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Report

Users of the physical rehabilitation services supported by ICRC Special Fund for the Disabled in Vietnam

Description and assessment of impact and further service needs

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ABSTRACT
The Regional Office for the ICRC Special Fund for the Disabled (SFD) in Asia, located in Ho Chi Minh City, Vietnam, supports physical rehabilitation services for war victim amputees.
A representative, interview-based survey among amputees who had received physical rehabilitation services supported by SFD was carried out in 2012. The objectives of the study were:
1- To what extend did the ICRC-SFD project play a key role on the accessibility to prosthetic rehabilitation services for its main target population?
2- Has access to rehabilitation services had a positive socio-economic impact on the project's target population?
3- Would further support from ICRC-SFD be required for prosthetic services follow-up? This report presents results from this survey, including also utilisation of the existing patient administrative system of the ICRC-SFD-supported rehabilitation services in Vietnam.

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Table of contents

Tables

Executive summary

Users of the physical rehabilitation services supported by ICRC Special Fund for the Disabled in Vietnam.

Description and assessment of impact and further service needs

The Regional Office for the ICRC Special Fund for the Disabled (SFD) in Asia, located in Ho Chi Minh City, Vietnam, supports physical rehabilitation services for war victim amputees. The services which were started by ICRC in late 1988, were taken over by SFD in 1995, and has developed into a nation-wide service in collaboration with the Ministry of Labour, Invalids and Social Affairs (MoLISA), and later on also with the Vietnamese Red Cross Society (VNCR). Over the years, a need has been identified to assess and monitor the activities and results of the services. In 2011, SFD agreed with SINTEF to collaborate on a survey among beneficiaries of the services.

The data material for the study comprised i)a representative, interview-based survey among amputees who had received physical rehabilitation services supported by SFD, and ii) the existing patient registry for SFD in Vietnam. The survey was restricted to the four catchment areas in the southern part of Vietnam and included a net sample of 650 beneficiaries. The registry comprised well over 28 000 beneficiaries.

The study provides a broad picture of the population that is served by these services, and it has generated some new knowledge about the perceived impact of the services on its beneficiaries. The study

provide an example on how survey methodology may be utilized to supplement and in an effective way provide new knowledge that can add to the often limited information that is found in administrative registries. New knowledge has been generated that may be useful for the future operations of the prosthetic services in Vietnam, and the findings do have relevance for similar types of programs elsewhere.

Three main questions were addressed by this study:

To what extent did the ICRC-SFD project play a key role on the accessibility to prosthetic rehabilitation services for its main target population?

Only around one in ten of the beneficiaries in the survey state that they would buy a prosthesis themselves if this was not s paid by the Red Cross, i.e. ICRC-SFD. Other solutions are indicated by many, as for instance help from family or other humanitarian organization, but it is safe to indicate that a substantial proportion of the beneficiaries would be without prosthesis and that many would risk being without as their alternatives seem rather insecure.

Has access to rehabilitation services had a positive socio-economic impact on the project's target population?

Around two thirds of the beneficiaries link income improvement directly to access to prosthetic services. While this for the large part concerns "slight improvements" in income, more than eight out of ten regard the prosthesis as very important for earning a living. Ambulation capacity is strongly improved with a prosthesis, and this can be assumed to impact not only on access to jobs and increased attractiveness on the job market, but also on the ability to keep a job over time. It is thus clearly indicated in the survey that prosthesis services has had a positive impact on the target population of the project.

Would further support from ICRC-SFD be required for prosthetic services follow-up?

The beneficiaries in the survey have few good alternatives to further support from ICRC-SFD. Main concerns if need for a replacement or repair of the current prosthesis are costs, travel, time restrictions and quality aspects – with cost-related concerns being the most prominent. Further support from ICRC-SFD would thus be required for prosthetic service follow-up also in the future, and until this free service is taken over by the authorities or other humanitarian organization, or most ideally covered within a universal health insurance system.

With the original target population being victims of the war that ended in 1975, this sub-population is now around 60 years of age. Scoring relatively low on the socio-economic indicators, and not being covered by a social protection program, this group is vulnerable to negative impact if ICRC-SFD support to prosthetic services should be reduced or taken away without being replaced by other type of support. Most likely then, the support to this particular population will be needed for a while, knowing that if no alternative solution is found within a state social protection scheme, the target population may still have limited access to needed prosthetic services for the next 20 years.

Introduction

The United Nations Convention on the Rights of Disabled People[1] underlines the rights of individuals with functional problems to adequate rehabilitation services in order to ensure their ability to participate fully in society. According to the World Disability Report[2], access to and quality of rehabilitation services is generally low in low- and middle income countries. Comprehensive efforts are thus needed in order for these countries to be able to fulfil the needs and the rights of individuals with functional problems.

The Regional Office for the ICRC Special Fund for the Disabled (SFD) in Asia, located in Ho Chi Minh City, Vietnam, supports physical rehabilitation services for war victim amputees. The services which were started by ICRC in late 1988, were taken over by SFD in 1995, and has developed into a nation-wide service in collaboration with the Ministry of Labour, Invalids and Social Affairs (MoLISA), and later on also with the Vietnamese Red Cross Society (VNCR). Over the years, a need has been identified to assess and monitor the activities and results of the services. In 2011, SFD agreed with SINTEF to

[1] UN (2008) Convention of the Rights of Persons with Disabilities. New York: United Nations. www.un.org/disabilities/convention/facts.shtml
[2] WHO (2011) World Disability Report. Geneva: World Health Organization.

collaborate on a survey among beneficiaries of the services. A representative, interview-based survey among amputees who had received physical rehabilitation services supported by SFD was carried out in 2012. This report presents results from this survey, including also utilisation of the existing patient administrative system of the ICRC-SFD-supported rehabilitation services in Vietnam.

Background

[3]Not yet a member of the Mine Ban Treaty nor of the Convention on Cluster Munitions, Vietnam is yet heavily contaminated by unexploded ordnance (UXO), mainly from the war in the 1960s and early 1970s, and to a lesser extent by landmines, which mostly date from conflicts in the late 1970s with neighbouring Cambodia and China. Almost all Vietnam's provinces are affected by UXO and mines, which have been said to contaminate as much as 20% of Vietnam's land surface (or some 66,000 sq.km)[4]. The most affected provinces are Ha Tinh, Quang Binh, Quang Tri, Thua Thien-Hue, Quang Nam and Quang Ngai, all located in central Vietnam. Many UXO are also found along the border with Laos, a target of intensive bombing during the war due to the location of the Ho Chi Minh trail. The cumulative number of mine/ERW casualties in Vietnam is not known. However, based on the MoLISA statistics and casualties reported by Landmine Monitor since 2001, there have been an estimated 104,902 mine/ERW casualties in Viet Nam, with 38,922 killed and 65,980 injured between 1975 and 2011.[5]. Since then, ERW accidents continue to occur, the most recent one killing four children and injuring

[3] The text in the Background section is to a large extent drawn from written material about Vietnam by ICRC-SFD Regional Office in Ho Chi Minh City, Vietnam.
[4] Cited by BOMICEN (Technology Centre for Bomb and Mine Disposal, Viet Nam People's Army), at www.bomicen.vn
[5] Landmine and Cluster Munition Monitor, Vietnam Country Profile, update of 08 August 2012 (http://www.the-monitor.org)

five other persons when a mortar shell left from the Vietnam War exploded at a family party in a southern village of Vinh Long in December 2012[6].

Physical rehabilitation of limb amputees

Vietnam has an estimated population of 88 million persons (2011) and the concerned authorities estimate that there are between 60.000 and 200.000 persons who suffered from limb amputations[7]. Prosthetic and orthotic (P&O) rehabilitation services for these persons have until recently mostly been ensured by a nationwide MoLISA network of 18 rehabilitation centres that was established with the primary objective of assisting war veterans who fought for the former North regime during the Vietnam War. Lately, the Ministry of Health (MoH) has also started developing its own P&O services in order to complement other existing rehabilitation facilities. Nowadays, around 15 MoH hospitals are able to provide some sort of P&O services. A few private P&O workshops, in all five, have also emerged in Hanoi and Ho Chi Minh City (HCMC).

In the early 90's, the ICRC estimated that there were about 80.000 amputees in need of services. Of this figure, it was also estimated that around fifty per cent were not covered by the state or any other scheme, notably all those associated with

[6] http://tuoitrenews.vn, 3 December 2012.
[7] Kane, Thomas. Disability in Vietnam in 1999: A meta-analysis of the data, October 1999 (Originally from MoLISA
disability survey 1994-1995). Cited by the Asia-Pacific Development Center on Disability; website: www.apcdproject.org

the former South Vietnamese regime (the ICRC main target population at that time, to complement the State's assistance for its war veterans). Almost twenty years later, the situation has not substantially changed for the above-mentioned disabled persons: (1) the "social stigmatisation" faced during many years after the war has kept most of them at the lowest stratum of the society; (2) although Vietnam has lately registered substantial economic growth, the social gap continues to increase, and in particular between rural and urban areas; (3) last but not least, they still receive little support from the State that has not yet taken required steps to ensure full coverage for all disabled persons.

In late 1988, the ICRC started a physical rehabilitation programme for war victim amputees at the HCMC Centre under a framework agreement signed with MoLISA. The ICRC polypropylene (PP) technology was introduced in 1993. In April 1995, the entire programme was taken over by the SFD after the closing of the ICRC delegation in Vietnam. Since then, the SFD has increased its cooperation with MoLISA, and starting from 2002, with the Vietnam Red Cross Society (VNRC), which successfully got involved in the identification, referral and monitoring of physically disabled people throughout the country. By the beginning of 2006, the SFD project covered all the 63 provinces of Vietnam. ICRC-SFD is the project implementing agency (Technical and Financial), with VNRC and MoLISA as local partners.

Today, a tripartite cooperation agreement between the SFD, MoLISA and the VNRC frames the assistance provided to the SFD target population. It comprises the identification and follow-up of the target population through the VNRC branches in all 63 provinces, and the rehabilitation of the identified disabled persons in 10 MoLISA rehabilitation centres throughout the country. SFD subsidises most of the rehabilitation costs, which include P&O services, transport and food. Almost all registered patients have now had their first fitting and more emphasis is therefore given to services' follow-up, such as second prosthetic fittings. Persons with other motor disabilities, especially from the hill tribe areas or remote and disadvantaged areas like the Central Highlands or the North-West Highlands, have also benefited from devices and wheelchairs furnished by the SFD.

The SFD project in Vietnam aims at improving the access to- and the quality of the physical rehabilitation services for destitute disabled people, conflict-related or not, who have no access to rehabilitation services due to financial, geographical or political barriers. This concerns in particular those who are excluded from government's social protection schemes such as the amputee war veterans who are linked to the former South Vietnamese regime and who, consequently, without SFD subsidies might find access to services difficult.

For most of the amputees belonging to the former South Vietnamese regime, they would most likely not access

needed services without the SFD support, as they could not afford to pay for the prosthetic devices. It is also worth noting that other organisations providing prosthetic services for the same target population had lately stop their support , thus obliging its former beneficiaries to seek for services from the SFD project.

Along the past twenty years of assistance in the rehabilitation field, the Vietnam situation has significantly evolved. Thanks to its *doi moi* (renewal) policy, Vietnam upheld the market economy in 1986 and has undergone a tremendous economic growth at a sustained average rate of 7.5% for the period 1990-2007, that from a rate of 4.68% in 1989 when the ICRC project started in Ho Chi Minh City. Its poverty rate has also gradually evolved from 58.1% in 1990 to 37.4% in 1998, 19.5% in 2004 and to an estimated 15% in 2011 after a review of the poverty criteria by the MoLISA.

On the other hand, the situation of the project's main target population has apparently not changed significantly. The social stigmatisation faced for many years after the war has most likely kept most of them at the lowest stratum of the society. In addition, although labelled as a middle-income country, social disparities continue to worsen in Vietnam, especially between urban and rural areas (+/- 72% of the TP). Finally, there are yet no prospects for an improved governmental priority with regards to a state-paid provision of prosthetic devices for this specific target group. Consequently, despite

expectations on a substantial reduction of the needs, the number of newly registered disabled persons applying with SFD project for subsidised rehabilitation services remains high (i.e., 58% of the 3054 persons assisted in 2008, 44% of 2645 in 2009, 28% of 2432 in 2010, 31% of 1944 in 2011 and 32% of 1792 in 2012).

It is in this crossroad between improved macro-economics and continued perceived need for the prosthetic service that SFD found it timely to implement a study on the impact of the current services as well as current and future need for services. The positive economic development for the country may not have benefitted those in need of rehabilitation, and a solid knowledge base on their situation is necessary as a fundament for decisions on how to organise and distribute services in the future. The purpose of this study is therefore to evaluate the impact of the project on its TP after more than two decades of assistance and to re-assess further assistance needs with regards to rehabilitation services follow-up.

Objectives

The following objectives were defined by ICRC-SFD prior to engaging SINTEF to take responsibility for the study:

1- To what extend did the ICRC-SFD project play a key role on the accessibility to prosthetic rehabilitation services for its main target population?

2- Has access to rehabilitation services had a positive socio-economic impact on the project's target population?

3- Would further support from ICRC-SFD be required for prosthetic services follow-up?

Methods

Introduction

The study among beneficiaries of ICRC-SFD/MoLISA/VNRC rehabilitation services in Vietnam was carried out in the catchment areas of four rehabilitation hospitals/Centres (Can Tho, Da Nang, Ho Chi Minh City (HCMC), and Quy Nhon) in 2012. Two data sets have been utilized in the analyses to be presented below. First, some analyses was carried out on the existing ICRC − SFD registry covering all individuals who have received services as from the start of the services. Second, a survey comprising a broader set of questions than the registry

was carried out between 26th March and 12th June 2012. Each centre is representative of a catchment area that covers several provinces.

Interview-based survey

The method applied was an interview-based survey. A group of 8 interviewers were recruited and trained by 4 staff members of SFD HCMC, who had taken part in developing the questionnaire. All the recruits had university background – some few were students, most had already graduated from university – and belonged to a volunteer group. They underwent the same training and used the questionnaire for trial interviews in HCMC rehabilitation centre from 21st to 22nd March. They were trained on how to apply the questionnaire, by means of (a) an in-depth learning of instructions to be read prior to the training session, (b) extended instructions given during the session, (c) questions & answers at the end of the session, and (d) practical exercises with patients that were under rehabilitation process at the HCMC centre.

A pool of 11 interviewers was set up, comprising the 8 recruits and 3 of the 4 trainers. Interviewers were organized into two rotating groups of 5 persons, one trainer being the group monitor. The third trainer remained in standby in SFD HCMC office. Interviews were conducted according to guidelines and requested procedures. Interviewers committed in writing to comply with the confidentiality aspects of the survey and to

strictly apply data safekeeping procedures. Interviewers went then to the field, i.e. to each of the four rehabilitation centres, and started collecting data on 26th March 2012.

Number of interviews per interviewer varied between 3 and 126, and averaged 59. The person who did only 3 interviews was a standby trainer; while on duty at the HCMC rehabilitation centre, he received 3 late comers that could not show up on schedule. This apart, 7 interviewers could fulfill between 63 and 126 interviews.

The questionnaire (Appendix 1) was based on SINTEF's previous experience in other parts of the world and existing ICRC-SFD instruments. SFD staff and the Consultant (SINTEF) developed the final questionnaire and adaptation to objectives and contexts during discussions at SFD office in HCMC in November 2011. A small pre-test was carried out to check comprehension of the questionnaire during a home visit to a project beneficiary. The final questionnaire comprised 43 questions and four parts. The first part (13 questions) has the objective to profile the respondent, the second one (11 questions) to learn about how the respondent got access to subsidized prosthetic services, the third one (13 questions) to learn about how important is the prosthesis for the life of the respondent and the last one (6 questions) to describe how the respondent sees future accessibility to prosthetic services follow-up.

In the questionnaire, the quite generic Red Cross term was used to refer to both partners (ICRC-SFD and VNRC) in order to make it easier for the beneficiaries to differentiate both organizations (which are part of same movement) from Government institutions.

Sampling

Respondents were sampled from the existing SFD data base, covering all beneficiaries data of ICRC-SFD/MoLISA/VNRC rehabilitation services. This data base covers services from the start of services provision in 1992 and comprises 28 603 individuals as of 31st December 2011. For sampling purpose, data cover only 27 166 individuals as of 30th June 2011.

The participant selection (inclusion) criteria were as follows:

- Project's registered persons who did benefit for at least one time from ICRC-SFD subsidized rehabilitation services at one of the four assisted Rehabilitation Centres in South Vietnam
- Aged from 18 years to 65
- Willing and able to give informed consent

Exclusion criteria:

- Beneficiaries for whom subsidized rehabilitation services did only concern their upper limbs
- Beneficiaries who were excluded from the project
- Beneficiaries who were notified as deceased by authorities or partners

The selection of potential participants for each Rehabilitation Centre catchment area was based on listings extracted in accordance to the above mentioned criteria from the project database. See study map (next page), where catchment areas are delimited with the respective numbers of beneficiaries and percentages of samples.

While the ICRC-SFD/MoLISA/VNRC project covers the whole of Vietnam, it was early decided to concentrate on the southern part of the country, where the bulk of ICRC-SFD assistance in Viet Nam is focused and where 85% of the ICRC-SFD project's target population are concentrated, i.e. those who cannot pay for their devices and are not covered by any social protection service. Within this greater area, all four catchment areas were selected purposively. These four catchment areas ensure geographical spread and represent somewhat different contexts in the country: (i) the Can Tho area represents wet rural environment under the influence of the Mekong River Delta; (ii) the HCMC area represents urban context and wet and dry rural environment; (iii) the Da Nang area is a dominantly coastal environment with a smaller part considered mountainous; (iv) and the Quy Nhon area comprises both coastal and mountainous environments.

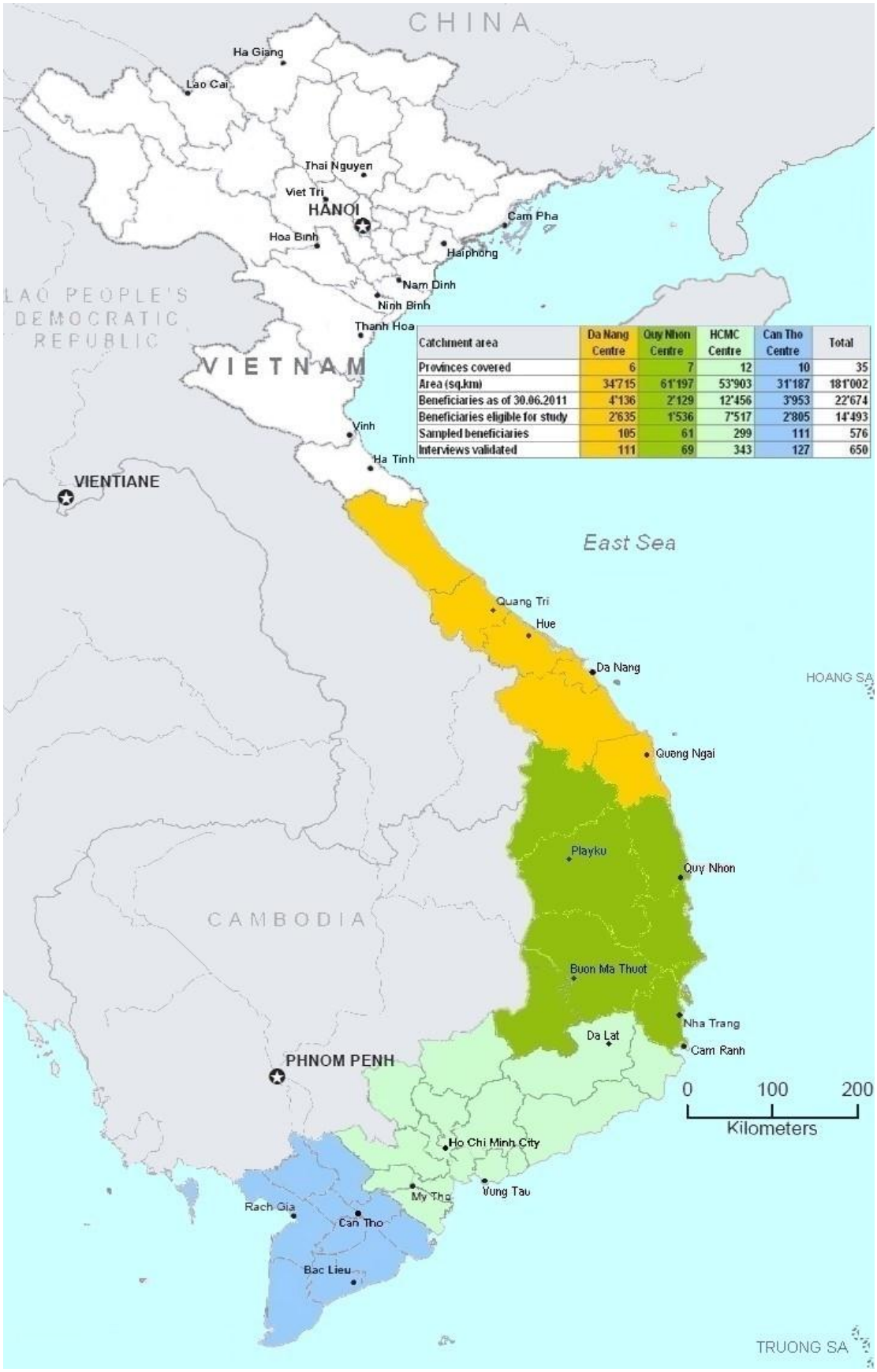
All the four catchment areas had been affected by hostilities during the war to different levels, but the Da Nang catchment area was particularly impacted due to the presence of the DMZ lane in Quang Tri province; it was also the front line between opponents. This said, it is also relevant to underline that the

war has ended for 37 years and since then a lot of movements have taken place among the population. As a result of that intermixture of people, former war victims have spread out to other regions and the concentration of war disabled persons in the Da Nang catchment area, though still important, has decreased over time.

The sample size was determined by the web statistical tools available at http://www.surveysystem. com/sscalc.htm and substantial oversampling was included to cater for attrition (no shows, problems finding interviewees, refusals, data quality). For the selection (sampling) we used the tool at http://www.randomizer.org. The data analyzed in this report are thus representative for individuals who have received services through the ICRC-SFD/MoLisa / VNRC rehabilitation services and who fills the above criteria. By using these criteria, the final number of eligible individuals within the four catchment areas selected for the study was 14 493 (the catchment area of HCMC centre providing 7 517, Can Tho 2 805, Da Nang 2 635 and Quy Nhon 1 536). Using a confidence level of 95% and a confidence interval of 4, the sample size calculator, as provided by the aforementioned website, gave a sample size of 576, to which the catchment area of HCMC centre contributed 299, Can Tho 111, Da Nang 105 and Quy Nhon 61.

As not all invited beneficiaries showed up in the first round of interview, ICRC-SFD had to send additional invitations. There

were in all 11 rounds of interview, 5 in HCMC, 2 in Quy Nhon, 2 in Da Nang and 2 in Can Tho. The selection of additional samples used the same tool available as explained above.



Catchment area	Da Nang Centre	Quy Nhon Centre	HCMC Centre	Can Tho Centre	Total
Provinces covered	6	7	12	10	35
Area (sq.km)	34'715	61'197	53'903	31'187	181'002
Beneficiaries as of 30.06.2011	4'136	2'129	12'456	3'953	22'674
Beneficiaries eligible for study	2'635	1'536	7'517	2'805	14'493
Sampled beneficiaries	105	61	299	111	576
Interviews validated	111	69	343	127	650

Map of Vietnam and the four catchment areas included

Data collection

Interviewees received postal invitations with clear indications about the survey, its timing and the venue. Interviewers' contact with respondents and the conduct of interviews were subject to operating procedures that are clearly described in instructions for interviewers. An information paper was presented to respondents for reading or the latter had it read by the interviewer. Standard information about the purpose and objectives, responsibilities, benefits, risks and confidentiality was given. Respondents could ask further questions and also choose to stop the interview at any time. This right to opt out of the interview and the study was underlined. Both parties signed a consent form before starting the questionnaire. This signed form was a prerequisite for the interviews to take place.

Attrition was important due mainly to no-show cases, which were as many as 1911, representing 66% of the total number of invitations. The number of no-show cases was almost the same in the four catchment areas, varying between 61% in Quy Nhon area and 67% in HCMC area. 260 invitation mails were returned (9%), which means that the ICRC-SFD project has lost contact with those people, most probably because they moved to other places. This is particularly true in the HCMC urban area, where there are high movements of immigrant workers and their family members, including disabled persons: 216 mails were returned (12% of invitation mails sent out). 34 beneficiaries chose not to participate in the

survey (5% of those who showed up), thus showing that respondents were given full information about the survey and had freedom of decision. At last, 10 persons were reported dead by their relatives (most of the cases) or by the local authority (one case) upon receipt of the invitation letter. What remains unspecified is the number of invitation letters not reaching destination.

Table 1 Overview of the sampling

Catchment area	HCMC	Can Tho	Da Nang	Quy Nhon	Total
Sampling needed	299	111	105	61	576
Invited	1793	501	367	214	2875
Interviewed	348	128	114	70	660
Interviewed validated	343	127	111	69	650
% Interviews validated/Invited	19%	25%	30%	32%	23%
Not Interviewed	1445	373	253	144	2215
% No-shows/Invited	67%	67%	63%	61%	66%
No-shows	1210	337	233	131	1911
Mails returned	216	26	10	8	260
Reported Dead	6	3	0	1	10
Refused	13	7	10	4	34

After the first round of interviews in HCMC Centre, in view of the low show-up rate, there was an attempt to conduct home interviews. A group of 2 interviewers did try to visit 38 invited beneficiaries within HCM City, but they did not get further than that number as only 9 interviews could be successfully done. Among the remaining 29 cases: 11 moved away, 7 passed away, 6 were not found, 3 busy/away and 2 sick. The trial

proved inefficient due to high work load with little return and was stopped.

Methodological limitations

The sample is drawn from four provinces in the south of the country, and is thus representative for the beneficiaries in these four provinces. Due to expected variation between geographical areas, this limitation in the survey design should be taken into consideration when drawing conclusions from this data material to the whole population of beneficiaries of the prosthetic services over the years. Further, attrition was substantial, and additional sampling was carried out during the process. Even though following strictly procedures to ensure random sampling, it is likely that urban - rural differences as well as other differences between locations respondents have less chance for being reached due to for instance problems with the postal delivery outside urban areas.

Survey methodology has its pros and cons. One problem is the limitations of self-reported information, which the current study is largely based on. To what extent the responses are influenced by the interview situation, culturally rooted conceptions of which responses are right or wrong, fear of authorities, eventually also the quality of the questions, etc., is simply very difficult to assess without some form of external (to the survey) control. As discussed later in the text, there are obvious misconceptions among some of the beneficiaries

on who actually provided information and services, illustrating that individual responses are perceptions and not always "true". When this is said, the current study design is based on extensive experience with surveys, and it has been possible to control the reliability to some extent by means of the project registry.

Risks. − The information paper made it clear to interviewees that there are no identified risks for them or their next of kin, although quite vulnerable due to their disabilities, their poverty and their non-covered status in terms of social protection.

Benefits. − Respondents were explained that there would be no direct benefits for them from taking part in the survey and that, in a broader scope, results of the survey would help the ICRC-SFD Project plan its activities for the disabled people in Viet Nam. However, given the large areas covered and transport difficulties ensuing, which might discourage respondents to show up, a subsidy was paid to compensate for their travel costs. Subsidies were calculated to fairly cover transport costs and meals for the journey to interview places.

Data safekeeping and confidentiality were part of the instructions given to interviewers. Respondents' privacy was ensured according to ICRC rules of confidentiality, i.e. interviews conducted in private without third parties' presence and no sharing of data to third parties during and after the

study. Independence (of the survey) from the rehabilitation Centre was also underlined to respondents so as to encourage them to answer as freely as possible to the questionnaire. At the end of missions, no results of the mission, except the number of respondents, may be disclosed to authorities of the rehabilitation institution where interviews took place. All questionnaires filled out, as well as name lists of sampled individuals, were packed and kept unexposed to any intrusive consultation until they are handed over to the Head of ICRC-SFD Office in Ho Chi Minh City. Data storage and safekeeping are subject to ICRC-SFD regulations, i.e. stored in an external hard drive kept in a safe together with hard copies of questionnaires, which are eventually destroyed after conclusion of the study.

Ethics

The study obtained an ethical clearance from the University of Labor and Social Affairs (ULSA) in Hanoi and from Geneva University prior to the deployment of data collection. The interviewers signed a client confidentiality agreement and were sent to the four MoLISA rehabilitation centres, which were the meeting points between interviewers and interviewees.

Data handling and analyses

Data was entered by staff at the Regional Office for the ICRC SFD in Ho Chi Minh City, by means of Excel 2010. The Excel

files were sent to SINTEF, where the data was exported to SPSS 19 and analysed.

Results

The results chapter is organized in two main sections. The first section provides analyses of the ICRC-SFD data base that covers all individuals registered since the start of these services.

The second section draws on results from the survey carried out in 2012 and described in the methods chapter. The results from the survey are organized under five sub-headings:

i) The first part describes the sample and includes key demographic information as well as certain socio-economic indicators at both individual and household levels. The purpose is to describe the sample and thus also the broader situation for individuals who have benefitted from the prosthesis services over the years.
ii) The second part concerns information about the prosthetic service and how it was obtained, the formal process of registration, and about possible alternatives to the service. The main purpose is to describe access to services
iii) The third part is about the importance of the prosthesis with regards to psychosocial well-being, daily life, social life, mobility, work and income. The main purpose here is to obtain assessments of the importance as well as the impact of the prosthesis on different life arenas
iv) The fourth part is about the need for continued services from the prosthetic centres. The purpose is to assess the situation for the individuals who need

prosthesis and possible consequences if services are not available to them

v) The fifth and final part from the survey shows three different regression models on Change in mobility, Barrier expectations, and Importance of prosthesis. The analyses presented here will explain further how different key demographic variables are able to explain phenomena that are assumed to be critical for successful services

1.1 The ICRC-SFD data base

All together 27166 individuals are registered in this data base, i.e. until 30.06.2011. Of these, 15.3 % (4153) were women and 84.7 % (23013) men. The males tended to be older than the women (Mean age: males 57.8 years, females 54.3 years, $F = 218.83$, $df = 1$, $p < .001$). A majority (14809, 54.5 %) had been fitted before their first contact with the ICRC-SFD supported services. This data base is a patient administrative registry with a limited number of variables.

Table 2. Cause of amputation

Cause	N_{Total}	%	N_{Males}	$\%_{Males}$	$N_{Females}$	$\%_{Females}$
Congenital	164	6	81	.4	83	2.0
War	17788	65.5	15630	67.9	2158	52.0
Accident	7101	26.1	5778	25.1	1323	31.9
Disease	2113	7.8	1524	6.6	589	14.2
Total	27166	100.0	23013	100.0	4153	100.0

War is the most important cause for amputation, followed by accident, disease and congenital. A majority of both men and

women in this register stated that war was the cause of their amputation, although a higher proportion of men got their injury from war. Women report more often the cause to be accident or disease. The gender differences shown in Table 1 are statistically significant (χ^2 = 614.61, df = 3, p < .001). Mean age varied significantly between the causes: Congenital 32.74 years, Accident 47.7 years, Disease 53.7 years, and War related 61.8 years (F = 2289.02, df = 27165, p < .001).

Table 3 Fitted before first contact with ICRC-SFD supported services by cause of amputation (N = 27166)

Fitted before	Cause (%)			
	Accident	Congenital	Disease	War Related
No	60.7	89.6	77.3	35.2
Yes	39.3	10.4	22.7	64.8

Table 3 shows that those with war related injuries to a much larger extent than those with other causes for amputation had been fitted before first contact with ICRC-SFD supported services. This is firstly logical as the impact of the war on the target population evidently was massive in particular before 1975 (end of the war), and the prosthetic services supported by ICRC-SFD started only in 1992. Secondly, the impact of the war has gradually reduced over the years and a broader specter of beneficiaries (other reasons for amputation than war) has gradually attended the cCentres. To further support this picture, fewer women had been fitted before first contact (males: 55.3 %, females: 50.3 %, χ^2 = 34.28, df = 1, p <

.001), and those who had been fitted before were substantially older (60.1 vs 54.0 years, F = 1260.28, df = 1, p < .001).

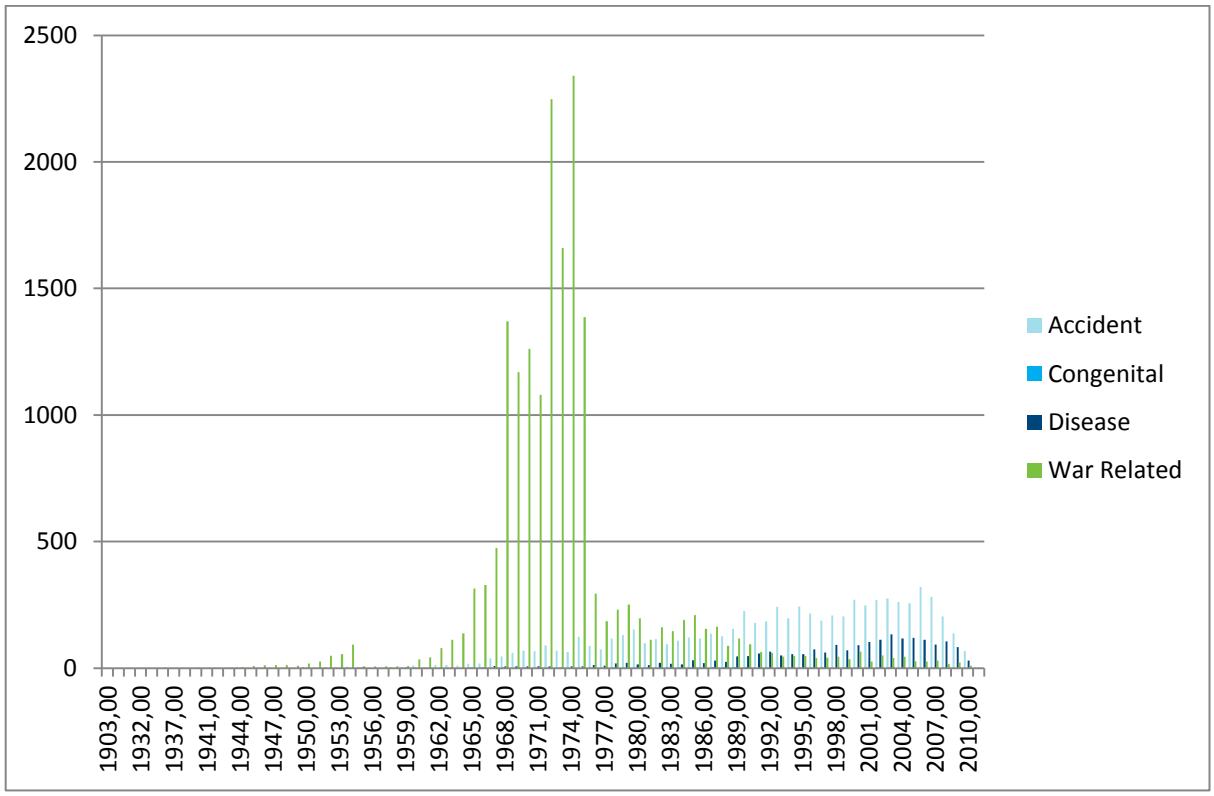


Figure 1. Year of amputation by cause

Figure 1 illustrates the development of causes for amputation among the beneficiaries of the centres with time as discussed above. The figure clearly shows that the largest number of amputations took place in the period 1972 – 1975, which was the apogee of the war.

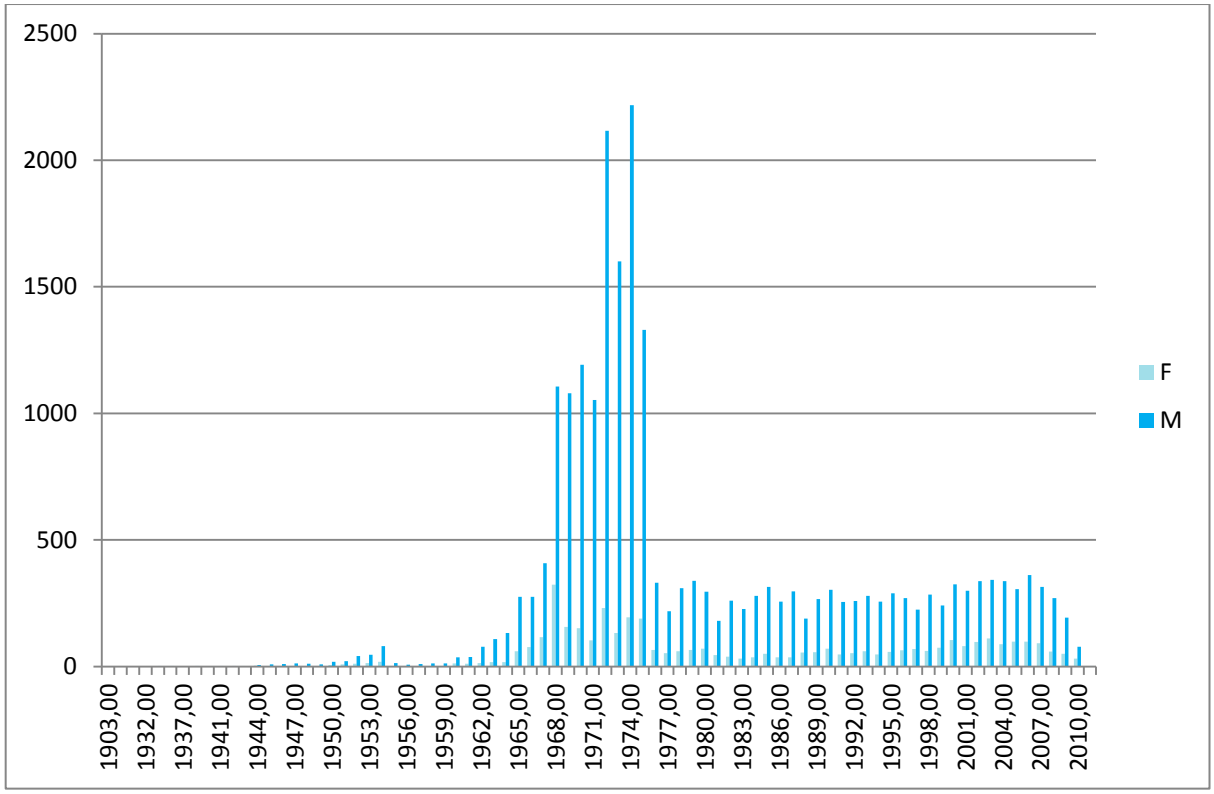


Figure 2. Year of amputation by gender

Figure 2 illustrates the gender difference in year of amputation. As for men, number of women also peaks around and before the end of the war, but the difference between the war years and post war is much less dramatic as compared with men. As from 1975, the proportion of men/women has been relatively stable, with the influx of men being around 3 – 4 times higher than for females.

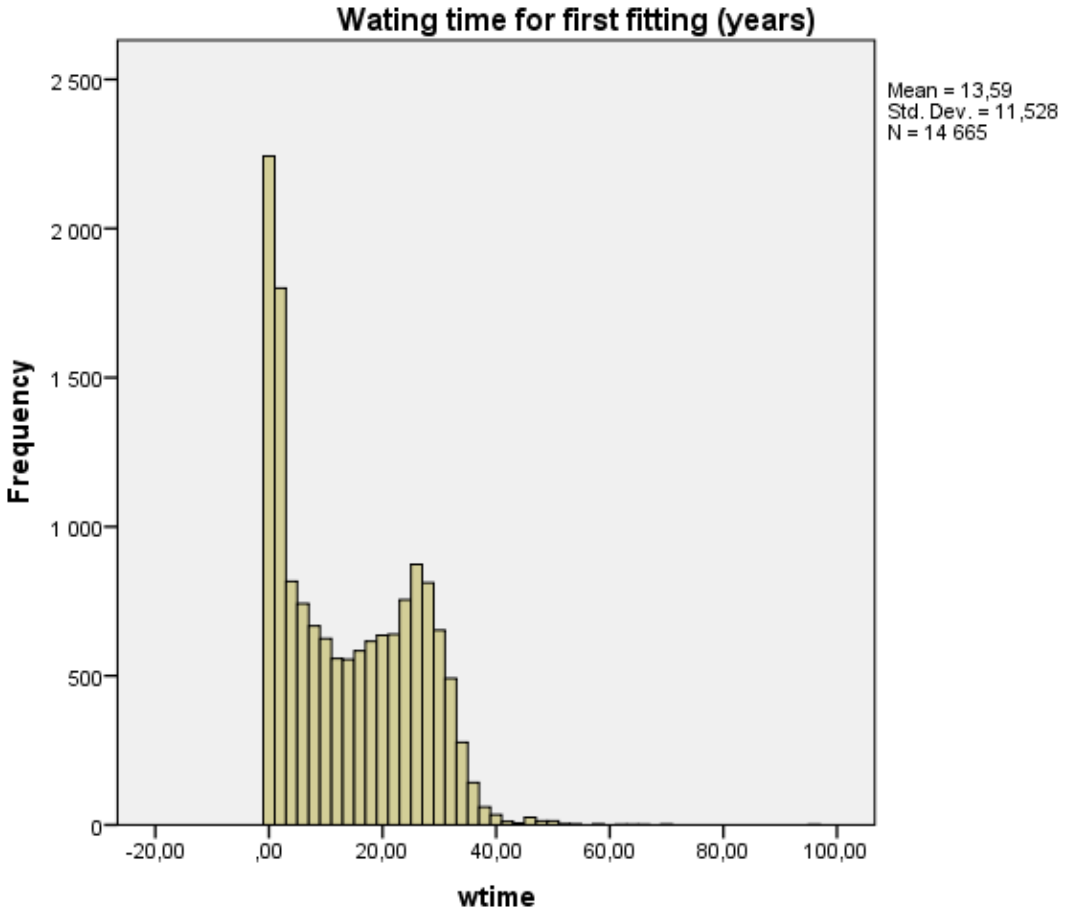


Figure 3. Waiting time for first fitting (years)

Waiting time for first fitting (time between amputation and first fitting) is shown in Figure 3. Mean waiting time was 13.6 years.

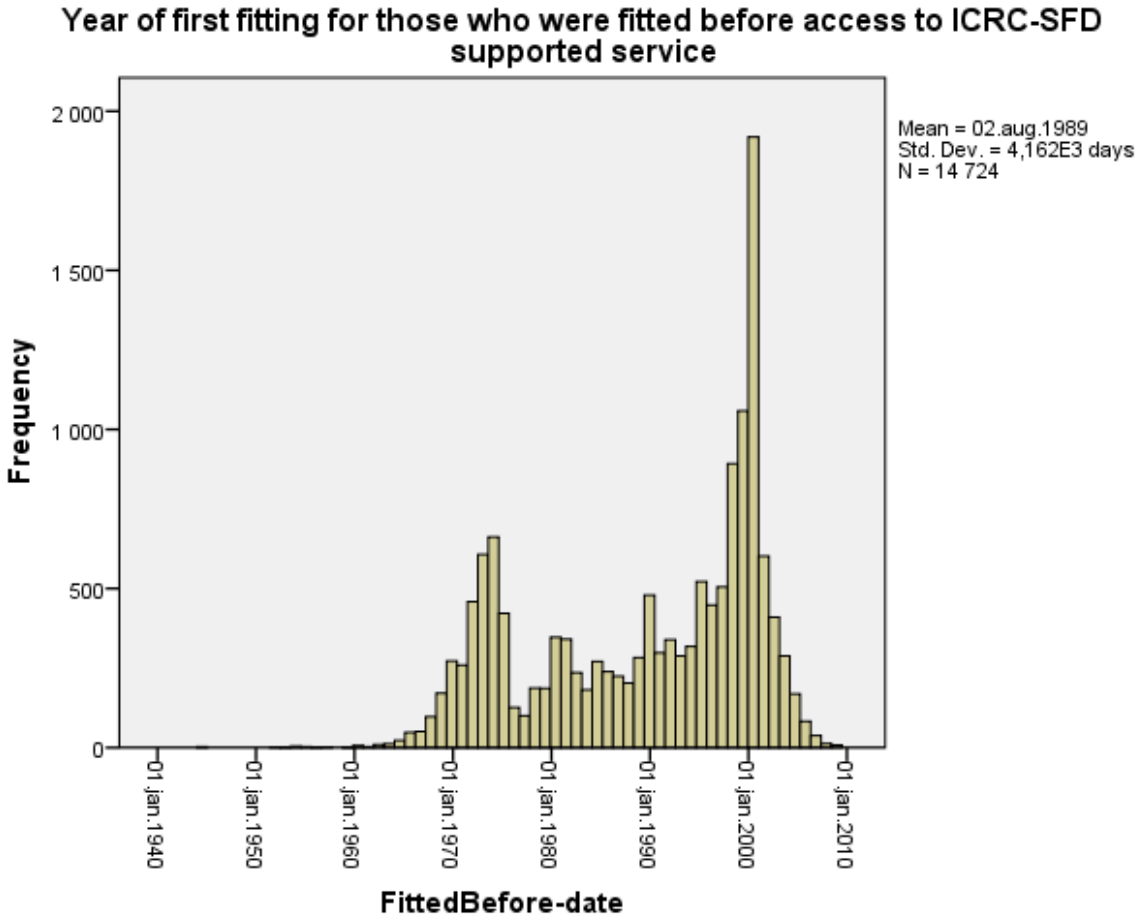


Figure 4. Year of fitting for those who were fitted before accessing ICRC-SFD supported services.

A total of 2843 (18.9 % of those who were fitted before) had been fitted before 1975 (end of war). After 1975 there was a drop in number and then a gradual increase until 2000 when the figure shows a rapid drop. These variations concur with historical milestones: 1972-1973: apogee of the war, 1975-1980: low priority for TP right after the war, 1992-2000: registration of TP being carried out in the 12 provinces of the catchment area of HCMC Centre, 2002-2005: registration of TP being carried out by VNRC chapters in other catchment areas.

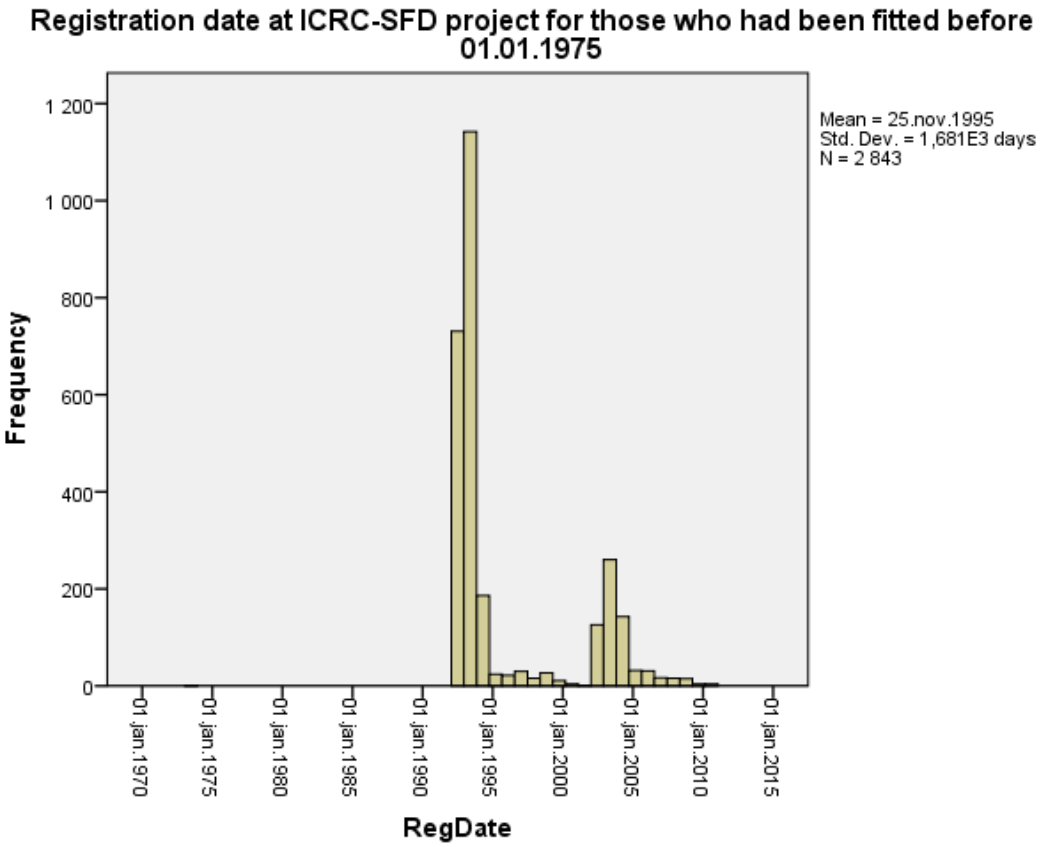


Figure 5. Registration date at ICRC-SFD supported centre for those who were fitted before 1975.

Figure 5 shows that the majority of those who were fitted before 1975 received their services between 1992 and 1995. In the following years, there was a sharp reduction and a small number received services until the period 2002 − 2005 when there was an increase in the number per year, followed by a new sharp reduction in numbers. Again, and as above, these variations concur with historical milestones as explained above.

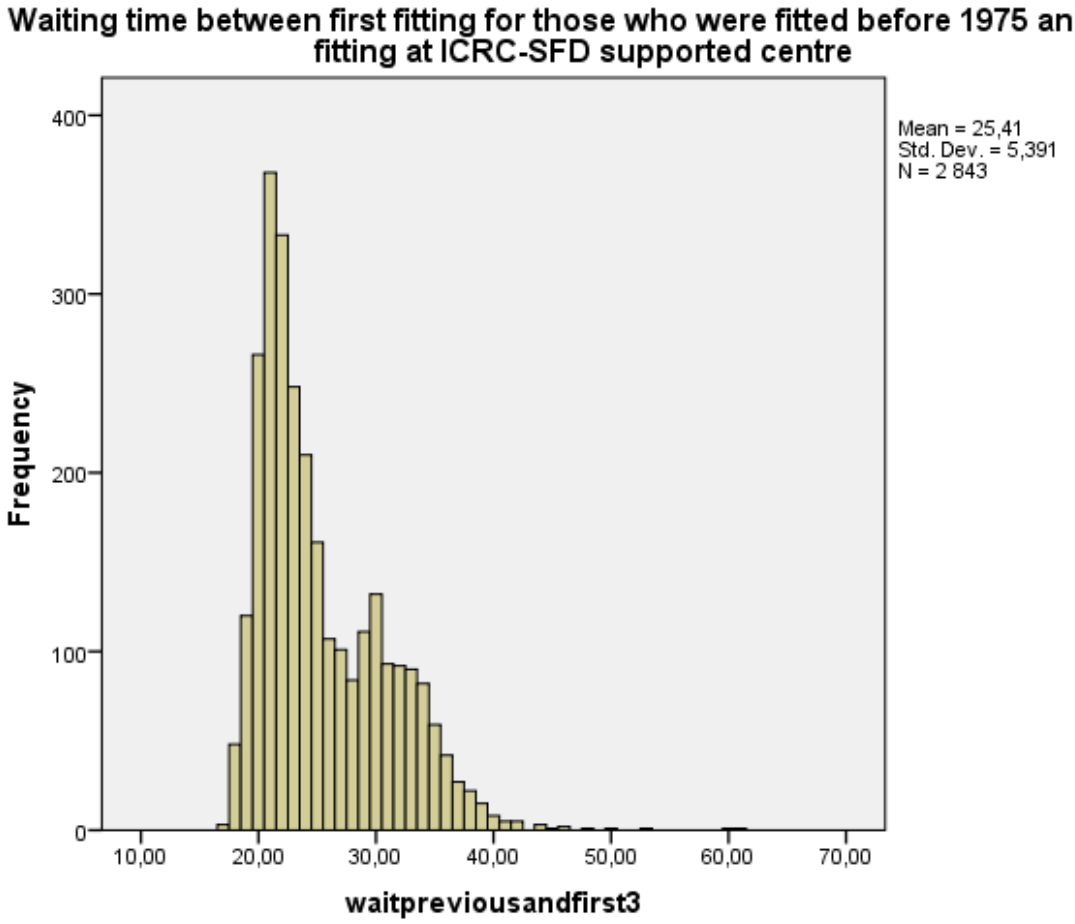


Figure 6. Waiting time between first fitting for those who were fitted before 1975 and first fitting at ICRC-SFD supported centre.

Mean waiting time between first fitting for those who were fitted before 1975 and the first fitting at an ICRC-SFD supported centre was 25.4 years, ranging from 17 to 61 years.

Table 4. Number of prostheses per service receiver at ICRC-SFD supported centres

Number of prostheses	N	%
1	17785	65.5
2	*7229*	*26.6*
>2	2152	7.9

The large majority of the beneficiaries of the centres have received one prosthesis and are registered with one service. Around one in four are registered with two prostheses/ services, while well around one in twelve have 2 or more on each.

1.2 The survey carried out in 2012

The participants in the study; socio-demographic and socio-economic indicators

A total of 660 individuals were interviewed, and the data file for analyses contained 650 individuals after omitting 10 for not fulfilling the sampling criteria. Of these, 525 (80.8 %) were "active cases", i.e. those that have been fitted less than three years ago, and those who were fitted more than three years ago but had been notified for services follow-up less than six months ago (as of 31.06.2011). Inactive cases are those who were fitted more than three years ago and who did not reply to notifications for services follow-up. Thus, 125 (19.2 %) of those who were interviewed had been fitted more than three years ago and had not returned for services follow-up. A

higher proportion of females belonged to the "active cases" category (not significant). The majority (440, 67.8 %) were rural dwellers. No significant age or gender differences were found between the urban and rural sub-samples.

Among the 125 inactive cases, 14 (11.2 % of those who were inactive) stated that the prosthesis was still usable, 42 (33.6 % of inactive) were "waiting for an invitation", 28 (22.4 % of inactive) were unable to contact the project for requesting replacement, and 5 (4.0 % of inactive) "did not like the prosthesis I got". No one stated that they could pay for a new prosthesis themselves, no one stated problems with the Red Cross application, and one person had found another source of funding. A total of 36 did not state any reason. Of those who were unable to contact the project, the two main reasons stated were "did not have any information about telephone or address" (9) and "live far away" (9). Thus, 89 (71.2 % of inactive) indicated reasons relating mostly to their ability to contact services or that they did not need a replacement. Due to the number of non-response, this is an underestimation of the proportion of respondents who needed but who did not contact services for maintenance, fitting or replacement.

Table 5. Distribution of completed interviews by catchment area and gender

Province	N	%	n_{males}	$\%_{males}$	$n_{females}$	$\%_{females}$
Can Tho	127	19.5	107	20.0	20	17.5
Da Nang	111	17.1	82	15.3	29	25.4
HCMC	343	52.8	288	53.7	55	48.2
Qui Nhon	69	10.6	59	11.0	10	8.8
Total	650	100.0	536	100.0	114	100.0

The sample is male dominated as expected, with total number of females being 114 (17.5 %). Gender distribution does not differ significantly between the provinces. The proportion of sampled individuals corresponds largely to the distribution of cases between the provinces in the ICRC data base.

Table 6. Distribution of completed interviews by catchment area and urban/rural

Province	N	%	N_{urbans}	$\%_{urban}$	N_{rural}	$\%_{frural}$
Can Tho	127	19.5	14	6.7	113	25.7
Da Nang	111	17.1	15	7.2	96	21.8
HCMC	342	52.7	172	82.3	170	38.6
Qui Nhon	69	10.6	8	3.8	61	13.9
Total	650	100.0	209	100.0	440	100.0

The sample is largely rural, with only one third living in urban areas. HCMC stands out in this case with an even distribution of urban and rural dwellers. The urban − rural distribution differs significantly between the provinces. Due to the

dysfunctional postal delivery system in rural areas, urban respondents are slightly over-represented in the data material.

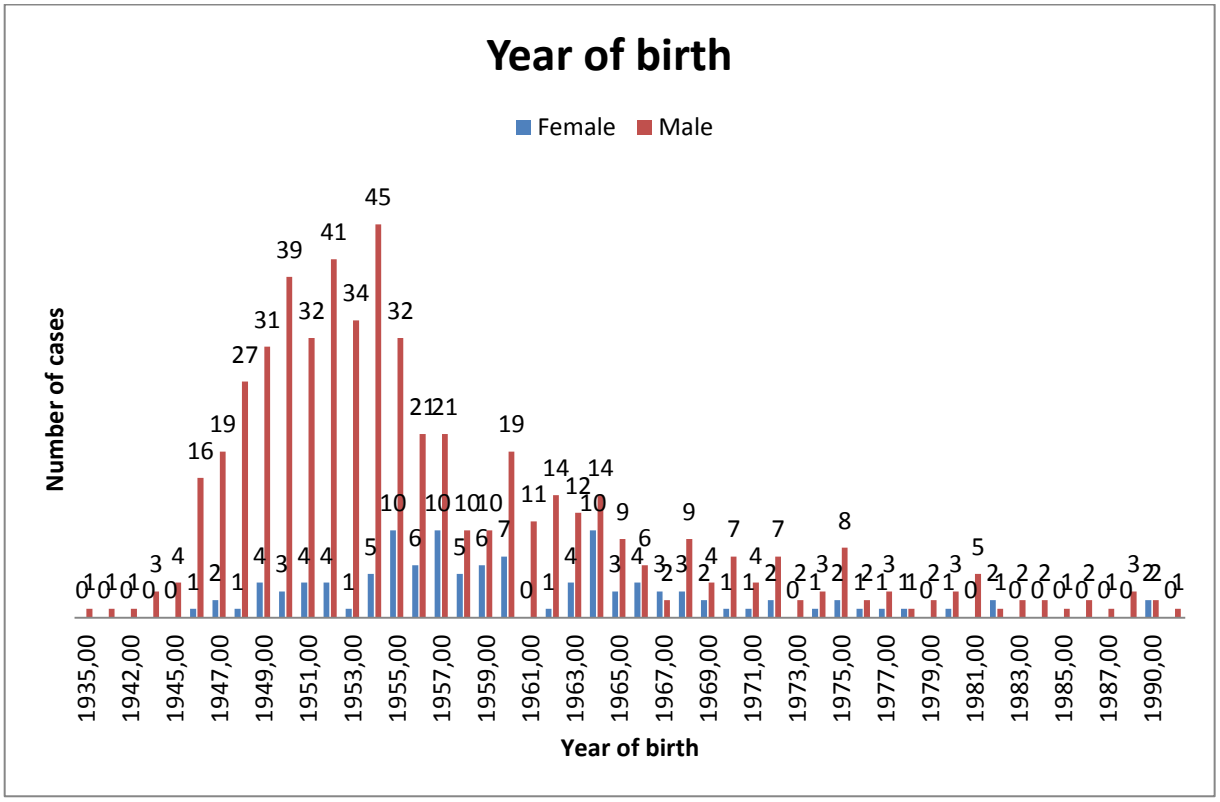


Figure 7 Year of birth of males and females in the study sample.

Figure 7 shows year of birth for men and women in the sample. With regards to age distribution, almost two thirds were above 50 years of age: 2.8 % (18) were less than 40 years, 6.8 % (44) were in the 30 − 39 age range, 17.2 % (112) between 40 − 49, 45.7 % (297) between 50 − 59, and 27.5 % (179) above 60 years. The proportion of males as compared to females in the oldest age group (60 +) was 30.6 % and 13.2 %, and in the age bracket 40 − 49 years 14.9 % and 28.1 %. Females thus tended to be younger than their male counterparts (50.4 and 54.0 years $\chi^2 = 21.85$, $p < .001$). Although a higher proportion of rural respondents were more

than 60 years of age (30.7 % vs. 23.7 %), the urban/rural age difference was not statistically significant. The mean age in the sample is 3 – 4 years lower than for all beneficiaries (ICRC-SFD registry), which is explained by the inclusion/exclusion criteria.

Amputation

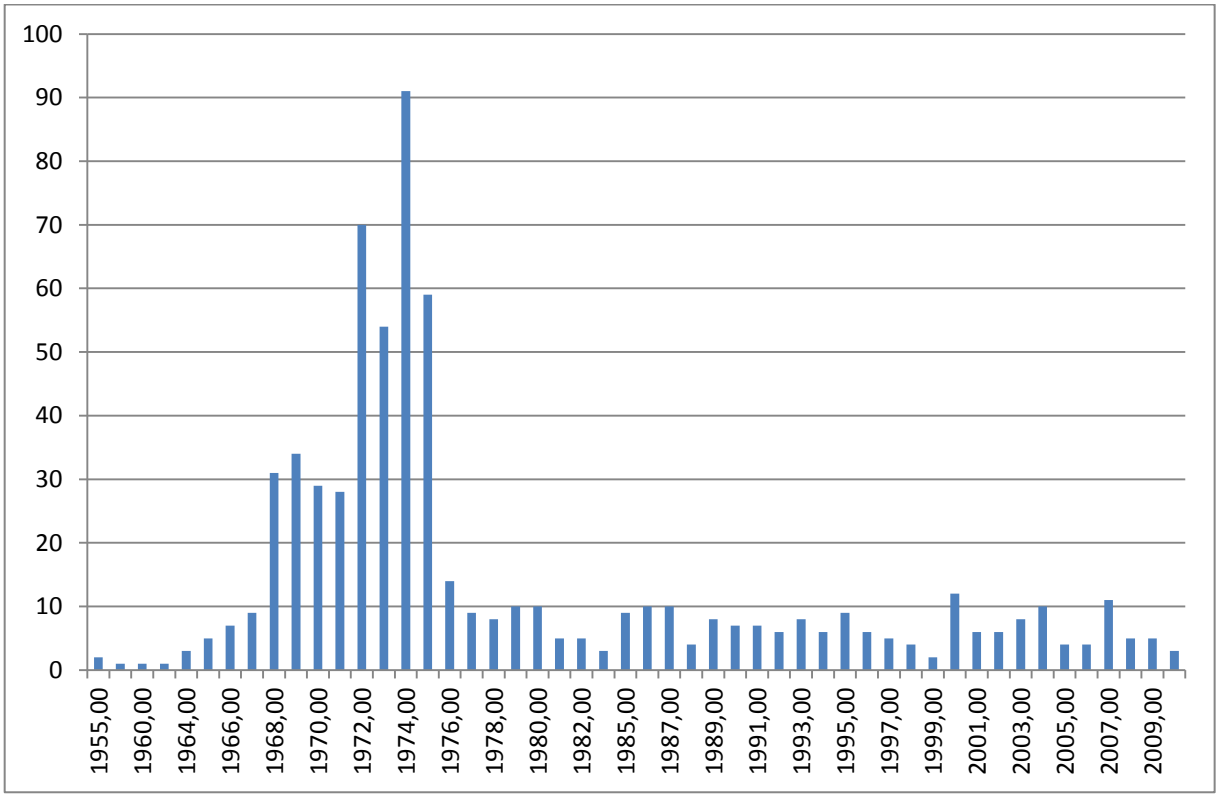


Figure 8 Year of amputation

Most of the individuals in the sample had their amputations during the years 1968 – 1976, which corresponds to the final years of the war. This is also in line with Figures 1 and 2 above, which show the corresponding distribution for all beneficiaries of the ICRC –SFD supported centres. Following this "peak period", the year of amputation spreads out evenly

over the years, i.e. a steady and fairly stable influx to the prosthetic clinics, but at a much lower pace than the previous period (1968 - 1976).

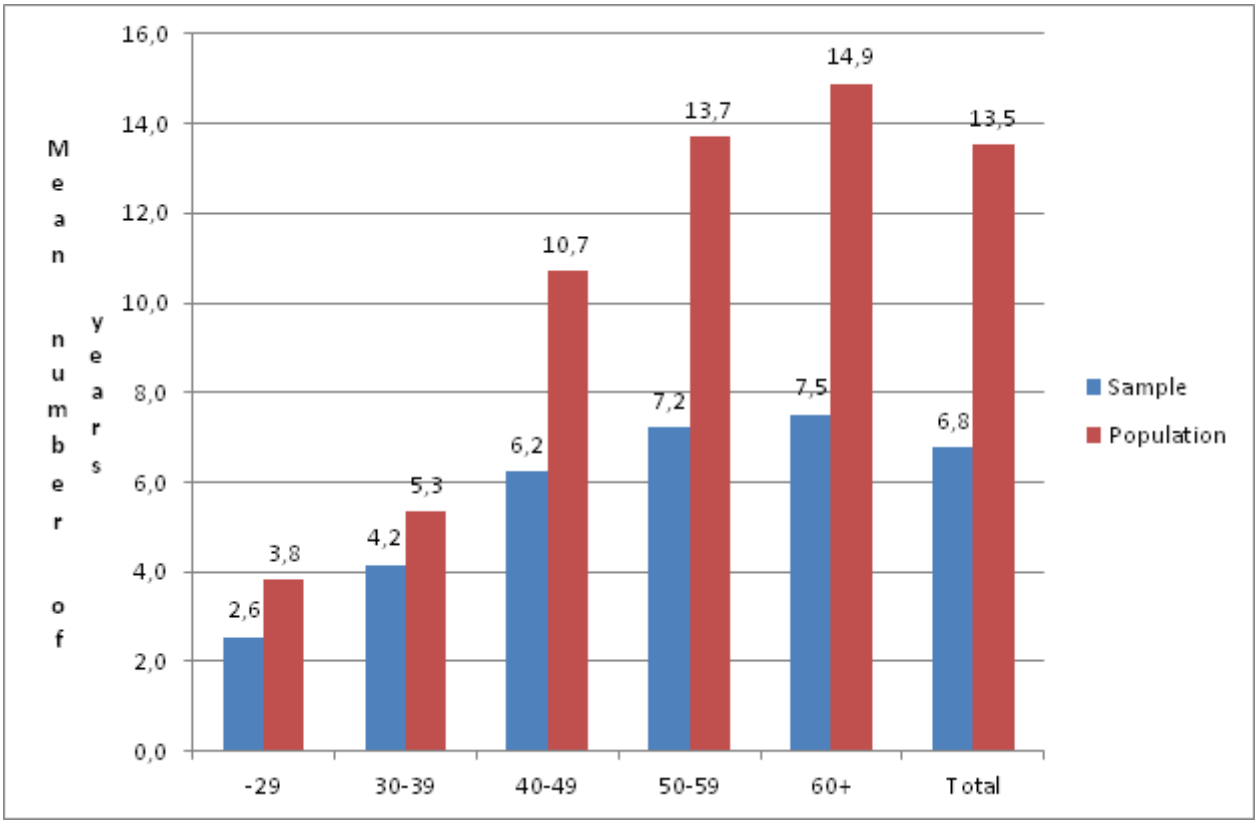


Figure 9 Mean number of years between amputation and first prosthesis (survey and registry)

Figure 9 shows that mean number of years between amputation and first prosthesis varies substantially between age groups in that waiting time is short for younger respondents. This may indicate that the efficiency of the services, including possible factors as quicker identification, more available information, and capacity, have increased over the years. It is interesting to note that the pattern in the registry differs from the survey data with respect to i) mean

number of years between amputation and first prosthesis is higher, ii) the difference between the two data sets increases with increasing age of the beneficiaries. This may be due to bias in the sample (selection of four provinces vs. all provinces) and/or the inclusion/ exclusion criteria in the survey. Time (mean number of years) between amputation and first prosthesis is lower in the sample than in the registry, but mostly so for those above 40 years of age, which may indicate both qualitative and quantitative changes in services over the years.

Table 7 Cause of limb amputation

Cause	Total		Male		Female	
War related	457	70.3	387	72.2	70	61.4
Accident	161	24.8	128	23.9	33	28.9
Disease	29	4.5	19	3.5	10	8.8
Congenital	3	.5	2	.4	1	.9
Total	650	100.0	536	100.0	114	100.0

Table 7 shows that a higher proportion of men state the cause of their amputation to be war related while women score somewhat higher on the other three causal categories (χ^2 = 8.81, p = .03). Individuals stating war related causes had a mean age of 56.9 years, well above the other reasons: congenital (48.7 years), disease (46.3 years), and accident (45.2 years) (F = 98.90, df = 3, p < .001). The high mean

age among those who stated war related cause is logical as the war ended over 35 years ago, and the age differences further indicate the gradual influx of new types of beneficiaries over the years.

Level of education

Table 8 Education level by gender

Education level	N_{male}	$\%_{male}$	N_{female}	$\%_{Female}$	χ^2	p
Never been to school	17	3.2	16	14.0	38.44	< .001
Within primary level, Grade 1 – 5	201	37.5	55	48.2		
Within lower sec, Grade 6 -9	183	34.1	29	25.4		
Within upper sec, Grade 10 – 12	117	21.8	8	7.0		
Within higher/ University level	18	3.4	6	5.3		
Total	536	100.0	114	100.0		

Table 8 shows than men tend to have higher level of education than females. Further analyses also found as expected that the urban sample have significantly higher level of education than respondents living in rural areas. Level of education is generally low, with well over half the sample having finished primary education only or had no education at all. There are further significant differences in level of education with regards to cause of amputation, where those who had their amputation due to congenital cause had the lowest education, followed by war related, disease and accident.

Table 9 Current activity by gender

Activity	N_{male}	$\%_{male}$	N_{female}	$\%_{Female}$	N_{urban}	$\%_{urban}$	N_{rural}	N_{rural}	Mean age
Farmer	153	28.5	22	19.3	46	22.0	129	29.3	54.7
Fisherman	7	1.3	1	.9	2	1.0	6	1.4	49.8
Household	12	2.2	23	20.2	8	3.8	27	6.1	50.0
No job	147	27.4	23	20.2	59	28.2	110	25.0	56.6
Unskilled worker	27	5.0	3	2.6	5	2.4	25	5.7	49.3
Office worker	7	1.3	1	.9	2	1.0	6	1.4	50.4
Skilled worker	26	4.9	7	6.1	15	7.2	18	4.1	47.1
Retired	10	1.9	0	.0	7	3.3	3	.7	1.8
Self-employed	112	20.9	30	26.3	48	23.0	94	21.4	51.8
Student	1	.2	0	.0	0	.0	1	.2	22.0
Other	34	6.3	4	3.5	17	8.1	21	4.8	51.5

Self-employment, farming, and unemployment are the three main categories of "activities" reported by the respondents. The main gender differences are found in that fewer women are farmers, more women have household work as their main activity, unemployment is lower for women, and more women than men are self-employed. The main urban/rural differences are that farming obviously is more common in rural areas, whereas skilled worker is more common in urban and unskilled worker more common in rural areas, and unemployment is higher in urban areas. All these differences are as could be expected, based on assumed gender and urban/rural

differences in this context. The overall picture is however that the urban/rural differences on type of activity are not very large and within the range of random fluctuations in the data. Analyzing type of activity by age revealed primarily that, with the exception of students, the mean age differences were small ($F = 9.87$, $df = 10$, $p < .001$). Those who were retired, had no jobs, or stated that they were farmers, had the highest mean age, while students were understandably lowest, with qualified workers coming out with the second lower mean age.

Table 10 Are you working for your own living

	N	%	Mean age
I am not working. I am at others' charge	196	30.2	55.2
I am not working but receive an allowance and contribute to the household's living	22	3.4	57.1
I am working and contribute to the household's living	160	24.6	52.7
I work for my own living	81	12.5	54.7
I am working and provide for all or most household's cost	191	29.4	51.3

Somewhat less than one third of the sample describe their situation as "being at others' charge", i.e. dependent on others for the daily living and housing. Approximately the same proportion of the respondents (somewhat less than one third) describes themselves as the main contributing person in the household. Four out of ten contribute to a certain extent or they are at least able to care for their own living. There are

small and insignificant urban/rural and gender differences on this indicator. Mean age varies somewhat between the answer categories, with the oldest being those who were not working but receive an allowance and contribute to the household's living (57.1 years) and the youngest being those who work and provide for all or most of the household's cost (51.3 years) ($F = 9.44$, $df = 3$, $p < .001$).

Household description

A total of 409 (62.9 %) of the households of the interviewed individuals had no members under the age of 14, 201 (30.9 %) had one or two, and 40 (6.2 %) had three or more children under 14. A higher proportion of urban households and households where the interviewed person was a man, had children under 14 years, but either the urban/rural or the gender difference were sufficiently pronounced to reach statistical significance.

Table 11 Housing standard by urban/rural

Type of house	N_{Urban}	$\%_{Urban}$	N_{Rural}	$\%_{Rural}$	χ^2	p
					8.06	.045
Makeshift, thatched or alike	31	14.8	94	21,4		
Semi-permanent house (simple wooden house, one-storey brick-built but not concrete)	162	77.5	328	74.5		
Strong house with a shared kitchen or shared bathroom (concrete, 1 or 2 storeys)	15	7.2	18	4.1		
Villa or strong-house with a private kitchen and private bathroom/toilet		0.5	0	0.0		

The large majority of respondents live in semi-permanent houses, which reflects the most common housing type in Vietnam. There is an expected urban/rural difference in that a larger proportion live in makeshift houses in the rural areas, while the higher housing standards are somewhat more common in urban areas. With regards to ownership, the large majority lives in their own house (93.7 %). There are small urban/rural differences.

Possessions

A possession scale was included in the questionnaire to represent socio-economic status. A total of 16 household items were listed and respondents were asked to report whether they owned each of the item.

Table 12 Household items by urban/rural

Items	N_{Total}	$\%_{Total}$	N_{Urban}	$\%_{Urban}$	N_{Rural}	$\%_{Rural}$	p
Electricity	633	97.5	208	99.5	425	96.6	.02
Fan	573	88.3	194	92.8	379	86.1	< .01
Table and chairs	562	86.6	183	87.6	379	86.1	n.s
Television set	563	86.7	188	90.0	375	85.2	.06
Bed(s)	516	79.5	159	76.1	357	81.1	.08
Mobile phone	495	76.3	163	78.0	332	75.5	n.s.
Motorcycle	401	61.8	150	71.8	251	57.0	< .001
Gas stove	290	44.7	123	58.9	167	38.0	< .001
DVD player	250	38.5	104	49.8	146	33.2	< .001
Refrigerator	170	26.2	79	37.8	91	20.7	< .001
Music player	157	24.2	63	30.1	94	21.4	.01
Washing machine	77	11.9	39	18.7	38	8.6	< .001
Personal computer	60	9.2	31	14.8	29	6.6	< .01
ATM bank card	40	6.2	12	5.7	28	6.4	n.s.
Air conditioner	25	3.9	12	5.7	13	3.0	.07
Photo/video camera	23	3.5	13	6.2	10	2.3	<.01
Private car	3	0.5	2	1.0	1	0.2	n.s.

The four most common household items are electricity, fan, table and chairs, and TV set. The four least common items are private car, photo/video camera, air conditioner, and ATM bank card. The urban respondents tend to own more of the different items, some of the differences are not significant, and with regards to one item, more rural respondents report that they have beds. In order to contextualize the possession scale, it is worth noting that mobile phones are extremely cheap and

the only means of communication for most people in Vietnam; motorbikes are for most rural population an essential working tool for daily activities (e.g. transporting goods to market). Owning items such as private cars, photo cameras and PCs is rare in this population, and this is reflected in Table 12.

Scalability (Alpha) of the 16 items was .77, and PCA gave support to a one factor solution. A possession scale was thus produced by adding the items together (Yes = 1, No = 0), yielding the following properties: range 1 − 17, mean 7.46, and standard deviation 2.75. Mean value for the urban respondents was 8.24, and 7.08 among rural respondents, reflecting the socio-economic differences between different locations ($F = 26.62$, $df = 1$, $p < .001$). This socio-economic indicator also differed between groups based on cause of amputation. The group stating disease as reason for the amputation had the highest score on the scale (8.07), followed by accident (7.92), war (7.27), and congenital (6.0) ($F = 3.11$, $df = 3$, $p = .03$).

Individual questions

Access to prosthetic services

ICRC-SFD had paid for the 1st prosthesis in 38.0 % (252) of the cases, 31.2 % (207) stated that the Governmental institution paid, 15.8 % (105) paid themselves or where helped by their family, while 5.1 % (34) were assisted by other humanitarian organization. Close to 10 % did not know who had paid. More males reported ICRC − SFD and

Governmental institution as source of funding, while more women responded themselves or family, or acquaintance/other amputee. It is important to bear in mind here that a large majority of the rural beneficiaries of ICRC-SFD services associate this to Governmental institutions, and that in reality ICRC-SFD also paid for the prostheses perceived as being paid by the Governmental institution. When asked whether they were aware that the Red Cross has paid for one or more of their prostheses, 85 % said "yes", indicating that the response differ when comparing "first prosthesis" with "prosthesis" in more general terms, i.e. including also replacements, and implying a higher level of awareness than the first question ("first prosthesis") may indicate.

Information and registration

Table 13 How did you learn about the availability of prosthetic services? (main source of information) (by urban/rural)

Source of information	N_{Urban}	$\%_{Urban}$	N_{Rural}	$\%_{Rural}$	χ^2	p
					6.50	n.s.
Found it myself	15	7.2	22	5.0		
Informed by Red Cross staff	22	10.5	47	10.7		
Informed by other amputee or aquaintance	69	33.0	124	28.2		
Informed by the local authorities	52	24.9	150	34.1		
Referred by the hospital to an orthopaedic centre after the amputation	51	24.4	97	22.0		

The differences in source of information about prosthetic services shown in Table 12 are not sufficiently large to reach

statistical significance. The two main sources of information were reported to be local authorities and other amputee or acquaintances. Referrals were also quite common, and fewer respondents found the information themselves. As explained above, the perception of local authorities as source of service and/or information hides the fact that these services in reality were provided by ICRC-SFD.

Table 14 How did you learn about the availability of prosthetic services? (main source of information). By gender.

Source of information	N_{Male}	$\%_{Male}$	N_{Female}	$\%_{Female}$	χ^2	p
					14.92	< .01
Found it myself	35	6.5	2	1.8		
Informed by Red Cross staff	57	10.6	12	10.5		
Informed by other amputee or aquaintance	150	28.0	44	38.6		
Informed by the local authorities	179	33.4	23	20.2		
Referred by the hospital to an orthopaedic centre after the amputation	115	21.5	33	28.9		

Gender differences in source of information about prosthetic services were also found. The highest ranked information source among men was local authorities, while for women this was other amputees or acquaintance. A higher proportion of women were referred by the hospital, and a higher proportion of men found the services themselves.

A further question was asked specifically about the Red Cross support for prostheses.

Table 15 How did you learn about the Red Cross support for prostheses? By urban/rural

Source of information	N_{Urban}	$\%_{Urban}$	N_{Rural}	$\%_{Rural}$	χ^2	p
					.78	n.s.
I did not know about it	26	12.4	59	13.4		
Found it myself	13	6.2	18	4.1		
Informed by a Red Cross volunteer	36	17.2	76	17.3		
Informed by other amputee or aquaintance	48	23.0	89	20.2		
Informed by the local authorities	71	34.0	162	36.8		
Informed by the prosthetic workshop	15	7.2	36	8.2		

Table 16 How did you learn about the Red Cross support for prostheses? By gender.

Source of information	N_{Male}	$\%_{Male}$	N_{Female}	$\%_{Female}$	χ^2	P
					18.76	< .01
I did not know about it	64	11.9	21	18.4		
Found it myself	29	5.4	2	1.8		
Informed by a Red Cross volunteer	95	17.7	18	15.8		
Informed by other amputee or aquaintance	108	20.1	29	25.4		
Informed by the local authorities	205	38.2	28	24.6		
Informed by the prosthetic workshop	35	6.5	16	14.0		

Marginal differences were found between urban and rural beneficiaries with regards to how they got to know about the

Red Cross support. Also here many state that local authorities is the source of their knowledge, while ICRC-SFD information implies that ICRC-SFD was responsible. Informal source of knowledge seems to be common. More men than women stated that they were informed by the local authorities, while more women than men were informally informed or did not have any information.

Acquisition of registration forms

Most respondents (253, 38.9 %) stated that they got the registration form from the local authorities (e.g. the MoLISA), or from the Red Cross offices (VNRC or ICRC-SFD) (235, 36.2 %). As previously discussed, the reality was that also with regards to the registration form, ICRC-SFD had designed the registration form while it was distributed through Department of Labour, Invalids and Social Affairs, at provincial level (DoLISA) for identification of amputees, and this exercise was also funded by ICRC-SFD without the knowledge of the beneficiaries. Fewer (109, 16.8 %) got the form from the rehabilitation centre (e.g. prosthetic workshop), and least from another amputee or acquaintance (53, 8.2 %). A higher proportion of respondents in rural areas got the form from the local authorities (45.4 % vs. 26.0 %), and more urban respondents got the form from the Red Cross office (52.1 % vs. 27.4 %). Somewhat more women than men got the information from the rehabilitation centre. The Red Cross office was more common as a source in urban areas, while the other three sources were somewhat more common in rural areas.

The registration form was easily made available for all respondents, and it was easily certified for all but very few (2, 0.3 %). The large majority (609, 93.7 %) confirmed that they were invited to a rehabilitation centre for making of a prosthesis within 6 months from registration.

Table 17 What was the reason for you to apply for free prosthetic services? By urban/rural.

Reason	N_{Urban}	$\%_{Urban}$	N_{Rural}	$\%_{Rural}$	χ^2	p
					2.27	n.s.
It was the easiest way to get a prosthesis	43	20.6	94	21.4		
The prosthesis was too expensive for me	144	68.9	282	64.1		
I did not know how to get a prosthesis	22	10.5	64	14.5		

The majority stated that they applied for free services because the prosthesis was too expensive for them. One in five stated that applying for free services was the easiest way to get a prosthesis, which may indicate that services were not easily available to them without going through this application system. No urban/rural or gender differences were found on this question.

Table 18 Without support from Red Cross, what would you do with regards to prosthesis? By urban/rural.

Reason	N_{Urban}	$\%_{Urban}$	N_{Rura}	$\%_{Rural}$	χ^2	p
					8.09	n.s.
Looked for other sources of support such as other humanitarian organizations	29	13.9	62	14.1		
Made a prosthesis myself	17	8.1	48	10.9		
Paid for a prosthesis myself	27	12.9	33	7.5		
Requested support among family and friends for paying the prosthesis	44	21.1	75	17.0		
Stayed without prosthesis	23	11.0	58	13.2		
Used crutches (self paid/self made included)	69	33.0	164	37.3		

The most prevalent alternative to support from Red Cross is to use crutches. Combining this with the answer alternatives "stayed without prosthesis" and "made a prosthesis myself", yields around 50 % that would either be without or used an alternative that would result in reduced mobility (crutches or self-made prosthesis) and possibly pain and other physical problems (self-made prosthesis). Around one third would try to find alternative funding, evidently with no guarantee for achieving this. Only around 10 % say that they would be able to pay themselves. Urban/rural differences are small and insignificant.

Table 19 Without support from Red Cross, what would you do with regards to prosthesis? By gender

Reason	N_{Male}	$\%_{Male}$	N_{Female}	$\%_{Female}$	χ^2	p
					17.98	< .01
Looked for other sources of support such as other humanitarian organizations	73	13.6	18	15.8		
Made a prosthesis myself	63	11.8	2	1.8		
Paid for a prosthesis myself	53	9.9	7	6.1		
Requested support among family and friends for paying the prosthesis	102	19.0	18	15.8		
Stayed without prosthesis	59	11.0	22	19.3		
Used crutches (self-paid/self-made included)	186	34.7	47	41.2		

The most prevalent alternative to support from Red Cross is crutches for both men and women. Combining this with self-made prosthesis and the option to stay without yields close to two thirds among women and somewhat lower for men, but still well over half of the respondents. More men than women may have other sources in paying themselves or requesting help from family, while fewer women would make the prosthesis themselves.

Importance of the prosthesis

Table 20 How many prostheses do you have?

Number	N	%
None	16	2.5
Only one	520	80.0
Two	109	16.8
Three	3	0.5
Four or more	2	0.3

The large majority has one prosthesis, and one in six report two devices. No substantial differences were found with regards to urban/rural, gender or age.

Among the respondents, 630 (96.9 %) currently use a prosthesis. Of these, 577 (88.8 %) stated that the prosthesis was paid by the Red Cross.

Table 21 shows how the mobility with and without prosthesis was rated.

Table 21 Mobility with and without prosthesis

Assessment	N_{with}	$\%_{with}$	$N_{without}$	$\%_{without}$
No ambulation capacity at all	1	0.2	67	10.3
Household ambulation capacity	4	0.6	399	61.4
Limited ambulation capacity within community	68	10.5	166	25.5
Active ambulation capacity within community	248	38.2	15	2.3
Very High ambulation capacity	329	50.6	3	0.5

Table 21 shows a very pronounced difference in ambulation capacity when comparing individuals with and without prosthesis. This is also illustrated in Figure 10 below. Among those with a prosthesis, as many as 88.8 % state either active or very high capacity, while 71.7 % of those without prosthesis assess their own mobility capacity as restricted to household mobility or no ambulation capacity at all. No urban/rural differences were found, while men tended to rate their ambulation capacity higher than women regardless of having a prosthesis or not.

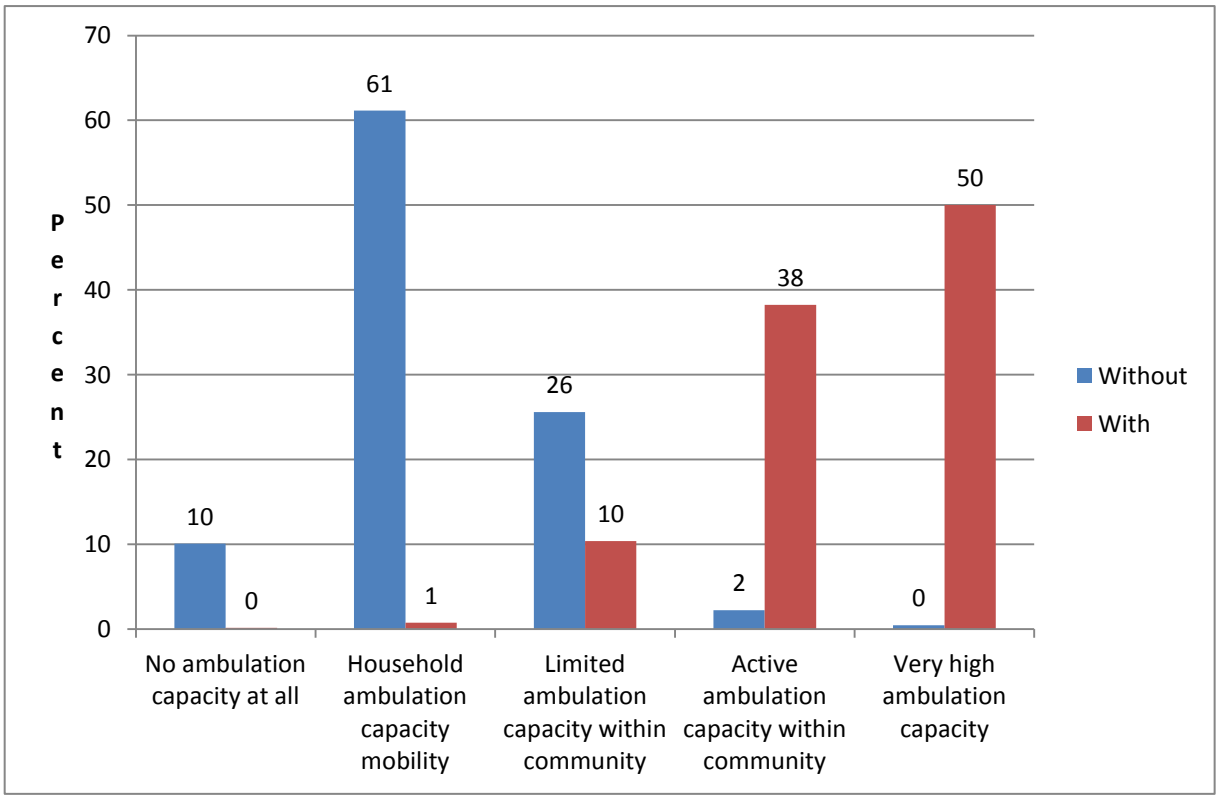


Figure 10 Ambulation capacity with and without prosthesis

A majority (359, 55.2 %) stated that they would not be able to perform their daily household work and/or professional work

without the prosthesis. Around one third (228, 35.1 %) answered "more or less" to this question, while 63 (9.7 %) were able to perform their daily work without.

Table 22 Income changes after getting the prosthesis

Income change	N	%
The income reduced	8	1.4
There were no changes in income	114	20.1
Slight improvements	370	65.1
Substantial improvements	76	13.4
Total	568	100.0

In Table 22, homemakers are not included. For well above two thirds of the remaining sample there were positive income changes after the prosthesis was acquired. Most responded "slight improvement". Very few had reduced income, while close to one in five had noted no change in income. Although more men than women stated positive income change, the gender difference was not sufficient to reach statistical significance. There were further no urban/rural differences on this question.

Importance of the prosthesis was measured by means of three questions.

Table 23 Importance of the prosthesis

Importance for…	Not important at al		More or less Important		Important		Very important	
	N	%	N	%	N	%	N	%
..earning a living	17	3.0	14	2.5	72	12.7	465	81.9
..daily activities in the community	6	0.9	22	3.4	104	16.0	518	79.7
.. attending different gatherings like weddings and funerals	8	1.2	24	3.7	99	15.2	519	79.8

The large majority states that their prosthesis is very important for earning a living, for performance of daily activities in the community, and for attending different social gatherings. Well over 10 % assessed the prosthesis as "important", while relatively few scored lower on these questions.

The questions on daily activities and social gatherings were added together to form a scale on "importance of prosthesis" (mean value 7.48, range 2 − 8, st. dev. 1.08). Males scored higher on this scale than females (7.52 vs. 7,31), which is a near significant difference ($F = 3.65$, $df = 1$, $p = .57$). No urban/rural difference was found.

Table 24 Do you feel uncomfortable being seen as disabled?

I feel..	N_{Total}	%	N_{Male}	$\%_{Male}$	N_{Female}	$\%_{Female}$	χ^2	p
							16.35	< .01
..not at all uncomfortable	134	20.6	124	23.1	10	8.8		
..more or less uncomfortable	120	18.5	103	19.2	17	14.9		
..uncomfortable	182	28.0	145	27.1	37	32.5		
..very uncomfortable	214	32.9	164	30.6	50	43.9		

As many as six out of ten feel uncomfortable (combining "uncomfortable" and "very uncomfortable") with being seen as disabled. According to Table 24 men and women differ substantially with regards to how they feel about being disabled. More women than men feel uncomfortable with the situation. Females clearly have a more negative experience of being disabled than men.

Table 25 Do you feel uncomfortable being seen as disabled?

I feel....	N_{Total}	%	N_{Urban}	$\%_{Urban}$	N_{Rural}	$\%_{Rural}$	χ^2	p
							7.50	.06
..not at all uncomfortable	133	20.5	34	16.3	99	22.5		
..more or less uncomfortable	120	18.5	35	16.7	85	19.3		
..uncomfortable	182	28.0	57	27.3	125	28.4		
..very uncomfortable	214	33.0	83	39.7	131	29.8		

The difference between urban and rural beneficiaries is not pronounced (not significant), but there is a tendency for urban dwellers to have a more negative experience of being disabled than their rural counterparts.

A further question was asked whether the prosthesis helped them feel better (feel less uncomfortable, referring to question in Table 24). A total of 583 (89.7 %) answered "yes", 37 (5.7 %) answered "more or less", while 30 (4.6 %) answered "no" to this question. No gender or urban/rural differences were found. This result implies a strong positive effect on feelings about being disabled and even stronger for women than men.

Need for future services

Table 26 Would your prosthesis break, get lost or hurt you suddenly (can't use it anymore!), what would be your main concerns?

Concerns	No concern		Some concern		Much concern	
	N	%	N	%	N	%
Price of the prosthesis	22	3.4	71	11.0	553	85.6
Lack of support for the prosthesis costs	28	4.2	74	11.2	558	84.5
Not entitled to a prostheticreplacement paid by Red Cross	35	5.4	81	12.5	530	82.0
Lack of saving for covering costs not covered by the Red Cross	48	7.4	139	21.5	459	71.1
Distance to travel for reaching thenearest rehabilitation centre	108	16.4	144	21.8	408	61.8
Costs for food and accommodationduring the travel	133	20.6	213	33.0	300	46.4
Costs for travelling to rehab centre	140	21.7	235	36.4	271	42.0
Too much time to spend at the rehabilitation centre	245	37.9	221	34.2	180	27.9

Concerns	No concern		Some concern		Much concern	
	N	%	N	%	N	%
Loss of income for interrupting my activities	275	42.6	187	28.9	184	28.5
Quality of the new prosthesis	396	61.3	126	19.5	124	19.2
The nature of my work does not allow me much time free for attending a rehabilitation centre	394	61.0	166	25.7	86	13.3
Too busy farming/fishing to attend a rehabilitation centre	431	66.7	148	22.9	67	10.4
The welcome at the rehabilitation centre	556	86.1	66	10.2	24	3.7
To get my Red Cross application form certified	589	91.2	23	3.6	34	5.3

Table 26 show how different possible barriers for obtaining a new prosthesis were assessed. There is substantial variation in weight put on the different types of concerns shown in the table. The four most serious concerns for the respondents all relate to the cost of the prosthesis, while the five least serious concerns is a mix of quality issues, time restrictions due to work, and finally formalities related to certification of the application. Scale analyses was carried out on all items, yielding Alpha = 0.79, which indicates strong support to constructing a "concern scale" of all items. Principal Component Analyses was subsequently carried out to explore the structure of the scale, yielding four different components, explaining a total of 65.6 % of the variance (KMO = 0.80).

Table 27 Structure of components among barrier items (concerns)

Costs too high	Time restrictions	Travel to centre	Quality
Price	Too time demanding	Costs for travel	Quality of prosthesis
Lack of support for costs	Loss of income	Food during travel	Welcome at centre
Not entitled to cover costs	Nature of work	Distance	Certification
Lack of savings	Too busy		

Four scales were constructed, based on the above components; Costs too high (range 3 − 12, mean 11.05, st.dev. 1.78), Time restrictions (range 3 − 12, mean 5.29, st.dev. 1.96), Travel to centre (range 3 − 9, mean 6.93, st. dev. 1.93), Quality (range 3 − 9, mean 3.90, st. dev. 1.21). Increased values on the scales imply stronger concerns, or higher self-assessed barriers. Considering the mean values, and bearing in mind the number of items in each component, implies that costs related to the new prosthesis is the main concern, followed by problems with travelling related to costs and distance, time restrictions due to work/activities, and quality issues.

Table 28 Barriers for obtaining a new prosthesis by urban/rural and gender

Barrier	$Mean_{Urban}$	$Mean_{Rural}$	F	p	Mean Males	Mean Females	F	p
Costs	10.62	11.22	15.90	< .001	10.96	11.30	3.33	.07
Time	6.67	6.74	0.13	n.s.	6.70	6.79	0.10	n.s.
Travel	6.30	7.21	32.42	< .001	6.79	7.53	13.78	< .001
Quality	3.75	3.97	5.03	.03	3.83	4.21	9.46	< .01

The most pronounced urban/rural difference in self-assessed barrier to obtaining a new prosthesis concerns travelling to the centre, i.e. related to distance and costs. Also costs related to the prosthesis itself is a bigger problem for the rural population, and there is a smaller, but still significant, difference with regards to quality in that rural dwellers regard this as a bigger problem than their urban counterparts. While these three barriers all indicate higher barriers for the rural population, there is no significant difference between the two groups with regards to restrictions in time. With regards to gender, the results indicate that females have somewhat more economically restricted, they are more restricted with regards to travelling and men have more concerns regarding quality of services than women. Some variation was also revealed with regards to age, in that older individuals reported less concern for the costs, whereas younger individuals were more worried about time restrictions.

When asked how much of the income it would take to be able to afford a replacement of the current prosthesis, 345 (53.1 %) answered that it would take more than twelve months of

savings. Of the remaining, 160 (24.6 %) did not respond to this question, 69 (10.6 %) said six to twelve months income savings, 42 (6.5 %) three to six months, 26 (4.0 %) less than three months, and finally 8 (1.2 %) said that they did not have to save on income. A tendency was found with regards to age in that those who did not answer and those who reported more than twelve months of savings had the highest mean age. With regards to gender, more women stated that it would take more than twelve months of savings, and females were over represented among those who did not answer the question.

Table 29 If the Red Cross stops paying for your prosthesis, what would you do if you needed a replacement?

Action	Not likely		Possible		Very likely	
	N	%	N	%	N	%
Pay it myself	485	75.3	133	20.7	26	4.0
Look for another organization that would pay for it	498	77.3	109	16.9	37	5.7
Request help from family or friends to pay it	358	55.6	208	32.3	78	12.1
Apply for governmental support (DoLISA)	371	57.6	192	29.8	81	12.6
Stay without prosthesis	390	60.6	132	20.5	122	18.9
Make the prosthesis yourself	523	81.2	59	9.2	62	9.6
Continue using the old one even if it needs repairs or replacement	54	8.4	216	33.5	374	58.1

Most respondents would not be able to pay for a new prosthesis, they might look for alternative ways of funding by requesting help from family or friends, applying for governmental support. Just as likely, however, they would continue using the old one or stay without. Those living in urban areas are more inclined to pay themselves, to look for alternative organizations for support, to apply for governmental support, and less likely to stay without, or to make a prosthesis themselves. Women are less likely than men to pay themselves, to stay without a prosthesis, and to make one themselves.

Table 30 From the costs below mentioned, which ones would most likely be affordable to you?

Type of costs	Not Likely		Likely		Very likely	
	N	%	N	%	N	%
Prosthesis cost at rehabilitation centre	513	79.9	110	17.1	19	3.0
Transportation to/from rehabilitation centre	189	29.4	326	50.8	127	19.8
Food costs during period at rehabilitation centre	206	32.1	342	53.3	94	14.6
Additional medical costs	249	38.8	308	48.0	85	13.2

Table 30 reveals that the major cost problem among the four costs is for the prosthesis, with very few stating that they very likely can afford, and 4 in 5 stating that it is not likely that they can. There are also differences between the other costs, in that medical costs seem to be more difficult to handle than food costs during period at rehabilitation centre and

transportation to the centre. Even for the three lowest ranked costs in Table 30, around one third would not be able to meet these expenses. There are clear urban/rural differences in that more rural than urban respondents cannot meet the four expenses. Further, more women than men cannot meet the expenses.

Regression models

A series of bivariate regressions were carried out to further explain three key factors in the service delivery.

Table 31 Bivariate regressions of demographic variables on Change in mobility, Restrictions for obtaining new prosthesis, and Importance of prosthesis.

	t	p
Change in mobility after acquiring the first prosthesis		
Gender (male = 1, female = 2)	- 1.45	n.s.
Rural/urban (rural = 1, urban = 2)	.84	n.s
Education level (1 - 5)	2.05	.04
Socio-economic status (possession scale)	2.35	.02
Age	1.08	n.s..
Time restrictions as expected barrier for obtaining new prosthesis		
Gender (male = 1, female = 2)	.32	n.s
Rural/urban (rural = 1, urban = 2)	-.36	n.s.
Education level (1 - 5)	2.11	.04
Socio-economic status (possession scale)	-.77	n.s.
Age	-5.02	< .001
Travel to centre as expected barrier for obtaining new prosthesis		
Gender (male = 1, female = 2)	3.71	< .001
Rural/urban (rural = 1, urban = 2)	5.69	< .001
Education level (1 - 5)	6.63	< .001
Socio-economic status (possession scale)	- 13.96	< .001
Age	1.48	n.s.

	t	p
Quality of services as barrier for obtaining new prosthesis		
Gender (male = 1, female = 2)	3.08	< .01
Rural/urban (rural = 1, urban = 2)	- 2.54	.011
Education level (1 - 5)	- .74	n.s.
Socio-economic status (possession scale)	- 2.00	.046
Age	1.43	n.s.
Costs as barrier for obtaining new prosthesis		
Gender (male = 1, female = 2)	1.83	.07
Rural/urban (rural = 1, urban = 2)	- 3.99	< .001
Education level (1 - 5)	7.20	< .001
Socio-economic status (possession scale)	- 13.22	< .001
Age	2.47	.01
Importance of prosthesis		
Gender (male = 1, female = 2)	- 1.91	.06
Rural/urban (rural = 1, urban = 2)	.05	n.s.
Education level (1 - 5)	1.81	.07
Socio-economic status (possession scale)	1.78	.08
Age	1.71	.09

Higher education and socio-economic status are both associated with improved change in mobility after acquiring the first prostheses. This may be explained by individual resources, but is also an indication of need for differentiated intervention. Level of education is further associated with increased concern about time restrictions as barrier. Increased age is on the other hand associated with less concern about time restrictions. Level of education and socio-economic status are both associated with less concern for costs and for the travel as a barrier for accessing prosthetic services, while rural dwellers are more concerned for costs, travel and the quality of services as barriers. Males appear to put more weight on the quality of services and time restrictions as expected barriers, and the prosthesis is somewhat more important to males, and the importance increases with increasing level of education, socio-economic status, and age.

DISCUSSION

This survey among users of ICRC-SFD supported prosthetic services in Vietnam has provided a broad picture of the population that is served by these services, and it has generated some new knowledge about the perceived impact of the services on its beneficiaries. Bearing in mind the limitations with this survey that are described above, this research firstly provides new knowledge that may be useful for the future operations of the prosthetic services in Vietnam. Secondly, the findings do have relevance for similar types of programs elsewhere, and not least does this study provide an example on how survey methodology may be utilized to supplement and in an effective way provide new knowledge that can add to the often limited information that is found in administrative registries.

Beneficiaries - registry

A large number of individuals have been supported by the ICRC and later SFD supported prosthetic services in Vietnam over the last 25 years. Originally justified by service inequity due to the war ending in 1975, the ICRC-SFD today supports services that cater for a population of individuals in need of prostheses in general. Over time, the influx of new patients with injuries caused by war has gradually reduced. Still, for a large majority of beneficiaries over the last 25 years, this was stated as the cause.

The large majority of the beneficiaries of the prosthetic services are men, reflecting the role of males vs. females during the war, but most likely also to some extent gender differences in Vietnam. Women in the sample are also younger, which indicates that more female beneficiaries have received services in recent years. Waiting time between amputation and first fitting illustrates very clearly the lack of services for amputees, and thus the need for the ICRC-SFD supported services in the first place. Analyses of these data further reveal that those who have stated "war related" as cause of amputation differ in many respects from the other causes – with respect to mean age, previous service contact, gender balance, and year of amputation. While the composition of beneficiaries changes slowly over the years, the centres will increasingly deal with i) new groups of beneficiaries, and ii) the changing and long-term needs of war victims.

The survey

The survey sample is for the large part (75 %) rural and male dominated, reflecting largely the distribution in the population of beneficiaries. More than four out of ten have not completed primary education, unemployment and self-employment are both high, and many of the rural dwellers are farmers. Almost one third depend on others for their own living, and housing standard is simple. Very few receive any type of allowance and are thus not covered by a social protection program. All in all, the survey sample has a socio-economic level that reflects the

current situation in Vietnam with poverty still being widespread, the level of living reflecting a middle-income country, and with the expected socio-economic urban – rural disparities[8].

Sampling and urban – rural differences in the implementation of the study may explain some of the differences between the two data sets. The substantial attrition may also have affected the sample, in that we can assume lower chances for older cases to be interviewed. This is supported by the mean age differences. A higher percentage of women in the survey sample may thus reflect a gradual increase of women attending the centres over the years as the impact of the war is reduced. Further, the higher importance of war as cause of the amputation among the survey respondents may be explained by the fact that individuals with such a background have less choice in services, and that their need for support from ICRC-SFD is permanent and long-term. Finally, it is also a possibility that well-known problems with the postal services in rural areas have affected the sampling procedure.

The results present a mixed picture with regards to access of services. Apparently, and this is based on factual information from the ICRC-SFD Regional Office for Asia, the economic support of ICRC-SFD is in many cases perceived as support

[8] NGTK tãm t¾t - 2011 Statistical handbook www.nxbthongke.com.vn

from Government institutions, even though most of the prostheses were paid for by ICRC-SFD. Also with regards to information about orthopedic services, a number of beneficiaries perceive local authorities as the source, and the role of the ICRC-SFD services is consequently under-estimated. When asked specifically for knowledge about the ICRC-SFD supported services, several sources are of importance, but local authorities are again among the most important sources. Bearing in mind that Red Cross and not ICRC-SFD as such is mentioned in the questionnaire, it is not distinguished between ICRC-SFD and VNRC. A large majority are aware that the Red Cross is the source. The findings on information about the services indicate both that there may be a combination of sources, as many beneficiaries have been fitted before their first contact with ICRC-SFD supported services, and that many beneficiaries do not distinguish well between Red Cross led and Government services.

Other than the waiting time, it appears that acquiring the prostheses has been unproblematic for the large majority. Again, however, there are indications that respondents perceive government/local authorities to be the source, while in reality it was ICRC-SFD support. In the early phase of service provision (1992-1995), and especially within the 12 provinces in the catchment area of HCMC Centre, the DoLISA's (provincial level), which were in charge of identifying amputees in need, did not distribute the registration form as it is designed at that time by ICRC. They themselves filled in the

forms and set up the lists of patients according to their own working procedures. Thus beneficiaries might not be aware that ICRC was funding the action.

Dependence on free prosthetic services is evident from the results, and a majority state straight out that the prosthesis was too expensive for them to purchase on their own. A substantial number said that applying for free prosthetic services was the easiest way to get access. While political barriers did exist in the early stages of the ICRC project, in the current situation, it is safe to say that only financial barriers remain. To confirm this, less than one in ten will be able to buy a prosthesis themselves without the ICRC-SFD support, and around half would have stayed without, used crutches instead, or tried to make their own. Even when taken into consideration that this is self-reported, this result is a very strong indication of the human and societal contribution of the ICRC-SFD supported services – and that the ICRC-SFD project plays a key role in the accessibility to prosthetic rehabilitation services for its target population.

Access to prosthetic services has according to themselves had a substantial and positive impact on the beneficiaries. With a prosthesis, half of the respondents state that they have very high ambulation capacity, while this figure is close to zero (0.5 %) without. It seems logical that this for many has direct impact on their possibility for generating an income, and this is confirmed in that two thirds have experienced slight or

substantial improvements in income after getting the prosthesis. Most respondents confirm that the prosthesis has been very important for earning a living, for daily activities in the community, and for social participation.

The main concern of the beneficiaries with regard to continued and future services relates to the costs. Most respondents are in a socio-economic position whereby for instance the purchase of a new prosthesis would be highly problematic. Many would stay without instead of getting a replacement, or they would have to struggle to find other and assumedly insecure sources of funding. Only one in five of the beneficiaries would "possibly" be able to pay from their own pocket.

Socio-demographic differences

Age and gender matters, as does the urban − rural dimension, and the results indicate that level of education and socio-economic status are even more consistently and significantly important for the perception of change in mobility, barriers, quality, and importance of prosthesis. Barriers for obtaining a new prosthesis are consistently higher among rural dwellers and females. We can thus assume that these socio-demographic variables all significantly contribute to impact on the outcome of the prosthetic services and that they need to be taken into account in the planning, development and implementation of services. Gender may be particularly important in this, as females differ with male beneficiaries on a

range of variables; they are younger, their injury is more often linked with other causes than war, they are slightly over-represented in urban areas, lower level of education, more dependent on others economically, more often informed about services through informal channels or have less information, and have lower socio-economic status. All these differences impact not only on access to services, but also on the impact of services. Adaptation of services to cater for these and other key socio-demographic differences may contribute to increase effectiveness of the services.

Barriers

The beneficiaries of ICRC-SFD supported prosthetic services share a key characteristic in being limb amputated (lower body in case of this survey). They do however differ in cause of amputation and on important socio-economic and socio-demographic variables. It may be of importance for the planning and implementation of support to this sub-population in the future to observe that i) the rural population face more barriers for accessing services than the urban population, women face higher barriers than men, higher level of education and socio-economic status are both associated with less barriers. Further, males, individuals with higher education and higher socio-economic levels apparently experience more change in mobility after acquiring the first prosthesis. If the purpose is to reach the most vulnerable population segment, these findings may be of importance for the content and orientation of future services.

Conclusions

1. To what extent did the ICRC-SFD project play a key role on the accessibility to prosthetic rehabilitation services for its main target population?

Only around one in ten of the beneficiaries in the survey state that they would buy a prosthesis themselves if this was not s paid by the Red Cross, i.e. ICRC-SFD. Other solutions are indicated by many, as for instance help from family or other humanitarian organization, but it is safe to indicate that a substantial proportion of the beneficiaries would be without prosthesis and that many would risk being without as their alternatives seem rather insecure.

2. Has access to rehabilitation services had a positive socio-economic impact on the project's target population?

Around two thirds of the beneficiaries link income improvement directly to access to prosthetic services. While this for the large part concerns "slight improvements" in income, more than eight out of ten regard the prosthesis as very important for earning a living. Ambulation capacity is strongly improved with a prosthesis, and this can be assumed to impact not only on access to jobs and increased attractiveness on the job market, but also on the ability to keep a job over time. It is thus clearly indicated in the survey that prosthesis services has had a positive impact on the target population of the project.

3. Would further support from ICRC-SFD be required for prosthetic services follow-up?

The beneficiaries in the survey have few good alternatives to further support from ICRC-SFD. Main concerns if need for a replacement or repair of the current prosthesis are costs, travel, time restrictions and quality aspects – with cost-related concerns being the most prominent. Further support from ICRC-SFD would thus be required for prosthetic service follow-up also in the future, and until this free service is taken over by the authorities or other humanitarian organization, or most ideally covered within a universal health insurance system.

With the original target population being victims of the war that ended in 1975, this sub-population is now around 60 years of age. Scoring relatively low on the socio-economic indicators, and not being covered by a social protection program, this group is vulnerable to negative impact if ICRC-SFD support to prosthetic services should be reduced or taken away without being replaced by other type of support. Most likely then, the support to this particular population will be needed for a while, knowing that if no alternative solution is found within a state social protection scheme, the target population may still have limited access to needed prosthetic services for the next 20 years.

Appendices

1.3 Variables in the survey (questionnaire)

QUESTIONNAIRE

Place of interview … Interviewer's name …… Date ……

Respondent's name ……..Registration Nr …….

Status: [ ] Active (Go to Question 1)

[ ] Inactive (Go to Question 0)

0) You have not been in contact with the ICRC-SFD Project for a long time. What were the main reasons for it? (you can tick several answers if relevant to your case)

a. [ ] Your prosthesis was still usable.

b. [ ] You could pay yourself for another prosthesis.

c. [ ] You found another financial source to pay for your prosthesis.

d. [ ] You did not like the prosthesis you got from the project.

e. [ ] You failed to get the Red Cross application form certified to replace your prosthesis.

f. [ ] You were waiting for an invitation to replace your prosthesis.

g. [ ] You could not contact the project for requesting to replace your prosthesis because

……..

h. [ ] You got an invitation but you could not come because …….

Chapter I - About you

1) You are:

a. [ ] Male

b. [ ] Female

2) Your year of birth was ……

3) You suffered from a limb amputation in (year) ……

4) Your limb amputation(s) resulted from:

a. [ ] War related cause (gun shot, land mine, UXO, etc..)

b. [ ] Accident (labour, traffic, etc..)

c. [ ] Disease

d. [ ] Congenital

5) Your living environment is:

a. [ ] Rural

b. [ ] Urban

6) Your education level is:

a. [ ] Never been to school

b. [ ] Within primary level (grade 1 to 5)

c. [ ] Within lower secondary level (grade 6 to 9)

d. [ ] Within upper secondary level (grade 10 to 12)

e. [ ] Higher / University level

7) Your current activity is:

a. [ ] Farmer

b. [ ] Fisherman

c. [ ] Non-qualified worker

d. [ ] Qualified worker

e. [ ] Office worker

f. [ ] Business employee

g. [ ] Self employed

h. [ ] Household work

i. [ ] Retired

j. [ ] Student

k. [ ] No job

l. [ ] Other

8) Are you working for your own living or for your household's living?

a. [ ] I am not working. I am at others' charge

b. [ ] I am not working but receive an allowance and contribute to the household's living

c. [ ] I work for my own living

d. [ ] I am working and contribute to the household's living

e. [ ] I am working and provide for all or most household's costs

9) How many of your household members are 14-years-old or younger?

a. [ ] Three or more

b. [ ] One to two

c. [ ] None

10) Do any of your household members, of 14-years age or younger, work for the household's income?

a. [ ] No

b. [ ] Yes

11) What type is your household's main residence?

a. [ ] Makeshift, thatched or alike

b. [ ] Semi-permanent house (simple wooden house, one-storey brick-built but not concrete)

c. [ ] Strong house with a shared kitchen or shared bathroom/toilet (concrete, 1 or 2 storeys)

d. [ ] Villa or strong house with a private kitchen and private bathroom/toilet

12) What type of ownership is your household residence?

a. [ ] Rented

b. [ ] Owned

13) Does your household have any of the following?

	YES	NO
Music player (CD/Cassette/Stereo)		

Television set		
DVD player		
Mobile phone		
Fan		
Air conditioner		
Gas stove		
Refrigerator		
Electricity		
Personal computer		
Motorcycle		
Private car		
Table and chairs		
Washing machine		
Bed(s)		
ATM Bank card		
Photo/Video camera		

Chapter II - **About how you got your prosthesis(es)**

14) How did you learn about the availability of prosthetic services? (*main source of info*)

a. [ ] You were referred by the hospital to an orthopaedic centre after your amputation

b. [ ] You were informed about it by a Red Cross staff

c. [ ] You were informed by the local authorities

d. [ ] You were informed by other amputees or acquaintances

15) When did you get your first prosthesis? (Year) ……(*not necessarily the one paid by Red Cross*)

16) Who paid for your first prosthesis?

a. [ ] Yourself / Your family

b. [ ] Governmental institution (*No time limit: it may concern former regime too*)

c. [ ] Got it from another amputee and/or acquaintance

d. [ ] Red Cross

e. [ ] Other Humanitarian Organization

f. [ ] Don't know

17) Were you aware that the Red Cross has paid for one or more of your prostheses?

a. [ ] Yes

b. [ ] No (if this is your answer, answer (e) to the next question)

18) How did you learn about the Red Cross support for prostheses? (*main source of info*)

a. [ ] You were informed about it by a Red Cross volunteer

b. [ ] You were informed by the local authorities

c. [ ] You were informed by other amputees or acquaintances

d. [ ] You were informed by the prosthetic workshop

e. [ ] I didn't know about it

19) Where did you get the registration form to apply for free prosthetic services?

a. [ ] From a Red Cross office

b. [ ] From the local authorities (for example the DoLISA)

c. [ ] From the rehabilitation centre (e.g. prosthetic workshop)

d. [ ] From another amputee or acquaintance

20) Was the registration form easily available to you?

a. [ ] Yes

b. [ ] No.

21) Was your registration form easily certified?

a. [ ] Yes

b. [ ] More or less

c. [ ] No

22) After registration, you did get invited to a rehabilitation centre for making your prosthesis,

a. [ ] In less than six months

b. [ ] Over six months but less than one year

c. [ ] More than one year

d. [ ] Don't remember

23) You did apply for free prosthetic services because:

a. [ ] You did not know how to get a prosthesis

b. [ ] The prosthesis was too expensive for you

c. [ ] It was the easiest way to get a prosthesis

24) Without the support from the Red Cross, would you have:

a. [ ] Paid yourself for the prosthesis?

b. [ ] Requested support among family and friends for paying the prosthesis?

c. [ ] Looked for other sources of support such as other humanitarian organizations?

d. [ ] Stayed without prosthesis?

e. [ ] Made yourself your prosthesis?

f. [ ] Used crutches (self made / self paid included)

Chapter III - About the importance of your prosthesis in your life

25) Do you currently wear one (or more) prosthesis?

a. [ ] Yes

b. [ ] No

26) Did the Red Cross pay for the prosthesis you currently wear?

a. [ ] Yes

b. [ ] No

c. [ ] Don't know

27) How would you rate your mobility without the prosthesis?

a. [ ] No ambulation capacity at all

b. [ ] Household ambulation capacity mobility

c. [ ] Limited ambulation capacity within community

d. [ ] Active ambulation capacity within community

e. [ ] Very high ambulation capacity

28) How would you rate your mobility with the prosthesis?

a. [ ] No ambulation capacity at all

b. [ ] Household ambulation capacity mobility

c. [ ] Limited ambulation capacity within community

d. [ ] Active ambulation capacity within community

e. [ ] Very high ambulation capacity

29) Could you perform your daily household work and/or professional work without the prosthesis?

a. [ ] No

b. [ ] More or less

c. [ ] Yes

30) After the amputation and before getting the first prosthesis, could you perform any regular work?

a. [ ] No

b. [ ] Yes (Please mention activity) :

- ✓ [ ] Farmer
- ✓ [ ] Fisherman
- ✓ [ ] Non-qualified worker
- ✓ [ ] Qualified worker
- ✓ [ ] Office worker
- ✓ [ ] Business employee
- ✓ [ ] Self employed
- ✓ [ ] Household work
- ✓ [ ] Student

✓ [ ] Other

31) Were there changes in your income after getting your prosthesis?

a. [ ] It reduced

b. [ ] No changes

c. [ ] Slight improvements

d. [ ] Substantial improvements

e. [ ] Not applicable (only for homemakers or children)

32) How important was/is your prosthesis for earning your living?

a. [ ] Not important at all

b. [ ] More or less important

c. [ ] Important

d. [ ] Very important

e. [ ] Not applicable (only for homemakers or children)

33) How important is your prosthesis for your daily activities in your community (includes going to pagoda / temple, reaching school, shopping, banks, restaurants, meeting friends)

a. [ ] Not important at all

b. [ ] More or less important

c. [ ] Important

d. [ ] Very important

34) How important is your prosthesis for attending different gatherings like weddings and funerals

a. [ ] Not important at all

b. [ ] More or less important

c. [ ] Important

d. [ ] Very important

35) Do you feel uncomfortable being seen as a person with a physical disability?

a. [ ] Not at all

b. [ ] More or less uncomfortable

c. [ ] Uncomfortable

d. [ ] Very uncomfortable

36) Does the prosthesis help you feel better? (feel less uncomfortable, referring to previous question)

a. [ ] Yes

b. [ ] More or less

c. [ ] No

37) Would you prefer to wear or not to wear your prosthesis when going to social gatherings / to school/ to work etc..?

a. [ ] I prefer to wear it

b. [ ] I prefer not to wear it

c. [ ] It doesn't matter

Chapter IV - About the way you see future replacements and/or repairs of your prosthesis

38) Would your prosthesis break, get lost or hurt you suddenly (can't use it anymore!), what would be your main concerns?

	Much concern	Some concern	No concern
Distance to travel for reaching the nearest rehabilitation centre			
Lack of support for the prosthesis costs			
Price of the prosthesis			
Costs for travelling to rehab centre			
Costs for food and accommodation during the travel			
Too much time to spend at the rehabilitation centre			
Quality of the new prosthesis			
The welcome at the rehabilitation centre			
Not entitled for a prosthesis replacement paid by the Red Cross			
Lack of savings for covering costs not covered by the Red Cross assistance			

Loss of income from interrupting your activities			
Too busy farming/fishing to attend a rehabilitation centre			
The nature of your work does not allow you much time free for attending a rehab centre			
To get your Red Cross application form certified			

No answer [ ]

39) If you had to pay the costs for replacing your prosthesis, it would take you

a. [ ] Less than three-month's income savings

b. [ ] Three to six-month's income savings

c. [ ] Six to twelve-month's income savings

d. [ ] More than twelve-month's income savings

e. [ ] I don't have to spend on savings

No answer [ ]

40) If the Red Cross stops paying for your prostheses, what would you most likely do when you need maintenance/repair or a new one?

	Very likely	Possible	Not likely
Pay it yourself			
Look for other organisation that would pay for it			
Request help from family or friends to pay it			
Apply for governmental support (DoLISA)			

Stay without prosthesis			
Make the prosthesis yourself			
Continue using the old one even if it needs repairs or replacement			

No answer [ ]

41) How many prostheses do you have at home, which you can still make use of it?

a. [ ] Only one

b. [ ] Two

c. [ ] Three

d. [ ] Four or more

42) From the costs below mentioned, which ones would most likely be affordable to you?

	Very likely	Possible	Not likely
Prosthesis costs at rehabilitation centre			
Transportation to and from rehabilitation centres			
Food costs during period at rehabilitation centres			
Additional medical costs			

No answer [ ]

43) If you would have to spend your savings for the well-being of your household, what would you most likely do among the following?

	Very likely	Possible	Not likely
Children's schooling			
Invest on my studies			
Get married			
Children's wedding			
Buy a better house			
Repair the house			
Rent a better house			
Open a business			
Buy equipment/materials for your work/professional activity			
Pay to renew your prosthesis			
Pay for high tech prosthesis			
Buy a wheelchair			
Buy medicines			
Buy household utensils			
Buy new bicycle			
Buy new motorbike			
Buy new mobile phone			
Buy TV set			

[ ] I have no savings.

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