilities are available in Kef, it is suspected that the flaw lies with recent availability of manpower. The Medical Division of ONPFP may have to monitor this!

It should be noted that taking action now by the three regional entities (Tunis/Zaghuan, Kef/Siliana, and Sfax) will have a tremendous impact on the national average performance since the five gouvernorats house over one third (35.9%) of the nation's MWRA.

The four other gouvernorats (Sousse, Monastir, Nabeul and Kasserine) show definitely too low ligation rates (7.6, 4.4, 4.5, and 5.8, respectively). Except for Kasserine, the share of tubal ligations for combined acceptance of IUD and tubal ligation was only around 10%, that is much below half the national average of 1979 (24.0%, see Figs. 20 and 21). Clearly, these three gouvernorats should more than double their incidence of tubal ligation during 1980 by offering electively tubal ligation to a certain part of primary IUD candidates. For Sousse, the practicality should be no problem since the proved performance in 1975 and 1976 (37.1 and 21.3/1000 MWRA; Fig. 9.1) demonstrates past excellence. Nabeul's dramatic recent decrease (15.1, 7.2, 4.5; Fig. 9-6) needs early review for a feasible reversal still in 1980. Monastir seems to have a problem with manpower: to experience a 6.7-fold drop in the incidence of tubal ligations from 1978 to 1979 would indicate a serious lack in the institutionalization of modern fertility control technology. The situation needs review before July 1980 for immediate remedy. Kasserine, finally, needs institutionalization of tubal ligation as the past performance was consistently very low (6.2, 4.4, 5.8/1000 MWRA; Fig. 9-12). Optimal coordination with the maternités in at least 2 places is needed now. The situation needs review before July 1980.

Above four gouvernorats house around 1/5th (19.4%) of all MWRA.

(3) The remaining six geographical study entities (Mahdia, Jendouba, Gafsa/Sidi Bouzid, Gabès, Kairouan and Medenine; rank order 10 to 15 in Fig. 21) attained in 1979 incidence rates of primary IUD insertion not only much below the national average (29.3/1000 MWRA), but also much below expected average figures from 1983 onwards (25/1000 MWRA plateau); their respective rates of tubal ligation in 1979 were also much below the rate expected in 1980 (with Mahdia and Jendouba having the smallest deficit). In other words, these seven gouvernorats -- that comprise over one third (34.8%) of all MWRA -- are in need of a most careful review of *programmatic alternatives* for the next five-year plan. As shown in Fig. 3 the non-protection rates (complement of EPP) of the married women of reproductive age in these 7 gouvernorats are alarmingly high on 1.1.1980: 95.6% for Sidi Bouzid, 93.8% for Medenine, 92.6% for Kairouan, 91.4% for Gabes, to name the the four gouvernorats with less than 10% effective protection prevalence as a result of the entire FP effort of the seventies and pertaining to over one fifth (21.1%) of the nation's MWRA. It is these four gouvernorats that hold back to the greatest extent the progression of the national protection prevalence, that is the decline of the nation's fertility.

Sidi Bouzid: In 1977, this gouvernorat's crude birth rate was calculated to be 47.0 / 1000 population (source ONPFP), as compared with 34.8 / 1000 population for the country as a whole. Over half of all births occur in two out of 6 délégations (Sidi Bouzid (1/3) and Maknassy (1/5)) which house the two hospitals of this gouvernorat. ONPFP should consider *two* integrated family planning programs, one in Sidi Bouzid (to drain for surgical methods also the delegations of Jelma and Benaoune), the other in Maknassi, to drain also Mazzouna and Regueb. Jelma's dispensaire communal should also be strengthened in its FP activity. Directives should be implemented by Fall, 1980.

Medenine: In 1977, Medenine's crude birth rate was calculated to be 44.8 / 1000 population, as compared with 34.8/1000 population for the nation. Around three quarter of all births occur in the 4 out of 8 most populous délégations (Djerba, Medenine, Tataouine, and Zarsis, in this order). Furthermore, as noted on a field trip in March 1980, institutional deliveries are increasing rapidly in Zarsis and other places. The lack of obstetricians in Medenine and Zarsis has been the major stumbling block for getting ahead with surgical contraception, both tubal ligation and social abortions, as shown in Fig. 9-14, and this despite excellent surgical facilities that were idle at the CREPF in Medenine. In Tataouine, excellent facilities exist at at a true model community health center and at the hôpital de délégation. Because the local physician is not trained in tubal ligations, around 150 ligations are missed every year. In 1979, this "input" could have boosted the All-Medenine

tubal ligation rate from 1.5 per 1000 MWRA to 4.0 per 1000 MWRA (58+150 / 52658 =3.95/1000). The much devoted and competent general practitioner makes "version manoeuvres" in difficult obstetrical cases to save mother and child but is not permitted to join the drive for increasing modern surgical contraception for grand multiparas. This needs early review. Zarsis shows also very great potential for tubal ligations -- presently virtually unexploited. A local physician should be trained for doing ligations at the Zarzis hôpital de circonscription. Only 200 ligations per year would boost the All-Médénine ligation rate to 8.0/1000 MWRA. With the placement of a coelioscope in Jerba regional hospital on 14. March 1980, one may hope that 2 hundred ligations are going to be performed for MWRA *living on that island*. This would boost the rate to around 12/1000 MWRA. Finally, with the arrival of an obstetrician in Medenine in April 1980 -- trained in coelioscopy before taking up work at both the maternité and at the CREPF -- another 200 ligations should be easily mastered in a most ideal environment of the regional CREPF. In short, it is the prerogative of the medical division of ONPFP to look to it that the ligation rate of 1.5 /1000 MWRA in 1979 is to reach the expected national average of 1980, that is 12/1000 MWRA, by climbing from 58 ligations in 1979 to 650 in 1980 (As noted in Fig. 9-14, 650/54109 shall generate a rate of 12/1000). But the critical consideration is to achieve this goal *at the four places, rather than forcing at one or two places*. This "way" may be tried experimentally because of its possible programmatic implications in other low performance gouvernorats. It can be assumed that this four-center approach would show tremendous growth potential. Hence the projected rate of 15/1000 in 1981 could be easily attained.

Kaircuan: In 1977, Kairouan's crude birth rate was calculated to be 42.2 / 1000 population, as compared with 34.8 / 1000 population for the entire nation. Over half of all births occur in the 3 out of 8 délégations: Kairouan (1/5), Boudjla (almost 1/5) and Haffouz (1/7). These three délégations possess the regional hospital and two of the four hôpitaux de circonscription. Because of distances, ONPFP should consider to favor a strong *three-center* integrated family planning program in close cooperation with the Ministry of Health. Kairouan would also drain Sbikha and some northern cheikhats of Bou Haila; Bou Haila itself might also drain the area of Nasrallah; whereas Haffouz would also drain El-Oueslatia and a great part of Hajeb El Aioun. Perhaps a workplan could be consideredin cooperation with neighbouring and best performing Sousse to develop an integrated three-center approach. Action plans should be developed before the start of the next Academic Year (Autumn of 1980). Figure 9-15 shows that Kairouan had a good performance of tubal ligations in 1975 (18.2/1000 MWRA), with subsequent deterioration. Chart 6 in the USAID Field Evaluation Report of July 1975 shows an impressive rise in tubal ligations from 1973 to 1974 to June 1975. At that time a new team of expatriates took over and as noted in Fig. 9-15 the rate dwindled within three years from 18.2 to 3.7 / 1000 MWRA. The lesson is that the ONPFP FP program cannot continue to depend on the great variations in performance among expatriate physicians. A basic coordination with the Ministry of Health should make it possible to secure continue{acceptable FP performance across various doctor teams.

Gabès: In 1977, Gabès's crude birth rate was calculated to be 40.3 / 1000 population, as compared with 34.8 / 1000 population for the nation as a whole. 3/10th of all births occur in the délégation of Gabès, followed by the délégation of Kebili with 2/10th of the gouvernorat's births. Hence one half of all births occur in the 2 out of 7 délégations. Because of great distance, tubal ligations and social abortions should be conveniently available not only in Gabes but also in Kebili. Douz could drain to Kebili for the time being. El Hamma is in third place regarding births with around 1/6th of all births in this gouvernorat. At its hôpital de circonscription the family planning component should be stressed as well. Similarly, the délégation of Mareth with around 1/8th of all births should develop a stronger FP component at its centre de PMI. In particular, a stationary team should work there, rather than travelling daily from and to Gabès.

In Gabès itself, a better coordination should occur between the gouvernorat's CREPF and the maternité. Clearly, great potential exists to improve the region's ligation rate. It must be stated that progress was noted in 1979 as the ligation rate increased from an average 1.0 per 1000 MWRA for 1977/1978 to 6.8/1000 MWRA. This impetus should be held and the work in Gabès in 1980 may boost the rate to the desirable minimal national average of 12.0/1000. However, be it said here: the strategic move is to create more than one center for surgical contraception with Kebili as the logical , long distance candidate. Gabès would need to perform 554 ligations in order to reach the rate of 12/1000 MWRA (see Fig. 9-10: 554/46146=12/1000). In 1979, there were 302 ligations.

Consideration 14 : If realistic national targets are meant to have any *promoting effect on regional performance,* then they must be set in the context of past performance of the *existing system* and a broad overall objective of national improvement backed by specific additional inputs in terms of management, trained manpower and equipment,etc.

This section has built planned performance (1980-1986) on the nation's past experience and on a recent programmatic effort to improve the availability of surgical contraception in all gouvernorats (1978 and 1979). This lead time is now "aging".

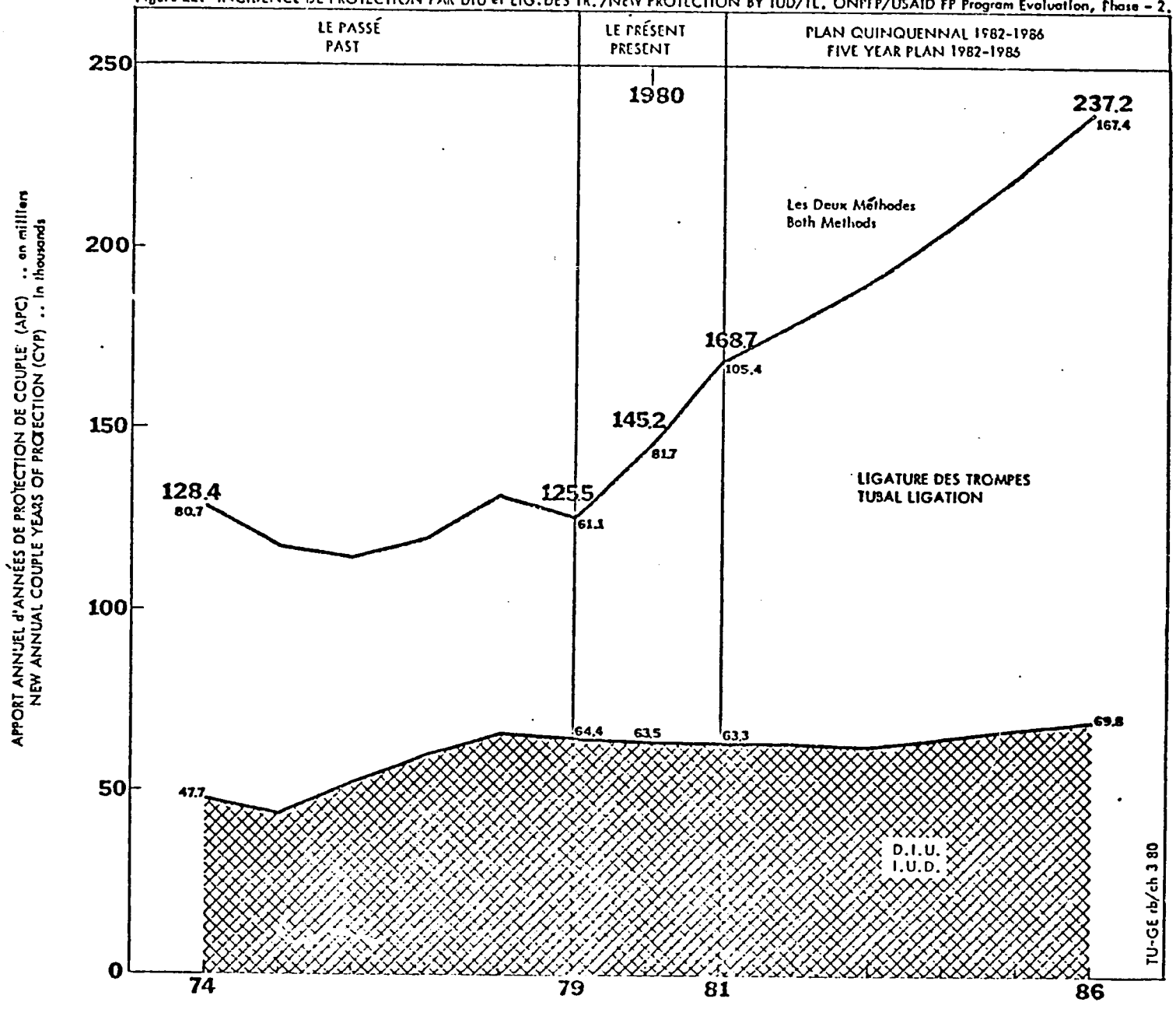
"*Regional Performance Promotion by National Target Setting*" has a lot to do with Family Planning Monitoring, by region. Two cases must be distinguished:

Group 1: Regions whose method-specific most recent annual performance is smaller than the nation's targetted next year goal. They need to review the entire program and make the inputs necessary to meet the nation's *average target — their main reference regarding the new annual performance:* this kind of spirit is to be read behind the review of Sidi Bouzid, Medenine, Kairouan, and Gabès.

Group 2: Regions whose method-specific most recent annual performance is greater than the nation's targetted next year goal. They must further streamline (management!) their program to secure *at least* 10% increase in the rate attained most recently, for instance from 25 to 27.5/1000 MWRA, a very feasible but consequential target set "from within".

This *dual approach* cannot but lead to surpassing the national target. *Realistic Target Setting means Promoting Regional Progress if monitoring stands by to check quarterly progress.*

Figure 22. INCIDENCE DE PROTECTION PAR DIU et LIG.DES TR. /NEW PROTECTION BY IUD/TL. ONPFP/USAID FP Program Evaluation, Phase - 2.



5. DEMOGRAPHIC IMPACT

5.1 Rise in Incidence of Couple Years of Protection (CYP)

The slight shift in the future method mix (see Fig. 19) for new acceptors produces a great increase in new annual input of protection due to the much greater "use-effectiveness" of tubal ligations. In our calculations, we have taken a new ligation to protect on average 7.5 years as compared with 2.5 years for new IUD acceptance. Table X and Fig. 22 give the pertinent trends.

(1) From 1974 to 1979, the annual protection input through new IUD acceptance passed from 47.7 thousand couples years of protection (CYP) to 64.4 thousand CYP. In parallel, the corresponding figures for tubal ligations were 80.7 thousand and 61.1 thousand CYP, respectively. Together, the incidence of new protection generated a kind of plateau oscillating around 125 thousand CYP, annually. In other words, the annual input did not increase markedly.

(2) From 1980 to 1986, the new protection input by primary IUD insertions can be kept quite constant. According to the rates developed in Fig. 18 and Table X, the number of new CYP would move from 64.4 thousand in 1979 to 69.8 thousand in 1986 - a virtual plateau (Fig. 22). By contrast, grandmultiparas and even multiparas can be favored for electing tubal ligations. By carrying the incidence of tubal ligation from 9.3 to 12.0 to 15.0 / MWRA over the next two years, the input of effective protection shifts from 61.1 thousand in 1979 to 81.7 thousand in 1980 and 105.4 thousand CYP in 1981, an impressive gain to be achieved in such a short time. Then, during the five-year plan, the annual input would further increase from 105.4 thousand CYP in 1981 to 167.4 thousand CYP in 1986, by adding an increment of 1/1000 MWRA each year and thus moving from 15 to 20 per 1000 MWRA (see Fig. 18). In other words, by far the greatest gain in actual demographic protection will be obtained with the tubal ligations, the annual input rising from 61.1 thousand CYP to 167.4 thousand CYP, a 2.7-fold increase within seven years. This will have a marked demographic impact and thus accelerate the needed and planned demographic transition. Clearly, the medical division of ONPFP has an added responsibility: to look to it that the minimal incidence rates developed in Fig. 18 are being met from year to year.

(3) Given that injectables, condoms and even jellies are also planned to increase at their individual rates (see Fig. 18) it is a conservative statement to assume that the present differential schedule of new incidences would easily double the annual input of new protection by the end of the next five-year plan.

Consideration 15: By shifting the share of tubal ligation in the method-mix incidence from 1/ 9 to 1/5 within 7 years, the annual input of new protection can be easily doubled. This would have an important demographic impact by the mid-eighties.

5.2 Prevalence of Contraceptive Non-Protection

The complement of the Effective Protection Prevalence (EPP) is the prevalence of actual non-protection. Figure 2 thus shows that as of 1st January, 1980 over 90% of all women at risk in Sidi Bouzid (95.6%), Medenine (93.9%), Kairouan (92.6%) and Gabès (91.4%) were practically at risk of getting pregnant. This very high non-protection prevalence is associated with crude birth rates in excess of 40/1000 population. It should be realized that the non-protection prevalence has to sink below 70% of the MWRA for the crude birth rate to sink significantly below 30/1000.

Therefore, a much greater protection input from year to year is now needed in order to cross the 30/1000 CBR in the foreseeable future. As shown in Figures 2,3 and 5, the All-Nation non-protection prevalence pertaining to the ONPFP program remained stationary during 1979, at 83.8 % MWRA. Only the stronger representation of tubal ligations in the method mix can provide the necessary momentum to a badly needed decrease of the nation's prevalence of non-protection.

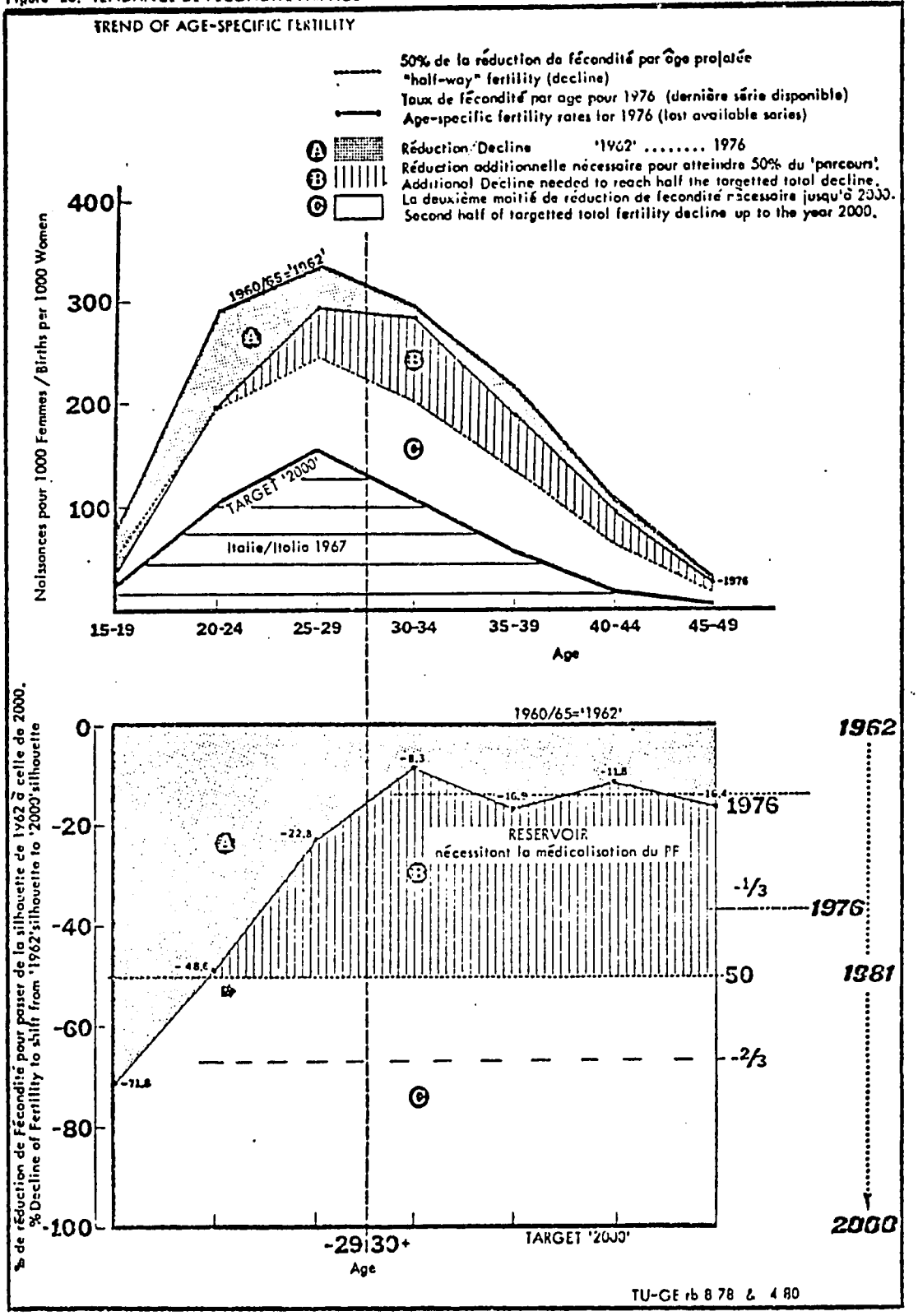
5.3 Evolution of Marital Fertility

Fig. 7 shows a modest decrease in marital fertility: -8.3% from 1975 to 1978. As the Effective Protection Prevalence (EPP) has remained stationary in 1979, it has to be assumed that the marital fertility rate will come to show a slower decline during the early eighties. Only a rapidly increasing EPP can bring about a swifter decrease in the marital fertility rate. The planned slight shift in method mix towards the most efficient methods can secure this cause-to-effect chain to occur during the early eighties.

5.4 Trend of Age-specific Fertility: Identification of a "reservoir" for FP.

Fig. 23 shows in the upper frame age-specific fertility silhouettes for '1962' (a synthetic curve derived from 1960 and 1965 sources) and 1976. Clearly, the greatest decrease of fertility occurred to women below 30 years of age (A). But this 1976 curve is still very far away from the age-specific silhouette targetted for the year 2000 (Italy's silhouette of 1967). In order to stress this "distance", a "halfway fertility silhouette" was drawn, which delineates a great "delay" in fertility reduction that is greatest for women over 30 years(B).

Figure 23: TENDANCE DE FÉCONDITÉ PAR ÂGE — ONPFP/USAID FP Program Evaluation, Phase - 2.



As to judge from the lower frame, it may take a rather long time before the women aged 30 and more reach the "halfway fertility" unless this great reservoir is specifically addressed with modern means of family planning. Note that women below 30 years of age have made great strides in the reduction of fertility. Those below 25 years are actually "ahead of schedule" since the age-specific reduction in fertility to pass from the '1962' to the '2000' silhouette has reached -71.8% and -48.6%, respectively. This is mainly due to the increase in age of marriage.

The acid test of recent fertility reduction among women aged 30 and more years has to wait for the next series of age-specific fertility rates. Nevertheless, it may be reasonably assumed that with a stagnating overall protection prevalence in 1979 the delay in fertility reduction may be even more apparent with the next series of figures. In other words, Fig. 23 identifies indubitably the reservoir of women who are in greatest need for effective FP protection to reach them at the earliest possible date across the entire nation (B). This reservoir of women has an unusually high proportion of grandmultiparas and multiparas, among whom many are desirous to terminate their fertility irreversibly if the availability of professional ligation services is known and understood.

Consideration 16: Analysis of the recent trend in age-specific fertility reduction (up to 1976) identified an important unmet need: there exists a very great *reservoir of women in their thirties and early forties* who should be able to receive modern fertility care services in order to keep not really wanted pregnancies at a minimum. Among these women an important delay (retard) in the reduction of fertility has been noted and quantified. It should be remembered that age and parity constitute also risk factors to the health of both mother and child. *This can be demonstrated in Tunisia during the next few years by analising routine information collected by Maternity Care Monitoring (MCM) and/or conducting "Family Health" studies.*

It is ironic that "high age/parity" women should have fallen behind, programmatically so to speak, in the nation's quest for demographic acceleration of development, that is the decrease of excess fertility.

A perfect convergence of the two major reasons why the method mix of the eighties will have to give tubal ligations a greater share is noted here: (1) demographic and (2) health (of the mother, the infant, the family, the nation). Joining forces by the medical profession and national planners cannot but accelerate Tunisia's development. This, on balance, is the meaning behind 'medicalisation of family planning in Tunisia': a signal step forward.

REFERENCES

All sources have been identified within the report, particularly (1) in the text of first section, (2) the tables, and (3) the figures. All sources were from within the ONPFP.

ACKNOWLEDGEMENTS

This post-mission, additional task would not have been tackled had it not been for the insistence of Elisabeth Maguire, Mel Thorne and various colleagues in Tunis, both at the Office National du Planning Familial et de la Population and at the Ministry of Health.

Monitoring as conceived in this report during April, 1980 is a somewhat new endeavor as it opens a broad avenue to more realistic target setting "from within" for family planning program performance objectives that are feasible and spell progress as measurable at regular intervals at the central and regional levels through monitoring.

The iron had to be beaten while hot, a basic requirement after any useful evaluation mission. The spirit of this work grew during the first and second phase of the ONPFP/USAID Midterm FP Program evaluation in Autumn of 1979, and -- enhanced -- in Spring of 1980. Many useful and stimulating discussions took place between the two co-authors at the Office, in the car in Medenine, etc. Other discussions between us and the heads of various Divisions of ONPFP -- in formal counterpart meetings or dans les couloirs -- brought additionl motivation to give a try at working on the concept of developing some "formal monitoring methodology".

Both authors thank Mr. Mezri Chekir, Président-Directeur-Général of ONPFP, for his continued interest for early development of evaluation methodology emanating from the nation's own experience. The Tunisian data base pays tribute to a tremendous effort of the ONPFP during its first 7 years of existence. Using these data meant learning.

Roger P. Bernard
26 April, 1980
Geneva

A. Charffedine
15 May, 1980
Tunis

ANNEXE

Les tendances régionales des incidences des nouvelles activités en matière de planning familial des années soixante-dix constituent une très riche resource pour fixer des objectifs, par méthode, pour les années quatre-vingt.

A la base de cette collection des données très accessible, et techniquement comparable parmi les régions, est l'unité de mesure: taux pour 1000 femmes mariées en âge de reproduction (FMAR). Cette unité permet d'effectuer toute une série d'études additionnelles à partir des 15 entités régionales produites dans cette annexe.

Pour donner un exemple du potentiel de cette collection des tendances des activités nouvelles (6 méthodes x 6 années x 15 "régions" = 540 taux + 36 taux pour la Tunisie entière + 16 x 6 taux d'IN-APF == 672 informations spécifiques - auxquelles vont s'ajouter 112 au mois de mars 1981), la classification des quinze "régions" a été assortie avec un exercise d'extraction d'information d'*un* aspect du PF: l'accessibilité à l'avortement social pour l'année 1979. Ce tableau 'in statu nascendi' peut constituer la base de tout un chapitre à part, non traité dans ce rapport, hélas pour manque de temps. Il va de soi que cette collection contient "les faits" pour répondre à une série de questions probantes en ce qui concerne la pénétration du PF à travers la Tunisie.

Cette collection des taux est une partie intégrale de la banque des données de l'ONPFP.

La première colonne du tableau sur la page suivante est l'inventaire de cette annexe.

ANNEXE / APPENDIX

1) TENDANCE DES INCIDENCES DE PF, par région 1974-1979
TREND OF INCIDENCES OF FP, by region 1974-1979

2) NOUVELLE ACTIVITE DE PF en 1979, par région et la part occupée par l'avortement social
NEW FAMILY PLANNING ACTIVITY in 1979, by region and the share of social abortion

Rang/Rank[1]		IN-APF IN-FPA	Avort.Soc. / Soc. Ab. Taux/Rate	Part/Share	Rang/Rank
Figure 9-1.	Sousse	168.7[2]	62.2[3]	36.9[4]	1[5]
Figure 9-2.	Gafsa[6]	135.4	13.7	10.1	10
Figure 9-3.	Tunis[6]	134.2	38.6	28.8	2
Figure 9-4.	Bizerte	130.9	25.8	19.7	4
Figure 9-5.	Monastir	121.3	16.3	7.4	14
Figure 9-6.	Nabeul	117.0	33.0	28.2	3
Figure 9-7.	Le Kef[6]	115.8	14.7	9.3	12
Figure 9-8.	Sfax	113.9	17.7	15.5	8
Figure 9	TUNISIE	104.6	21.9	20.9	
Figure 9-9.	Béjà	96.6	18.0	18.6	5
Figure 9-10.	Gabès	93.3	7.9	8.5	13
Figure 9-11.	Jendouba	87.3	14.3	16.4	7
Figure 9-12.	Kasserine	81.0	7.7	9.5	11
Figure 9-13.	Mahdia	77.3	13.4	17.3	6
Figure 9-14.	Medenine	63.2	2.1	3.3	15
Figure 9-15.	Kairouan	39.0	4.9	12.6	9

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[1] Les Figures sont classées par ordre de rang de l'IN-APF atteint en 1979
The Figures appear in decreasing rank order of the IN-FPA value of 1979

[2] Indice de Nouvelle Activité en matière de Planning Familial, pour 1979
Index of New Family Planning Activity achieved in 1979
C'est la somme de six taux pour 1000 FMAR (voir Figures)
It is the sum total of the six rates per 1000 MWRA (see Figures)

[3] Taux pour 1000 FMAR / Rate per 1000 MWRA

[4] Avortement en tant que pourcentage de l'activité nouvelle en PF
Abortion as percent of total new FP activity

[5] Rang du pourcentage de l'IN-APF ayant contribué par l'avortement social
Rank of the share of social abortions in the total IN-FPA.

[6] Sidi Bouzid, Zaghouan et Siliana ont contribué seulement mais entièremen les actes de lig. des trompes et avortements sociaux - y compris le dénominateur de FMAR - pour le calcul de l'IN-APF
Figures include the tubal ligations and social abortions of Sidi Bouzid, Zaghouan and Siliana, respectively, including the respective denominators

Figure 9-1. SOUSSE TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

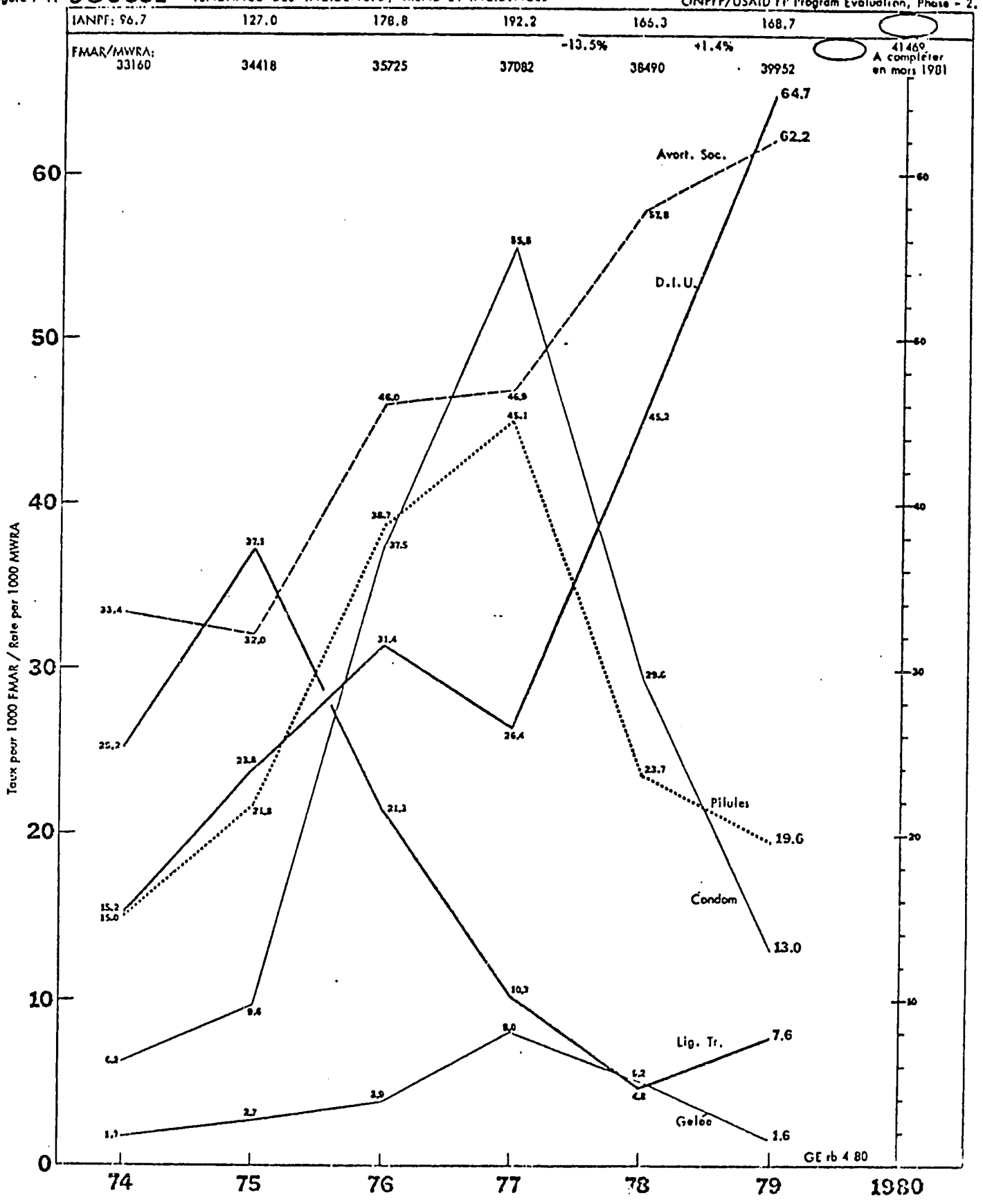
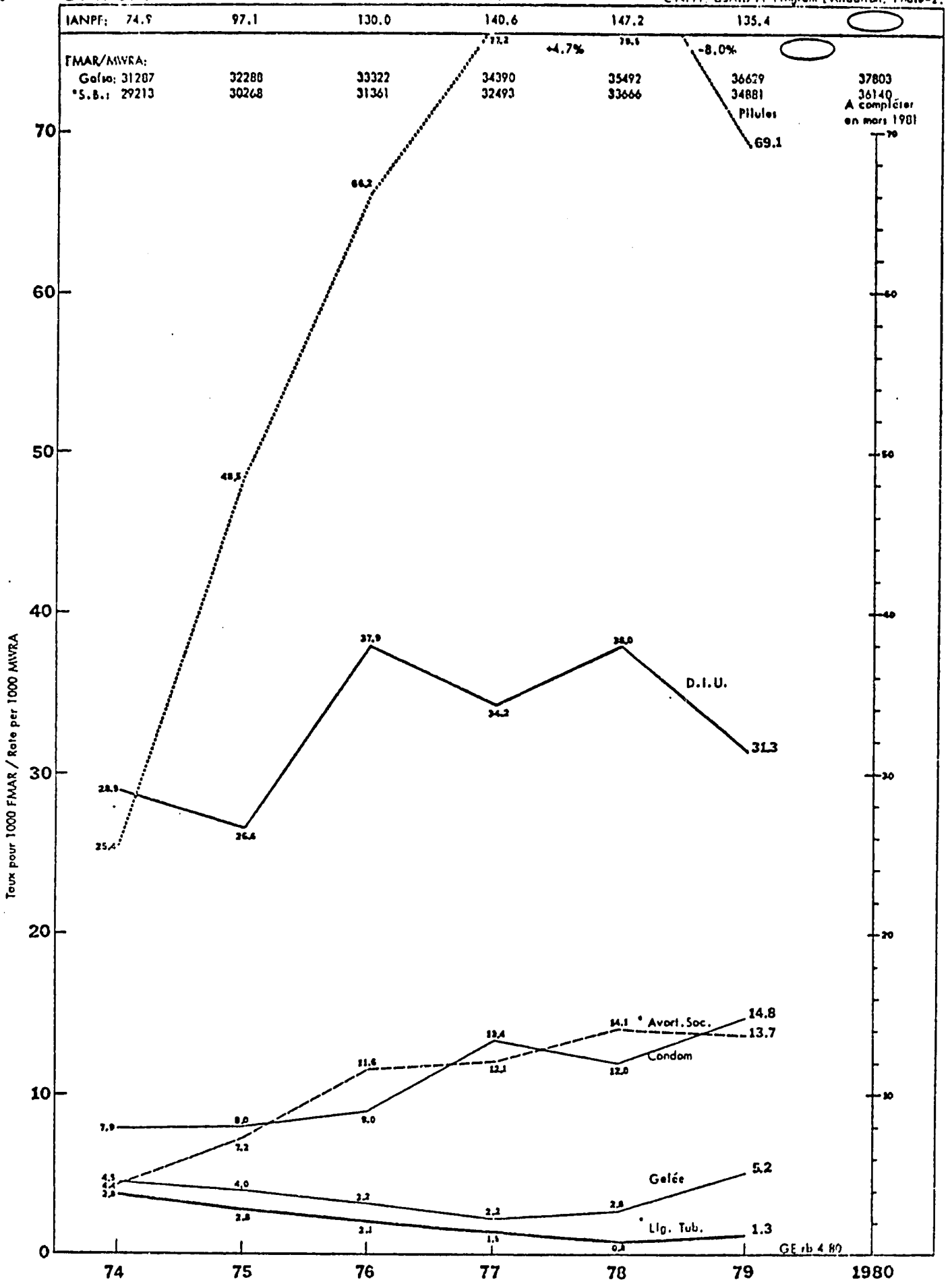


Figure 9-2. GAFSA TENDANCE DES INCIDENCES / TREND OF INCIDENCES

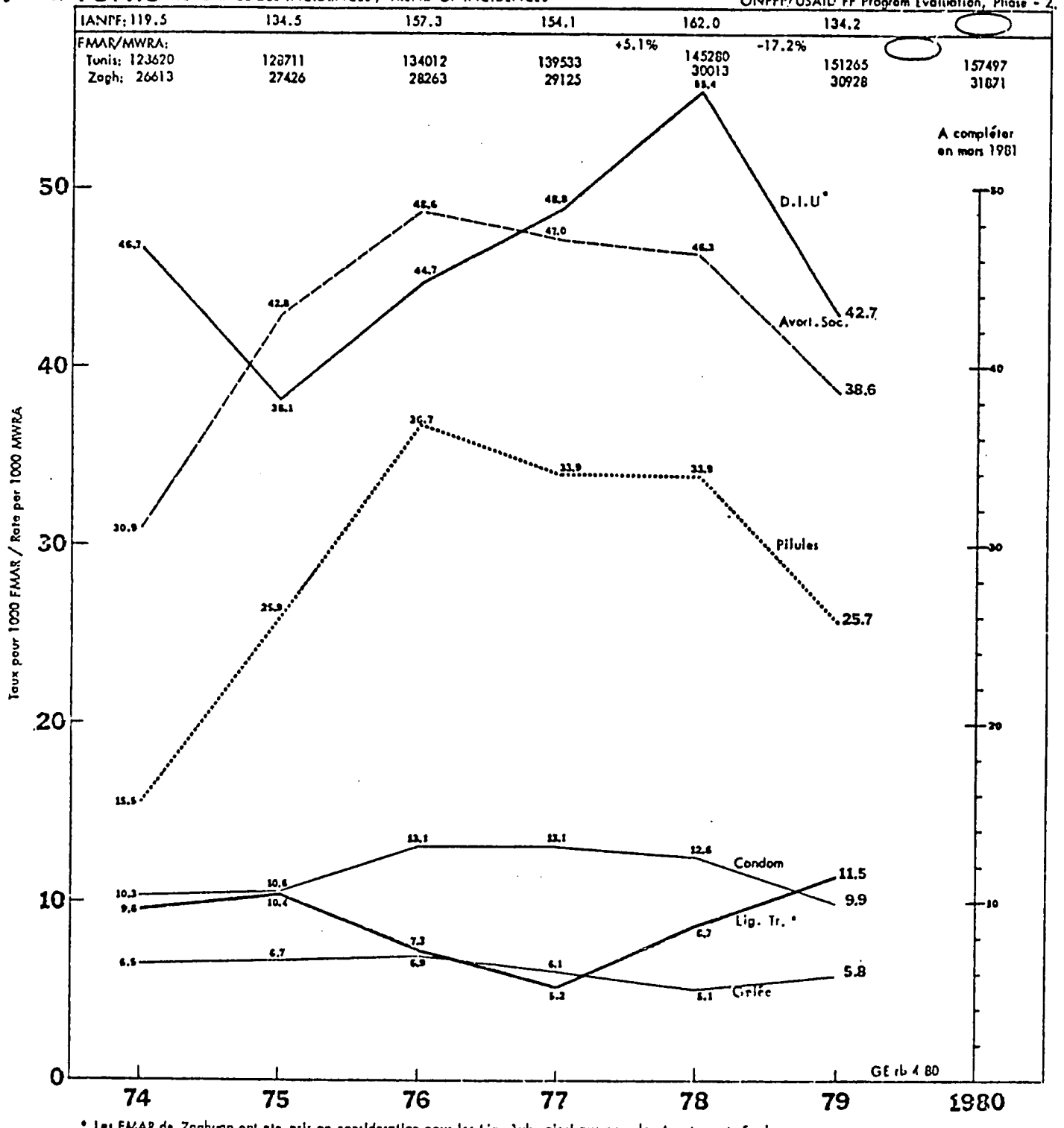
ONPF/USAID FP Program Evaluation, Phase-2.



* Les FMAR de Sidi Bouzid et les quelques ligatures et avortements sociaux des années 1976, 1977, et 1978 ont été pris en considération.
The MWRA of Sidi Bouzid and the few ligations and abortions of 1976, 1977, and 1978 were included in the calculation of the rates.

Figure 9-3. **TUNIS** TENDANCE DES INCIDENCES / TREND OF INCIDENCES

ONPFP/USAID FP Program Evaluation, Phase - 2.



* Les FMAR de Zaghuan ont été pris en considération pour les Lig. Tub. ainsi que pour les Avortements Sociaux.

* The MWRA of Zaghuan were included in the denominator for the calculation of rates of Social abortion and Tubal Ligation.

Figure 9-4. BIZERTE TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

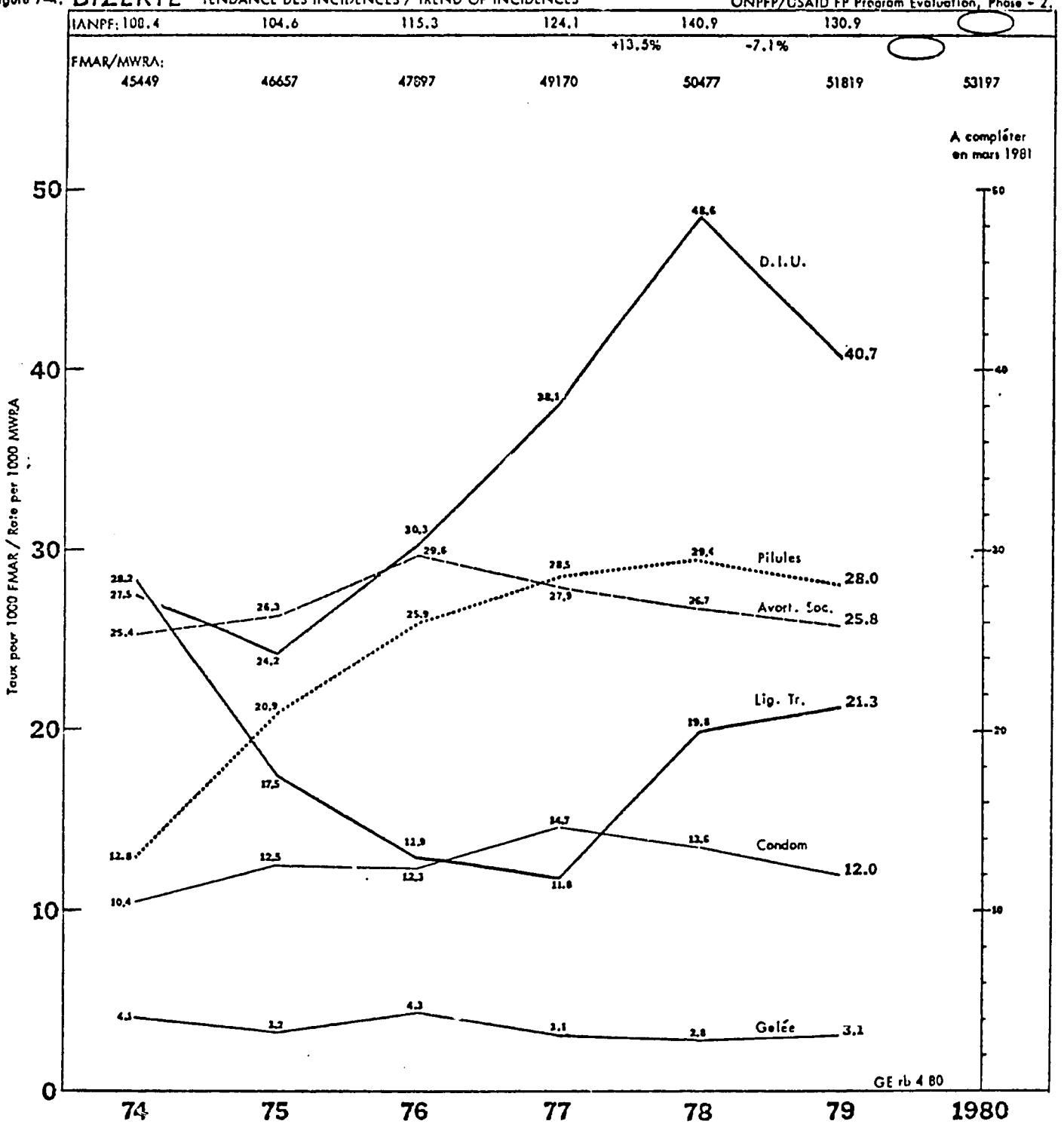


Figure 9-5. MONASTIR TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase-2.

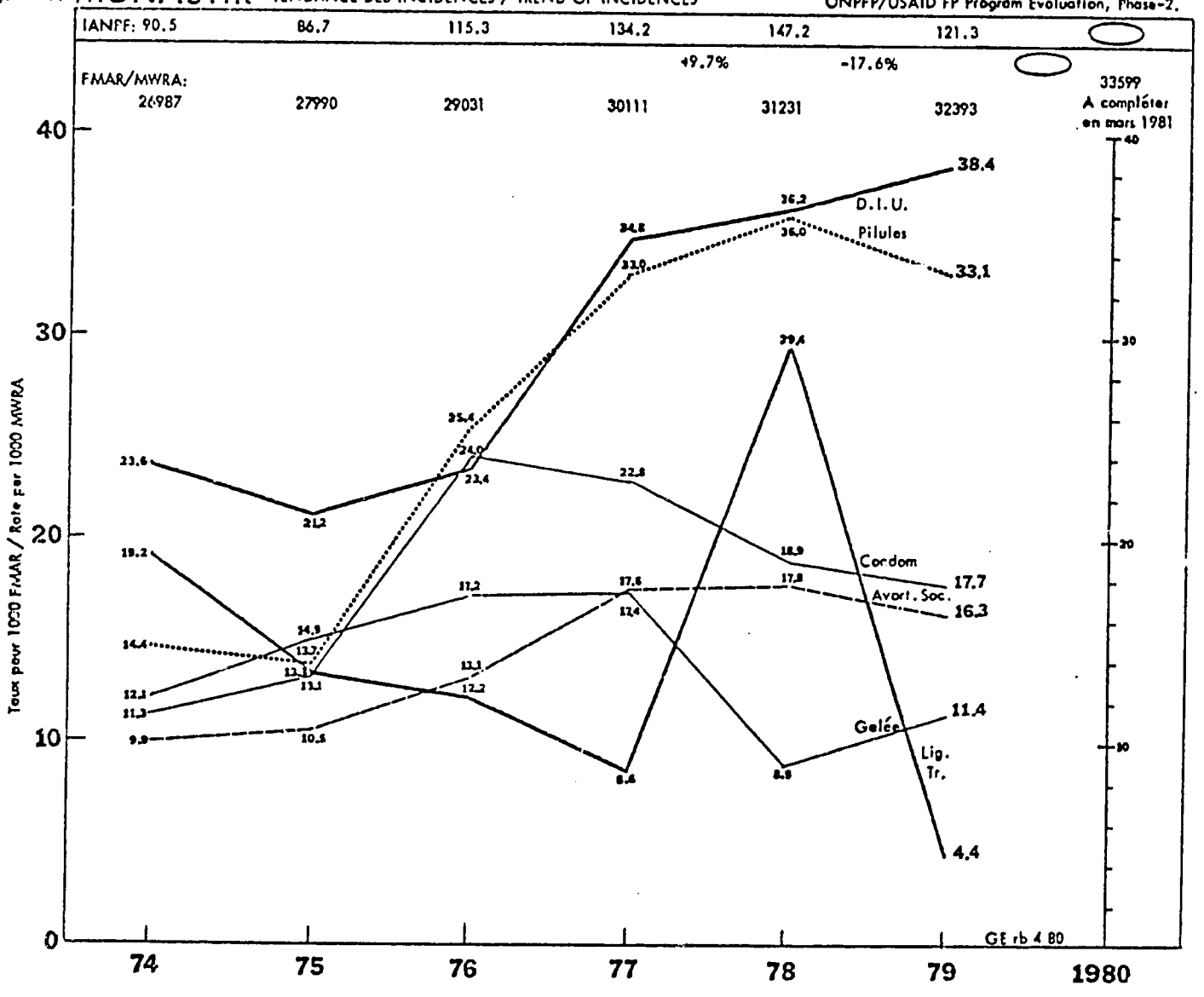


Figure 9-6. NABEUL TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

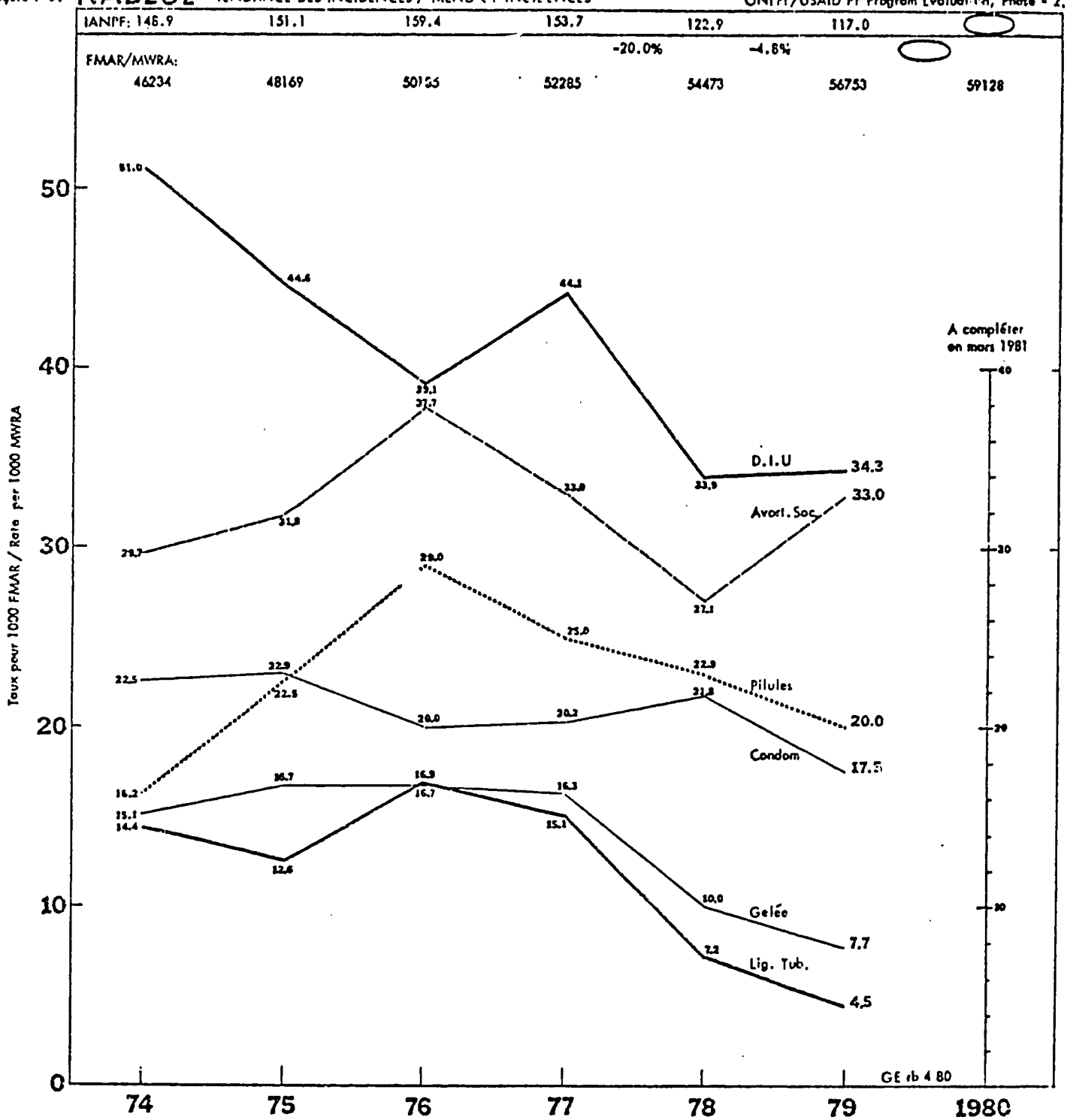
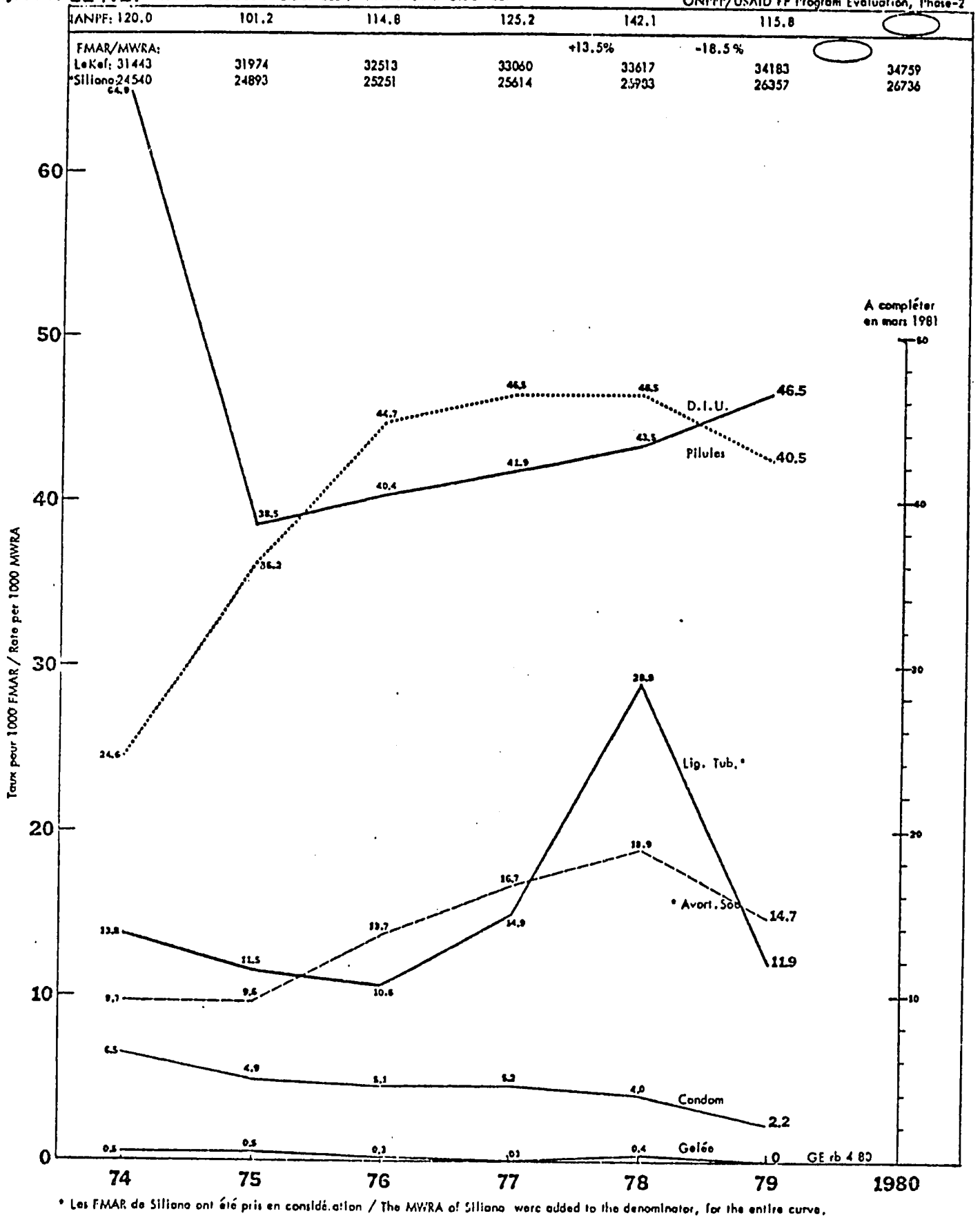


Figure 9-7. LE KEF TENDANCE DES INCIDENCES / TREND OF INCIDENCES



* Les FMAR de Silliana ont été pris en considération / The MWRA of Silliana were added to the denominator, for the entire curve.

Figure 9-8. SFAX TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

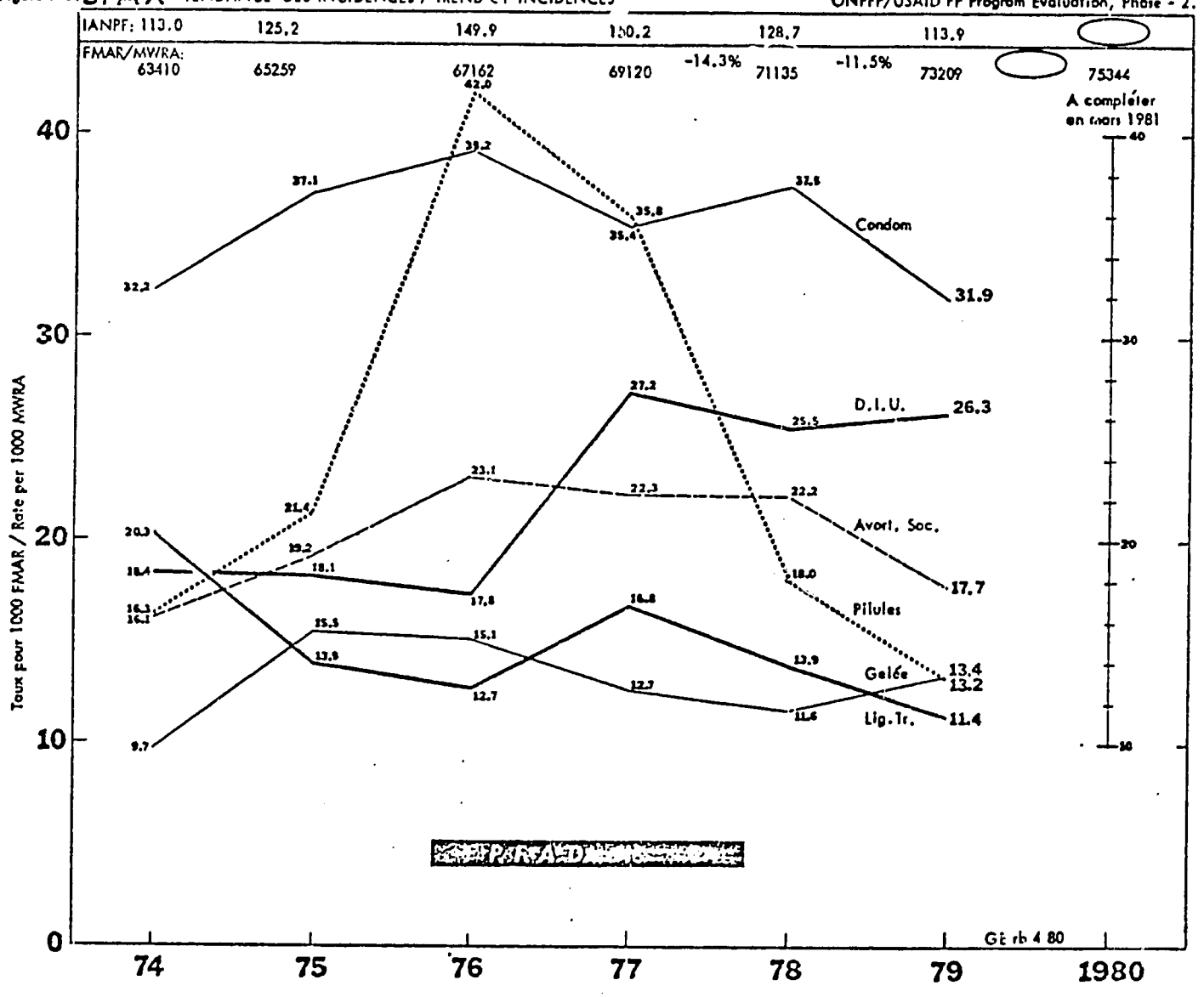


Figure 9-9 BEJA TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

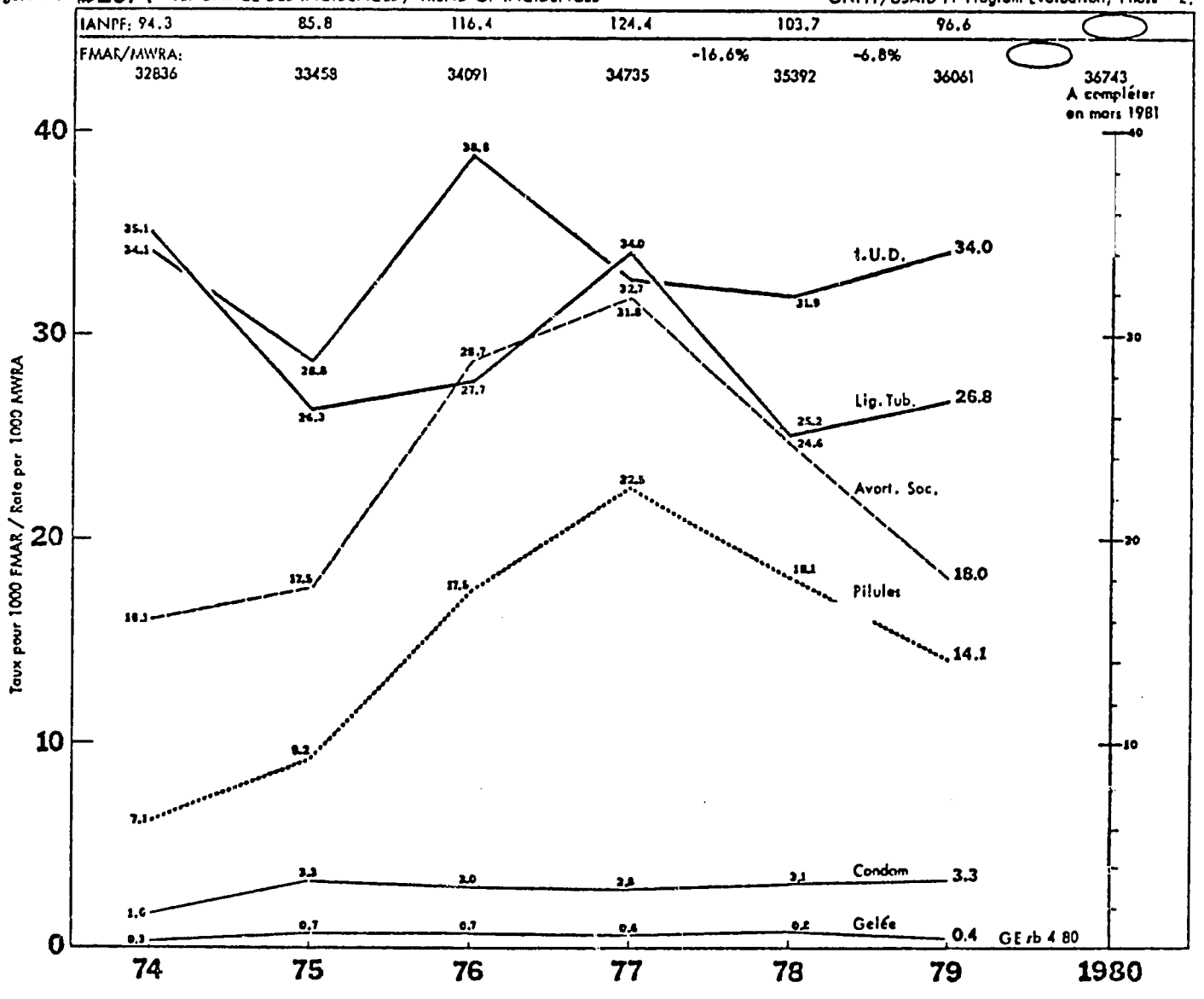


Figure 9-10. GABES TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

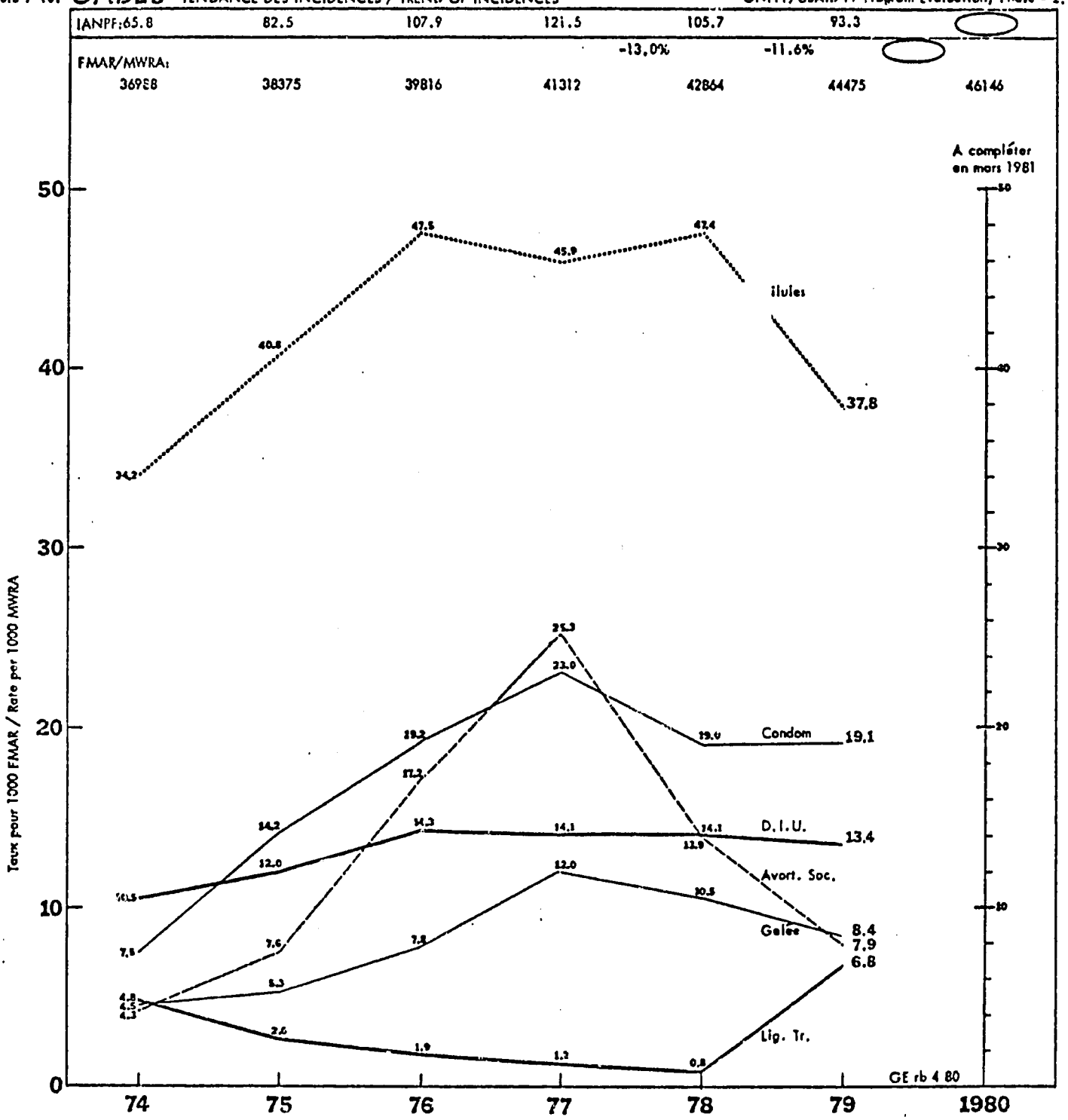


Figure 9-11.. JENDOUBA TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

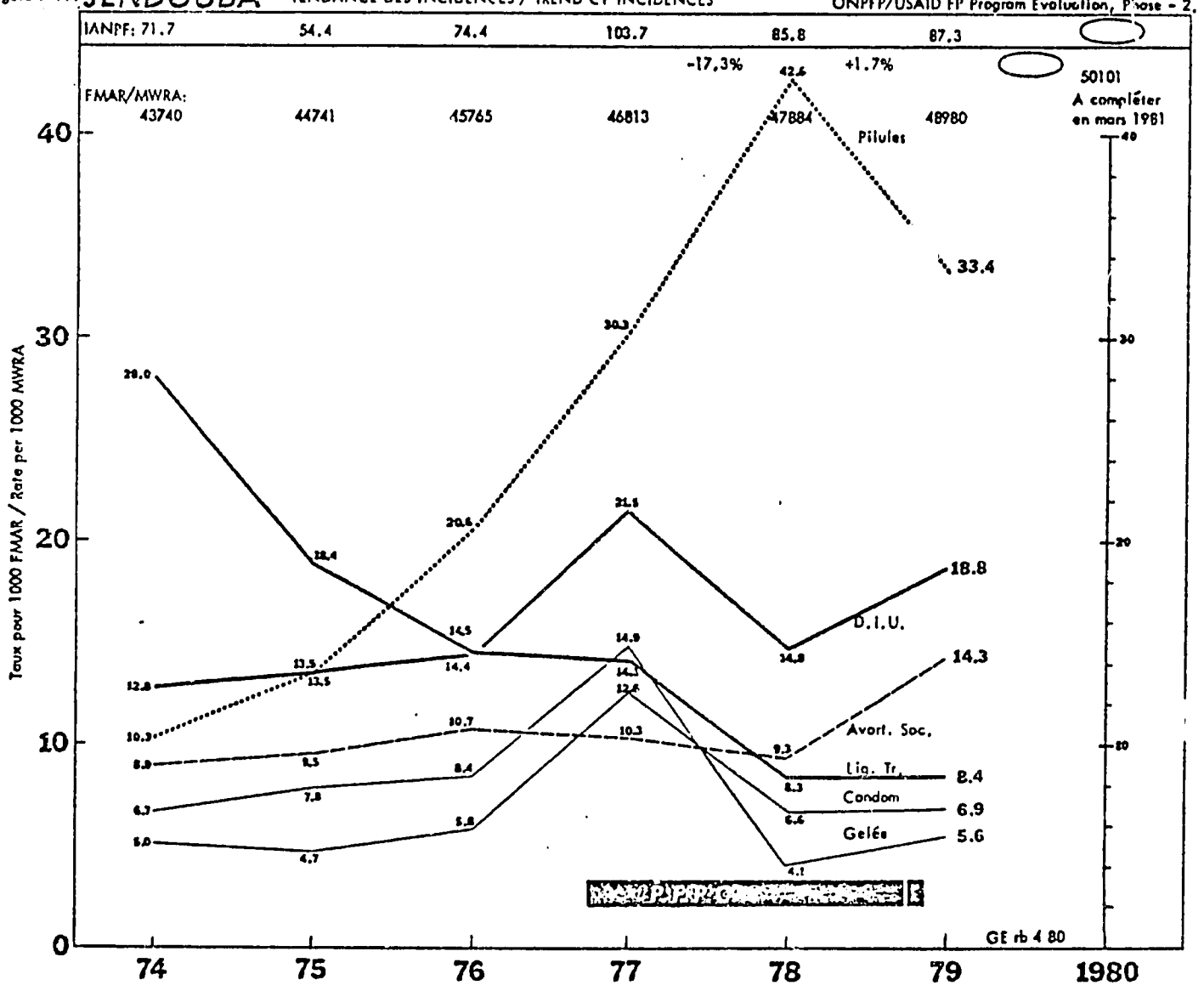


Figure 9-12. KASSERINE TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID · FP Program Evaluation, Phase - 2.

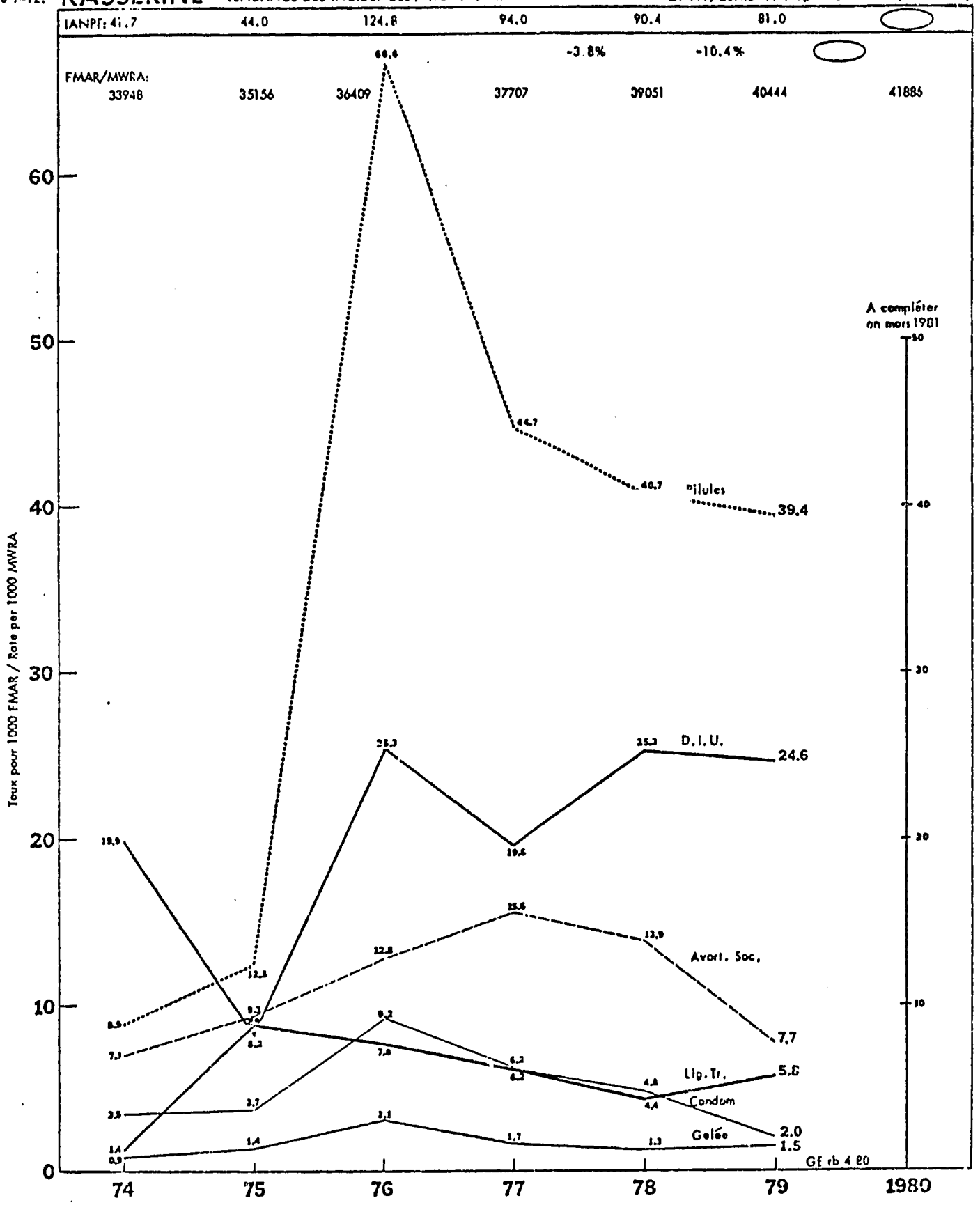


Figure 9-13. MAHDIA TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2.

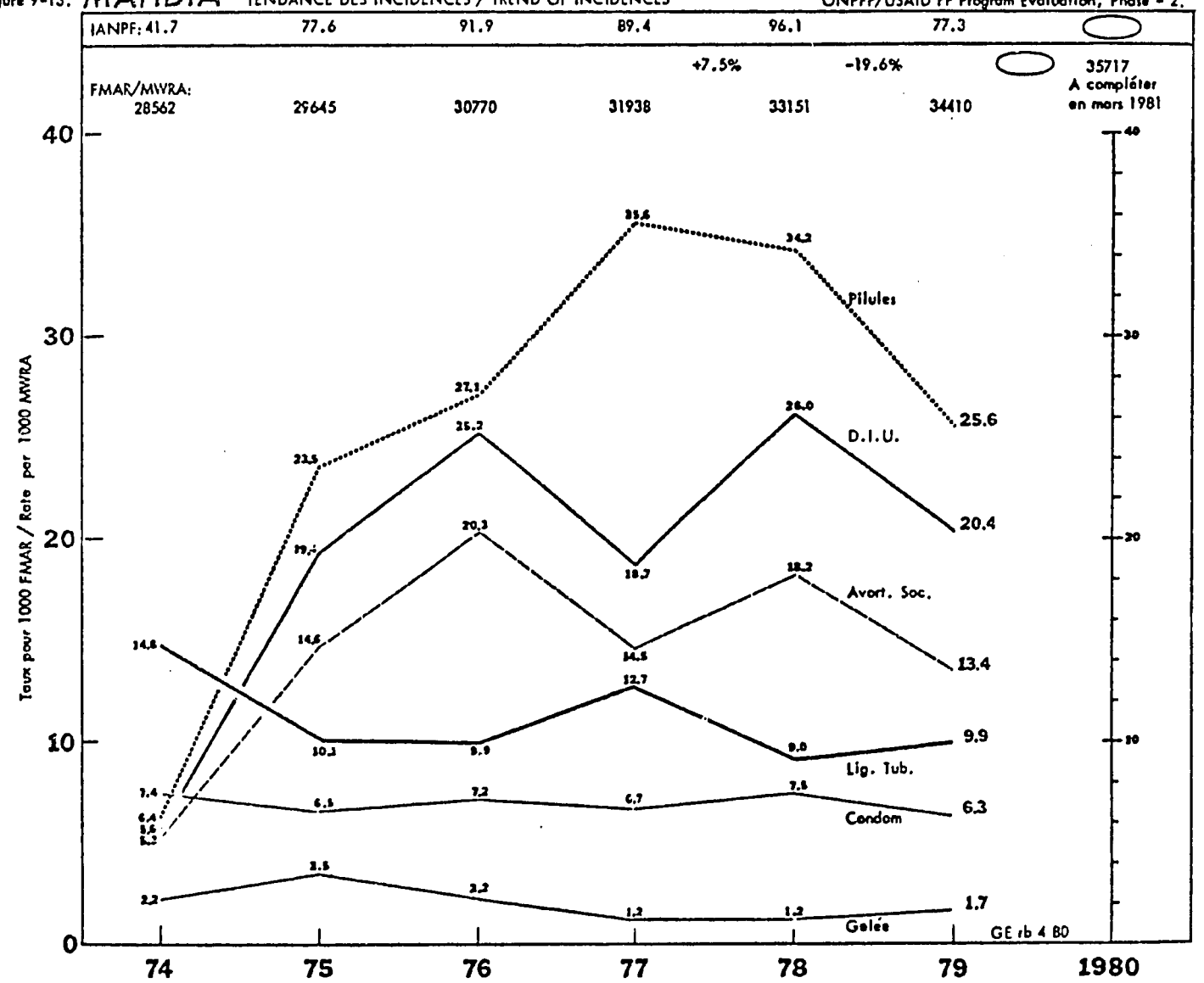


Figure 9-14. MEDENINE TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase-2

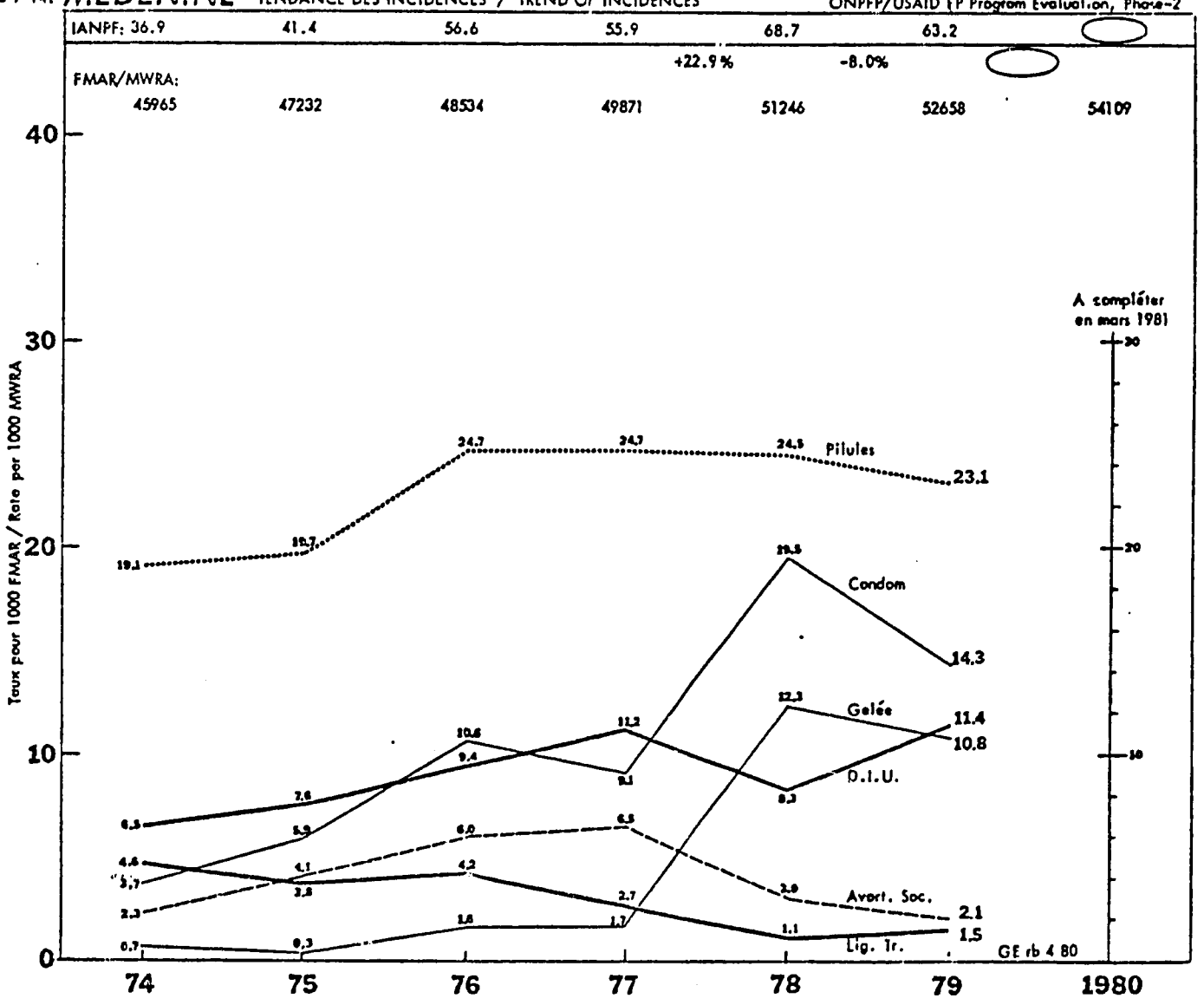


Figure 9-15. KAIROUAN TENDANCE DES INCIDENCES / TREND OF INCIDENCES ONPFP/USAID FP Program Evaluation, Phase - 2