

Appendix A. Community Delivered Urine (CDU) Model

VOLUME COLLECTED					
PERPART	participation percentage increase constant	=	0.8	-	MASTER VARIABLE
VIC	Volume increase constant	=	2	-	MASTER VARIABLE
PAY	Incentive payment	=	1	R/L	MASTER VARIABLE
PERHH	Percent participating HH, calculated	=	PERPART*PAY	%/100	Calculation
PERHHL	Percent participating HHs, limited	=	IF(PERHH<1, PERHH, 1)	%/100	Calculation
NPPHH	Number of participating households	=	PERHHL*HH	HH	Calculation
VUHHD	Volume urine/ particip HH/ day	=	PAY*VIC	L/HH/day	Calculation
VUHHDL	Volume urine/ particip HH/ day limited	=	IF(VUHHD<FAU, VUHHD, FAU)	L/HH/day	Calculation
TVUPD	Total volume urine per day	=	VUHHDL*NPPHH	L/day	Calculation
TVUPW	Total volume urine per week	=	TVUPD*7	L/week	Calculation

Notes and assumptions: PERHHL and VUHHDL are limited to ensure that participation can not go over 100%.

LABOUR					
Fieldworker Salary					
VPHH	Volume per HH tank delivered	=	15	L	Field Value
MAXVIS	Max number of visits per day	=	60	visits	Field Value
TVPW	Total visits per week	=	TVUPW/VPHH	visits/week	Calculation
WDRW	Worker days required/week	=	IF(BTVPW>MAXVIS,ROUNDUP(TVPW/MAXVIS,0),1)	days/week	Calculation
DWF	Daily wage fieldworker	=	162	R/day	Field Value
SCWF	Salary costs for fieldworkers	=	WDRW*DWF	R/week	Calculation

Notes and assumptions: WDRW is based on the assumption that someone must work at least 1 full day, even if there are not 60 visits.

Supervisor Salary					
RSFW	Ratio of supervisor:fw days	=	0.2	-	Field Value
SDW	Supervisor days/week	=	WDRW*RSFW	days/week	Calculation
DWS	Daily wage supervisor	=	400	R/day	Field Value
SCSU	Salary cost for supervisors	=	DWS*SDW	R/week	Calculation

Notes and assumptions: SDW assumes that the supervisor can spend time on other work at the Municipality, i.e. must not charge full days

Notes and assumptions: Assumes the supervisor can use part days for other work

EWS salary

NLET	Number of labourers required per emptying trip	= 2	labourers	Field Value
NDET	Number of drivers/supervisors per emptying trip	= 1	drivers	Field Value
WDL	Working days labourers	= $NLET * NFDE + ((NLET * TOPD) / NPTD)$	days/week	Calculation
WDD	Working days drivers	= $NDET * (NFDE + (TOPD / NPTD))$	days/week	Calculation
TDR	Team-days required	= $(WDL + WDD) / (NLET + NDET)$	days	Calculation
NEXD	No. extra days	= $IF(TDR < 5, TDR, TDR - 5)$	days	Calculation
NFW	No. Full weeks (5 days)	= $ROUNDDOWN(TDR / 5, 0)$	weeks	Calculation
NMTP	No max teams working in parallel	= $IF(NEXD > 0, NFW + 1, NFW)$	-	Calculation
DWL	Daily wage EWS labourer	= 162	R/day	Field Value
DWD	Daily wage EWS driver	= 182	R/week	Field Value
SCLA	Salary cost EWS labourers	= $WDL * DWL$	R/week	Calculation
SCDR	Salary cost EWS driver	= $WDD * DWD$	R/week	Calculation

Notes and assumptions: Working days are a function of the transported volume; labourers and workers can work part days.

TRANSPORT**Urine Emptying and Transport (3-5 tonne truck)**

DSS	Distance shop-site	= 39.6	km	Field Value
DSD	Distance site-depot	= 45.2	km	Field Value
DDS	Distance depot-shop	= 9.8	km	Field Value
VT	Speed of truck	= 70	km/h	Assumed, based on Field Value
TP	Time required for pumping	= 0.5	h	Field Value
TD	Time required for discharging	= 0.5	h	Field Value
UVTV	Urine Vol that can be transported per visit	= 1000	L	Field Value (or 2000)
FCP	Fuel consumption for urine pump	= 0.0533	L diesel / kL urine pumped	Uprent 2013
FCT	Fuel consumption for truck	= 6.66	km /L diesel	Dept. of Ag. Machinery guide 2010 -2011.
OCT	Oil consumption for vehicle	= 1.5	% of fuel consumption	Dept. of Ag. Machinery guide 2010 -2011.
DSTT	Distance for which new set of tyres lasts	= 45000	km	Dept. of Ag. Machinery guide 2010 -2011.
DORT	Distance for 1 round trip	= $DSS + DSD + DDS$	km	Calculation
DTRT	Distance for 2 round trips	= $DSS + DSD + DSD + DSD + DDS$	km	Calculation
DTHRT	Distance for 3 round trips	= $DSS + DSD + DSD + DSD + DSD + DSD + DDS$	km	Calculation

TORT	Time for 1 round trip	= (DORT/VT)+TP+TD	h	Calculation
TTRT	Time for 2 round trip	= (DTRT/VT)+(2*TP)+(2*TD)	h	Calculation
TTHRT	Time for 3 round trip	= (TTRT/VT)+(3*TP)+(3*TD)	h	Calculation
NPTD	Number of possible trips per day	= IF(TTHRT<8,3,2)	-	Calculation
NTS	Number of trips to the site	= ROUNDUP(TVUPW/NPTD, 0)	-	Calculation
NFDE	Full days of emptying	= ROUNDDOWN(NTS/NPTD,0)	days	Calculation
TOPD	Trips on part days	= NTS-(NPTD*NFDE)		Calculation
KMFD	Kms for all full days	= NFDE*IF(NPTD3,DTHRT,DTRT)	km	Calculation
KMPD	Kms for trips on part days	= IF(TOPD0,TOPD,IF(TOPD1,DORT,IF(TOPD2,DTRT,"ERROR")))	km	Calculation
TKMT	Total kms travelled	= KMFD+KMPD	km	Calculation
VFP	Volume fuel for pump	= FCP*(TVUPW/1000)	L/week	Calculation
VFT	Volume of fuel (5 tonne)	= TKMT/FCT	L/week	Calculation
VOT	Volume of oil (5 tonne)	= VFT*(OCT/100)	L/week	Calculation
STPW	Set of tires per week	= TKMT/DSTT	set/week	Calculation
DIE	Diesel	= 12.34	R / L	Automobile Association 2013
VO	Vehicle oil	= 26.52	R / L	Automobile Association 2013
PF	Pump fuel	= 10	ZAR/L	Assumed
PPTT	Price of set of tyres, 5-tonne	= 18418	R	Dept. of Ag. Machinery guide 2010 -2011.
FCTE	Fuel costs	= DIE*VFT	R/week	Calculation
OCTE	Vehicle oil costs	= VO*VOT	R/week	Calculation
PCTE	Pump fuel costs	= PF*VFP	R/week	Calculation
TCTE	Weekly tire price	= PPTT*STPW	R/week	Calculation
TTEC	Travel costs per week	= FCTE+OCTE+PCTE+TCTE	R/week	Calculation

Notes and assumptions: All trips start and end at the shop. NPTD should be 3 or 2, depending on speed. NFDE can not go beyond 5 days before an additional truck is added.

Supervisor Transport

FCV	Fuel consumption for pick-up truck	10.53	km / L	Dept. of Ag. Machinery guide 2010 -2011.
OCV	Oil consumption for vehicle	1	% of fuel consumption	Dept. of Ag. Machinery guide 2010 -2011.
DSTV	Distance for which new set of tyres lasts	50000	km	Dept. of Ag. Machinery guide 2010 -2011.
RTSU	Round trip supervisor	= DSS*2	km	Calculation
DTSU	Distance travelled supervisor	= ROUNDUP(SDW,0)*RTSU	km	Calculation
VFPU	Volume of fuel (pick up)	= DTSU/FCV	L/week	Calculation

VOPU	Volume of oil (pick up)	=	VFPU*OCV/100	L/week	Calculation
STPWPU	Set of tires per week	=	DTSU/DSTV	-	Calculation
PPTV	Price of set of tires, Pick up	=	5339	R	Dept. of Agriculture Machinery guide, R5339 2013 price
FCSU	Fuel costs	=	VFPU*DIE	R/week	Calculation
VOSU	Vehicle oil costs	=	VOPU*VO	R/week	Calculation
TCSU	Weekly tire price	=	STPWPU*PPTV	R/week	Calculation
TWCSU	Travel costs per week	=	FCSU+VOSU+TCSU	R/week	Calculation

Notes and assumptions: Supervisor starts and ends at the shop. Supervisor spends the whole day at the site, so no speed factor.

MATERIALS

Onsite Storage

SFJJ	Jojo safety factor on volume	=	1.1	-	Assumed
SZJJ	Size of Jojo in field	=	1000	L	Field Value
NJJR	Number of jojos required	=	ROUNDUP(TVUPW*SFJJ/SZJJ,0)	-	Calculation

Notes and assumptions: NJJR assumes that all tanks are fully emptied every week.

Incentive Overhead

PPB	Premium paid to "banks" on incentives (factor)	=	0.1	-	Field Value
UCFI	Urine cost from incentives	=	TVUPW*PAY	R/week	Calculation
UCOO	Urine cost of overhead	=	UCFI*PPB	R/week	Calculation
RFJJ	Rental fee for space/jojo/week	=	25	R/week	Field Value
RCPW	Rental costs/week	=	RFJJ*NJJR	R/week	Calculation

Data collection and monitoring

PPCD	Purchase price Conductivity measurement machine	=	2700	R	Field value
UCD	Uses of Cd measurement machine in lifetime	=	20000	visits/item	Assumed
PPS	Purchase price scale	=	1800	R	Field value
US	Uses of scale in lifetime	=	20000	visits/item	Assumed
OMP	Operating materials (paper, batteries, PPE, etc.)	=	200	R/week	Assumed
FCDW	Fraction of Cd machine used/ week	=	TVPW/UCD	-/week	Calculation

CCDW	Cost of Cd machine/ week	=	FCWD*PPCD	R/week	Calculation
FRSW	Fraction of scale used/ week	=	TPPW/US	-/week	Calculation
CSPW	Cost of scale/week	=	FRSW*PPS	R/week	Calculation
CMEE	Cost of M&E equipment on site	=	IF(NPPHH>0,CCDW+CSPW+OMP,0)	R/week	Calculation

Notes and assumptions: Lifetime of conductivity and weight scales is based on use, assumes no repair.

Personal Protection Equipment (PPE)

GLO	Gloves	=	100	R/worker/year	Assumed, based on Field Value
BOO	Boots	=	300	R/worker/year	Assumed, based on Field Value
MAS	Masks	=	200	R/worker/year	Assumed, based on Field Value
UNI	Uniform	=	400	R/worker/year	Assumed, based on Field Value
TPPEW	Total PPE /worker/week	=	(GLO+BOO+MAS)/WK	R/worker/week	Calculation
PPEF	PPE for fieldworkers	=	TPPEW*(ROUNDUP((WDRW/5),0))	R/week	Calculation
PPEL	PPE for labourers	=	TPPEW*NLET*NMTP	R/week	Calculation
PPED	PPE for drivers	=	TPPEW*NDET*NMTP	R/week	Calculation
TCPPE	Total cost of PPE	=	PPEF+PPEL+PPED	R/week	Calculation

Notes and assumptions: Each worker gets a new set of PPE, no matter how many days they work.

CAPITAL COSTS

Pick-up truck (for use by a supervisor)

PUTCC	Pick-up truck capital cost	=	175000	R	Dept. of Ag. Machinery guide 2010 -2011.
PUTOM	Pick-up repair and maintenance	=	50	%	Dept. of Ag. Machinery guide 2010 -2011.
PULT	Lifetime for large mechanical items	=	10	years	Assumed
PUTI	Vehicle insurance cost	=	3.5	% of purchase price / year	Assumed
PUL	Vehicle licence	=	482	R / year	Dept. of Ag. Machinery guide 2010 -2011.
AFPU	Annuity Factor	=	(1-(1/(1+IR)^PULT))/IR	-	Calculation
EACPU	EAC pick up	=	PUTCC/AFPU	-	Calculation
ARCPU	Annual repair costs, pick-up	=	EACPU*PUTOM/100	R/year	Calculation
AVICPU	Annual insurance cost, pick up	=	PUTCC*PUTI/100	R/year	Calculation
AVLPU	Annual Vehicle License, pick up	=	PUTL	R/year	Calculation
ACTPU	Total annualized costs, pick up	=	EACPU+ARCPU+AVICPU+AVLPU	R/year/vehicle	Calculation
PYUPU	Percentage of yearly use	=	SDW/5	%/100	Calculation

TACPU	Total annual costs, all req'd trucks	=	ACTPU*PYUPU	R/year	Calculation
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Notes and assumptions: PYUPU is based on the assumption that there are 5 working days in a week. TACPU is based on the number of days that the supervisor works.

3-5 tonne truck (used for urine emptying and transport)

TCC	Truck capital cost	=	350000	R	Dept. of Ag. Machinery guide 2010 -2011.
TOM	Truck repair and maintenance cost over lifetime	=	50	%	Dept. of Ag. Machinery guide 2010 -2011.
LTT	Truck Lifetime	=	10	years	Assumed
TI	Vehicle insurance cost	=	4	% of purchase price / year	Dept. of Ag. Machinery guide 2010 -2011.
LT	Vehicle licence	=	819	R / year	Dept. of Ag. Machinery guide 2010 -2011.
AFT	Annuity Factor, 5 Ton	=	$(1-(1/(1+IR)^{LTT}))/IR$	-	Calculation
EACT	EAC, 5 ton	=	TCC/AFT	-	Calculation
ARCT	Annual repair costs, 5 ton	=	EACT*TOM/100	R/year	Calculation
AICT	Annual insurance cost 5 ton	=	AFT*TI/100	R/year	Calculation
AVLT	Annual Vehicle License, 5 ton	=	TLT	R/year	Calculation
TACT	Total annualized costs, 1 truck	=	EACT+ARCT+AICT+AVLT	R/year/vehicle	Calculation
PYUT	Percentage of yearly use	=	$(NFDE+(TOPD/NPTD))/5$	%/100	Calculation
TACAT	Total annual costs, all req'd trucks	=	TACT*PYUT	R/year	Calculation

Notes and assumptions: PYUT is based on the assumption that there are 5 working days in a week.

Emptying and Storage Equipment

PPP	Purchase price, pump and hose	=	100000	R	Assumed
POM	Equipment repair and maintenance	=	35	% of purchase price / year	Assumed, based on TOM
JJLT	Lifetime for small mechanical items, Jojo	=	5	years	Assumed, based on LTT
JJPP	Purchase price: 1000L Jojo tank	=	17000	R	Field Value
AFP	Annuity Factor, pump+hose, Jojo	=	$(1-(1/(1+IR)^{JJLT}))/IR$	-	Calculation
EACP	EAC, pump+hose	=	PPP/AFP	R/year	Calculation
ARCP	Annual repair costs, pump+hose	=	EACP*POM/100	R/year	Calculation
TAPC	Total annualized pump costs	=	EACP+ARCP	R/year	Calculation
EACJ	EAC per Jojo	=	JJPP/AFP	R/year	Calculation
TAEJ	Total Annualized Emptying Jojos	=	EACJ*(UVTV/1000)	R/year	Calculation
TACPJ	Total Annualized CP Jojos (based on #)	=	EACJ*NJJR	R/yr	Calculation

Tokens

SFRC	Safety factor on Rand in circulation	= 3	-	Assumed, based on field value
CPT	Cost per token (indep. Denom)	= 4	R/coin	Field Value
RRT	Replacement per year, over lifetime	= 20	%	Assumed, based on field value
AVPT	Average value per token	= PAY*2	R	Calculation
NTIC	Number of tokens in circulation	= (UCFI/AVPR)*SFRC	-	Calculation
CCT	Capital Cost of tokens	= NTIC*CPT	R	Calculation
EACTS	EAC, tokens	= CCT/AFT	R/year	Calculation
ARCTS	Annual replacement cost tokens	= EACTS*(RRT/100)	R/year	Calculation
TACTS	Total annualized cost of tokens	= EACTS+ARCTS	R/year	Calculation

Notes and assumptions: AVPT is based on 2X the incentive price. The number of tokens in circulation is based on the total amount of urine purchased per week

Appendix B. Municipal Collected Urine (MCU) Model

VOLUME COLLECTED				
UCBV	Urine Collection, baseline values (L/HH/day)	= 2	L/HH/day	MASTER VARIABLE
NTCT	Visit rate (No HH visited by 1 team/day)	= 40	HH/team/day	MASTER VARIABLE
PKPH	Percentage of known participant households	= 1	%/100	Assumed
FROE	Frequency of emptying	= 1	times/week	Assumed
TVCW	Total volume collected/ week	= PKPH*HH*UCBV*7	L/week	Calculation
TVCD	Total Vol collected/team-day	= TVCW/TDR	L/team/day	Calculation
TVCT	Total vol collected/tank/week	= TVCW/(HH*PKPH)	L/tank/day	Calculation

Notes and assumptions: UCBV is assumed to be uniform. NTCT is based on an unoptimized collection, where different houses are not targeted; it includes all work for the day (including walking and driving). PKPH allows for the control of households that will remove their own tanks

LABOUR				
EWS salary				
NLET	Number of labourers required per team	= 2	labourers/team	Field Value
NDET	Number of drivers/supervisors per team	= 1	drivers/team	Field Value
TDR	Team-days required	= FROE*(HH*PKPH)/NTCT	days/week	Calculation
WDL	Working days labourers	= TDR*NLET	days/week	Calculation
WDD	Working days drivers	= NDET*TDR4	days	Calculation
NFW	No. Full weeks (5 days)	= ROUNDOWN(WDD/5,0)	days	Calculation
NMTP	No max teams working in parallel	= IF(NEXD>0,NWF+1,NFW)*FROE	-	Calculation
NEXD	No. extra days	= ((TDR/5)-NFW)*5	-	Calculation
DWL	Daily wage EWS labourer	= 162	R/day	Field Value
DWD	Daily wage EWS driver	= 182	R/week	Field Value
SCLA	Salary cost EWS labourers	= WDL*DWL	R/week	Calculation
SCDR	Salary cost EWS driver	= WDD*DWD	R/week	Calculation
TOCS	Total cost of Salaries	= SCLA+SCDR	R/week	Calculation

Notes and assumptions: TDR is a function of the speed of emptying, assuming that all 500 households are emptied once in a week; if all households can not be reached by a single team, parallel teams are added

TRANSPORT**Urine Emptying and Transport (3-5 tonne truck)**

DSS	Distance shop-site	=	39.6	km	Field Value
DSD	Distance site-depot	=	45.2	km	Field Value
DDS	Distance depot-shop	=	9.8	km	Field Value
FCT	Fuel consumption for truck	=	6.66	km /L diesel	Dept. of Agriculture Machinery guide 2010 -2011.
OCT	Oil consumption for vehicle	=	1.5	% of fuel consumption	Dept. of Agriculture Machinery guide 2010 -2011.
DSTT	Distance for which new set of tyres lasts	=	45000	km	Dept. of Agriculture Machinery guide 2010 -2011.
DORT	Distance for 1 round trip	=	DSS+DSD+DDS	km	Calculation
EDFH	Extra distance factor, 150m per house	=	0.15*NTCT	-	Calculation
TKMT	Total kms travelled/week	=	(DORT+EDFH)*ROUNDUP(TDR,0)	km/week	Calculation
VFT	Volume fuel	=	TKMT/FCT	L	Calculation
VOT	Volume of oil (5 tonne)	=	TKMT*(OCT/100)	L	Calculation
STPW	Set of tires per week	=	TKMT/DSTT	-	Calculation
DIE	Diesel	=	12.34	R / L	Automobile Association 2013
VO	Vehicle oil	=	26.52	R / L	Assumed
PPTT	Price of set of tyres	=	18418	R	Dept. of Agriculture Machinery guide 2010 -2011.
FCTE	Fuel costs	=	DIE*VFT	R/week	Calculation
OCTE	Vehicle oil costs	=	VO*VOT	R/week	Calculation
TCTE	Weekly tire price	=	PPTT*STPW	R/week	Calculation
TTEC	Travel costs per week	=	FCTE+OCTE+TCTE	R/week	Calculation

Notes and assumptions: All trips start and end at the shop. Each team takes a separate truck and returns for a portion of the day.

MATERIALS**Personal Protective Equipment**

GLO	Gloves	=	100	R/worker/year	Assumed, based on Field Value
BOO	Boots	=	300	R/worker/year	Assumed, based on Field Value
MAS	Masks	=	200	R/worker/year	Assumed, based on Field Value
UNI	Uniform	=	400	R/worker/year	Assumed, based on Field Value
TPPEW	Total PPE /worker/week	=	(GLO+BOO+MAS+UNI)/WK	R/worker/week	Calculation

PPEL	PPE for labourers	=	TPPEW*NLET*NMTP	R/worker/week	Calculation
PPED	PPE for drivers	=	TPPEW*NDET*NMTP	R/worker/week	Calculation
TCPPE	Total cost of PPE	=	PPEL+PPED	R/worker/week	Calculation

Notes and assumptions: Each worker gets a new set of PPE, no matter how many days they work.

CAPITAL COSTS

3-5 tonne truck (used for urine emptying and transport)

TCC	Truck capital cost	=	350000	R	Dept. of Agriculture Machinery guide 2010 -2011.
TOM	Truck repair and maintenance cost over lifetime	=	50	%	Dept. of Agriculture Machinery guide 2010 -2011.
LTT	Truck Lifetime	=	10	years	Assumed
TI	Vehicle insurance cost	=	4	% of price / year	Dept. of Agriculture Machinery guide 2010 -2011.
LT	Vehicle license	=	819	R / year	Dept. of Agriculture Machinery guide 2010 -2011.
AFT	Annuity Factor, 5 Ton	=	$(1 - (1 / ((1 + IR)^{LTT}))) / IR$	-	Calculated
EACT	EAC, 5 ton	=	TCC/AFT	-	Calculated
ARCT	Annual repair costs, 5 ton	=	EACT*TOM/100	R/year	Calculated
AICT	Annual insurance cost 5 ton	=	TCC*TI/100	R/year	Calculated
AVLT	Annual Vehicle License, 5 ton	=	LT	R/year	Calculated
TACT	Total annualized costs, 1 truck	=	EACT+ARCT+AICT+AVLT	R/year/vehicle	Calculated
PYUT	Percentage of yearly use	=	TDR/5	%/100	Calculated
TACAT	Total annual costs, all req'd trucks	=	TACT*PYUT	R/year	Calculated

Notes and assumptions: PYUT is based on the assumption that there are 5 working days in a week.

Emptying Equipment

SFJC	Safety Factor (increase over average daily) (%)	=	1.1	-	Assumed
LTJC	Lifetime of Jerry Can, attachments	=	1	year	Assumed
PPJC	Purchase price Jerry Can	=	65	R/tank	Field Value
JCS	Jerry Can size	=	20	L	Field Value
NJCT	No. of Jerry Cans needed per day/team	=	$IF(UCBV < MVBO, NTCT * NJCT, 2 * NTCT * NJCT)$	No./team/day	Calculated
NJCB	No. Jerry Cans, for busiest day	=	NJCT*NMTP	No. /day	Calculated
AECC	Annual Emptying Capital Costs	=	NJCT*PPJC	R/year	Calculated
MVBO	Max vol day production before overflow	=	JCS/7*FROE	L	Calculated

Appendix C. Household Urine Production Model (for CDU and MCU).

Volume Produced					
HH	Total number of households in area	=	500	HH	Assumed, based on field value
AD	Average number of adults	=	3	adults	Assumed, based on field value
PERADJ	Percent of adults with a job	=	0.25	%/100	Assumed, based on field value
CH	Average number of children	=	4	children	Assumed, based on field value
PERSCH	Percent of children in school	=	0.5	%/100	Assumed, based on field value
AVEAD	Average volume urine production per adult	=	1	L/pers/day	Assumed, based on field value
AVECH	Average volume urine production per kid	=	0.7	L/pers/day	Assumed, based on field value
PERADT	Percent at-house time for working adults	=	0.5	%/100	Assumed, based on field value
PERCHT	Percent at house time for kids in school	=	0.66	%/100	Assumed, based on field value
ADU	Adult urine	=	$((AD-(AD*PERADJ)+(AD*PERAD)*PERADT)*AVEAD$	L/HH/day	Calculation
CHU	Child urine	=	$((CH-(CH*PERSCH)+(CH*PERSCH)*PERCHT)*AVECH$	L/HH/day	Calculation
FAU	Family urine	=	ADU+CHU	L/HH/day	Calculation
FUPD	Family urine produced/day	=	FAU*HH	L/day	Calculation
FUPW	Family urine produced/week	=	FUPD*7	L/week	Calculation