

Strangely different constituencies.

When we start to consider nine constituencies of Chişinău it becomes clear that DPM and Şor party again don't match the statistic as DPM results differ drastically in different constituencies while other properties of these constituencies show otherwise.

Some notes.

1. Only 2 of 9 constituencies of Chişinău (24 and 30) obey more or less the principle of territorial unity as their borders correspond to borders of city neighborhoods.
2. By a strange coincidence determined by the CEC it is these districts that have pronounced political preferences which is really odd. Constituency 24 is the most "left" while 30 is the most "right". Only in these two constituencies and in constituencies 27 and 29 the winner has got margin exceeding 5% which generally characterizes constituency as tossup. (Table 6). Such conjunction of signs can be considered as gerrymandering (<https://www.theatlantic.com/politics/archive/2012/09/the-twisted-history-of-gerrymandering-in-american-politics/262369/>, <https://daily.jstor.org/is-gerrymandering-to-blame-for-our-polarized-politics/>, <http://www.democraticaudit.com/2016/06/01/majoritarian-electoral-systems-are-more-prone-to-gerrymandering-than-proportional-systems/>, <https://projects.fivethirtyeight.com/redistricting-maps/#GOP>).
3. All other constituencies are composed from different number of fragments. (Table 6). Constituencies 26 and 31 have the highest number of fragments. Some of them are situated in the different parts of the city, lacking common infrastructure and even direct transport between them. Our list of differences doesn't end here and can be continued.
4. Furthermore, all the constituencies except 24, 30, and in a way 27 and 29 have very similar results. It's one of the most important features of the political environment in Chişinău. Districts, neighborhoods and constituencies are arranged in such a way that in almost all cases (except some parts of Botanica and Ciocana sectors) the ratio of votes for "lefts" and "rights" close to 1:1 is pretty much constant. Any demarcation of constituencies, even the weirdest one, will give a very few exceptions.
5. This makes results presented in the Table 7 even more strange. We have 8 constituencies (i.e. all except 24) with similar overall results but very different mathematical and statistical characteristics.
6. If standard deviation was higher for both "left" and "right" flanks as in constituency 25, which consists of very diverse parts, it could be explained by the influence of the ethnic composition.
7. However, this isn't the case. Indicators for "right" and "left" parties are quite normal and nowhere are off the standard range (except constituency 25 where situation is pretty easy to explain). In contrast, indicators for DPM and Şor party are spiking without any good reason. That's already sufficient to suggest that falsifications and irregularities in different constituencies, districts and neighborhoods have occurred in varying degrees.

Constituencies	Neighborhoods in constituency	PSRM	Acum	DPM	“Sor Party”
Constituency 23	4	40.1	35.7	9.9	11.1
Constituency 24	1	48.8	31.7	9.6	8.0
Constituency 25	6	40.1	42.7	11.7	5.4
Constituency 26	5	36.8	37.3	11.3	5.3
Constituency 27	6	33.5	41.5	12.4	6.5
Constituency 28	3	38.3	35.1	9.6	8.9
Constituency 29	4	43.5	36.7	11.1	5.7
Constituency 30	1	33.4	40.8	11.8	6.9
Constituency 31	5	38.6	34.7	13.2	7.1

Table 6. Leader’s results in constituencies.

1. In all the constituencies except the “most leftist” one (24) the winner has got from 37.3% of votes in the most tossup district (26) to 40.8%. It’s very tied interval, moreover each of leaders has won four times in this interval. So, this isn’t just small range but a small range with “change of the leader”. That alone makes impossible any serious influence of any “third force”.
2. It can be seen using 2018 elections as an example, when Mayor a.i. Silvia Radu hasn’t been able to achieve result enough to expect to win, despite all the efforts, because most of electorate had already been divided before the elections.
3. We’ve already mentioned “burst” of the Șor party result in the constituency 23 in the beginning of our work. This result was achieved by oddities in voting in far distant districts outside the city. Here we eliminate results of the Șor party from further analysis, as the source of its strange growth is quite apparent and its influence to the voting process as a whole has been quite limited, owing to relative weakness of this party.
4. Quite contrived configuration of the constituency №31 had been created purposefully to serve DPM objectives i.e. to give a chance for top-candidate (former Prime Minister Chiril Gaburici).
5. As can be seen in Table 6, none of these plans have succeeded. This should be explained too.

Constituencies	DPM		Acum (2014 LP + LDPM)		PSRM	
	2019	2014	2019	2014	2019	2014
Constituency 23	18.7	18.1	17.9	17.1	17.0	22.2
Constituency 24	16.7	19.4	18.9	21.4	15.6	17.6
Constituency 25	19.1	21.3	19.7	21.9	23.8	27.1
Constituency 26	12.6	16.4	7.4	11.2	11.9	18.5
Constituency 27	22.0	13.5	12.4	15.7	15.8	21.5
Constituency 28	18.6	18.8	19.8	22.1	23.3	27.3
Constituency 29	22.0	16.8	14.1	17.0	14.2	16.7
Constituency 30	15.6	10.8	11.7	10.6	18.8	20.0
Constituency 31	16.2	14.8	14.7	20.2	14.1	18.2

Table 7. Ratio of standard deviations and means division of DPM, Acum and PSRM by constituencies of Chișinău. Parliament elections of 2014 and 2019 comparison.

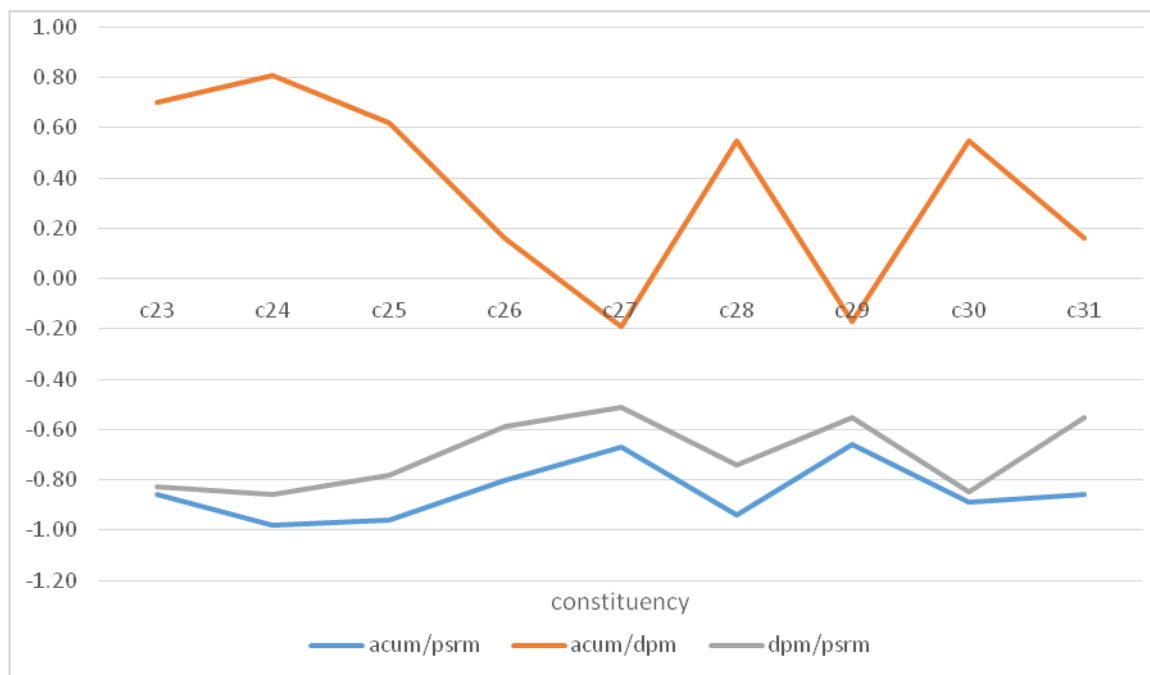
It's all starting to make sense now.

1. The PSRM had shown decrease of the indicator in all the constituencies. It's quite logical as in 2014 PSRM in its current form had been forming yet. This party was standing on radical pro-Russian attitudes and relied mostly on Russian-speaking electorate. This had caused high dispersion of results in different constituencies.
2. The situation has changed significantly. Dodon has become the president, slogans have become less radical and Moldavian share of PSRM votes has increased but not very much.
3. Generally, cleavage between left and right flanks had decreased and it also applies for Acum. This indicator had decreased in 8 constituencies of the 9 (the only exception is constituency № 23). In this case mass irregularities caused by the Șor party had played an important role.
4. At the same time DPM has shown a completely different situation. In five constituencies the indicator value had shown growth (in three of them growth had been very significant), in one it hadn't changed and in three it had decreased.
5. It has been proven in the previous chapter that such situation is completely impossible. The electorate doesn't vote in a certain constituency; it votes in a city. It's quite easy to see in the table 6. Voting results of leading parties in any constituency are just a projection of city-wide trends to one part of the city i.e. constituency.
6. In this case there's only one mathematically correct explanation – DPM electorate must be very small and completely match the statistic pattern. The same goes with electorate of any other third party in the current situation of dichotomy between PSRM and Acum. But DPM electorate meets neither of this two conditions.
7. There is a large positive correlation between DPM indicator values (Table 7) and DPM votes per constituency (Table 6) which proofs conclusions of the chapter “Tricks with turnout”. The regression model based on tables 6 and 7 shows that almost all DPM votes in constituencies 27, 29, 30, 31 are irregular.

Here, a question arises: why in all other constituencies statistics is more or less regular? It's barely plausible that there were several times more falsifications in the one half of the city than in another one. Our calculations help to suggest two main reasons:

- Falsifications in some constituencies actually were somewhat smaller than in other ones, or, speaking precisely, somewhat different.
- Smaller the falsifications are, smoother they are. I.e. these falsifications are more homogenous between different polling stations and they “distort” statistics to a lesser extent. This issue will be reviewed more thoroughly.

Pictures 2-4 allows to further visualize picture and consider simultaneously several additional indicators that characterize the irregularity of DPM votes.



Picture 2. Pair correlation DPM, Acum and PSRM by constituencies of Chişinău.

Picture 2 helps to look at the issue of “irregular DPM statistics” in more detail. In turn, it helps to make some new answers.

It turns out that correlation between PSRM and Acum results is quite regular in all the constituencies. Correlation of PSRM and DPM results are moderately falling beyond the scope of our model. But in the case of correlation between DPM and Acum irregularities are apparent, although being of various scales in different constituencies.

The DPM electorate, when being considered from statistical point of view (not regarding irregularities of all types), is closer to Acum, and it cannot vary depending of the constituency. It’s absolutely impossible for DPM and Acum results to be tied by a strong positive correlation in two constituencies while being tied by a weak negative correlation in other three ones, as all other indicators are the same. We’ll stress again the data for constituencies 26, 27 and 29 where DPM has two (!) cases of negative correlations with leading parties. Translated into common language from the statistical one, it means that in several constituencies DPM has its small electorate (separated from two large electoral arrays), while in other constituencies it doesn’t. It’s also worth mentioning that districts 26, 29 and, to some extent 27 are exactly the most socially prosperous.

This brings us to the extremely important issue on how different types of falsifications affect statistical indicators.

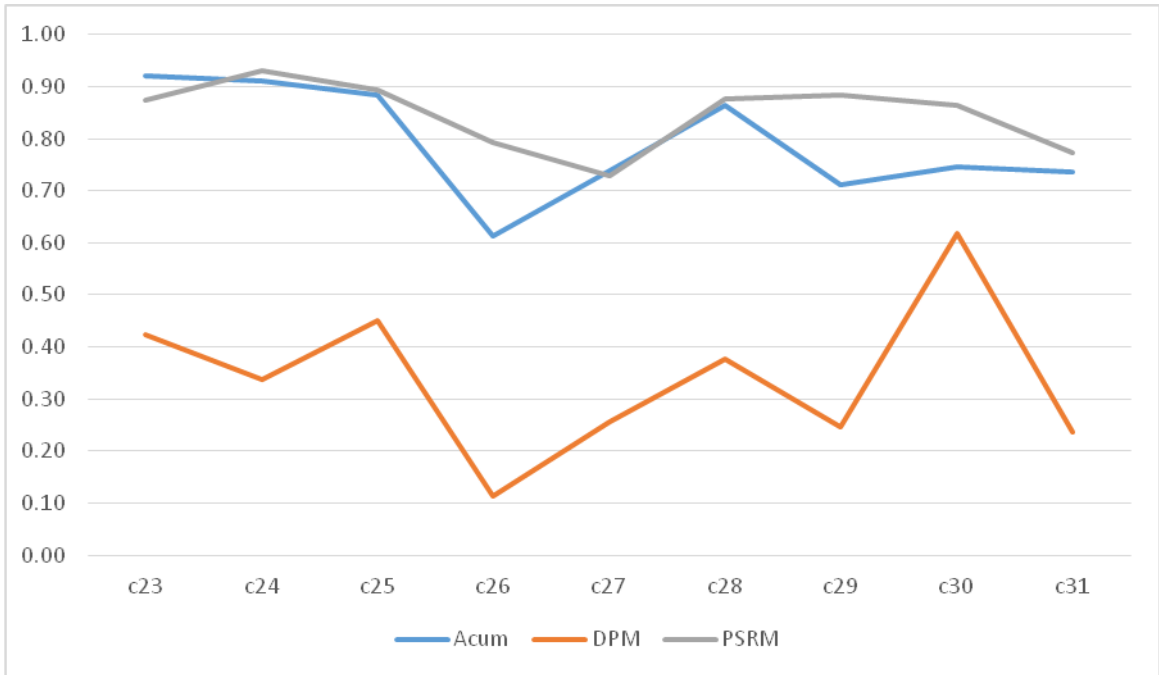
Comparison of pic.2 and 3 helps to make several new conclusions.

1. Constituencies with the most “troubled” statistics i.e. 26, 27 and 29 have relatively high share of votes for DPM, negative correlation with Acum, and very low correlation with 2014 results.
2. Correlation of DPM results to its results in 2014 elections vary from almost regular (0.6 in constituency 30) to absolutely irregular (0.1 in constituency 26). The correlation in constituencies 27 and 29 is low too. So, low correlation between Acum and DPM 2019 elections results corresponds to low correlation between DPM results of 2014 and 2019 elections.
3. It’s easy to see in picture 4. In this picture a very irregular constituency №31 is added to the constituencies 26, 27 and 29 discussed above, but it’s result of the strong influence of the “personal factor” of ex-prime minister Gaburici. In this constituency the correlation between DPM results in the majority system and candidate result in the single-member constituency is the lowest observed.

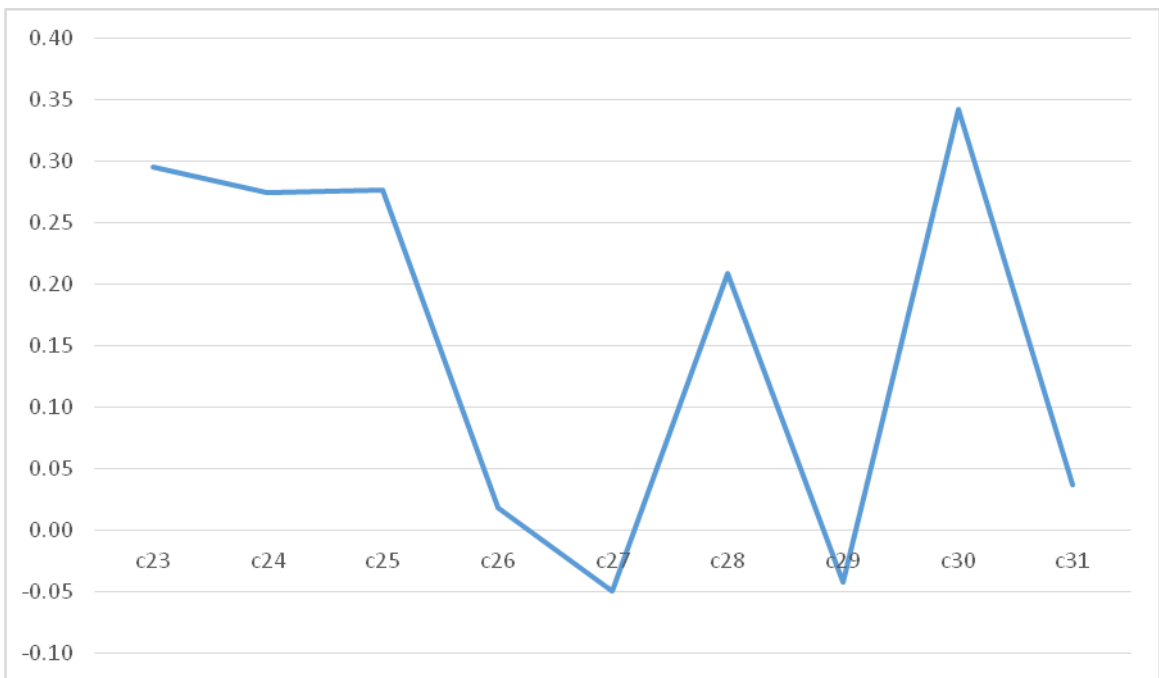
Making our task more complex, we’ve put the data of pictures 2 and 3 together into the new multi-factor complex and determined the partial correlation coefficient between DPM results in a certain constituency in 2014 and correlation between DPM and Acum results in 2019. We’ve got apparently irregular, unstable and volatile connection.

Three conclusions are obvious.

- That simple cannot be right; the data obtained contradicts itself to a certain degree.
- Irregularities have surely taken place, although it’s necessary to describe why the statistics is more distorted in some cases than in other ones.
- The question of how could constituency properties influence results by themselves seems pretty legitimate. In neither of constituencies DPM has pretended of victory even remotely, so the difference between constituencies shouldn’t be so significant.



Picture 3. Multiple correlation model. Partial correlation of leaders - 2014 and 2019 Parliamentary elections. (Acum to the sum of LP and LDPM at 2014).



Picture 4. Multiple correlation model. Partial correlation Acum and DPM at 2019 to DPM at 2014.

Comparison of pictures 3 and 4 gives important additional information about connection of DPM and Acum electorate.

One can call Picture 4 the “DPM pitchfork” or “trident”. In this picture use of the mathematical modeling has allowed to obtain two completely different forms of correlation while the aforementioned computations show that both of them are

irregular. So, different types and combinations of irregularities lead to different effect and different final statistics. Meanwhile, there are no doubts that irregularities organized by DPM and to a lesser extent by the Șor party have taken place in all the constituencies, varying in “volume” and “technology”.

Conclusions.

1. It's apparent that there was/is DPM's own small electorate in Chișinău and our calculations prove that too. However, it's very small (it doesn't exceed 3-4%) and, what's more important, very unstable. Every time it's a whole new, which brings “electoral collapses” such as in 2015 elections. When there had been a perception that “DPM isn't in charge here” it resulted in severe and immediate decrease of its electorate.
2. That's why most prosperous constituencies (26, 29 and, to a lesser extent, 27) give the lowest correlation of DPM results in 2019 with their results during the previous periods, as people who have voted DPM in 2019 and in 2014 are almost non-overlapping groups.
3. Indeed, small amount of successful Moldovans votes for DPM. But they support as well any other power that exists at the moment of elections and that presents some kind of guarantee for them. In the same way they could earlier have been supporting LP and LDPM or even PCRM. There's no generally accepted norm (and never was) and this type of electorate doesn't have any ideology other than sense of interest.
4. In the “wealthiest” constituencies there may be a bit more than 5% of such voters. In all other there are not more than 1-2%. That's why correlations with Acum and PSRM are both negative and that's why there's almost no correlation with the previous period.
5. Ballot stuffing in controlled polling stations always takes place but there have never been so much of it as in 2019. The data of table 1 is already sufficient to make an estimation of ballot stuffing as 1.5-2%, approximately two thirds of which are connected with DPM and the rest with Șor party.
6. It's necessary to understand clearly that ballot stuffing doesn't always distort the statistics in the constituency where they occur. It depends of amount of irregular parts in a certain constituency. For example, the statistics of Șor party in constituency № 23 is completely irregular while statistics of DPM in constituency 25 (where the maximum amount of irregularities has been detected; see table 1, pictures 2-4) is borderline between just bad and obviously irregular.
7. Electoral carousel are very common and not only in Moldova. They've taken place in our case too. However, one should understand that amount of carousels is strictly limited. The maximum possible number for Chișinău can be estimated to be 1.5% - it's at the average 20 votes in every polling station. Usually there are even fewer, no more than 12-15 votes which corresponds to approximately 4000 votes in the city as a whole.

Furthermore, carousel is easy to detect, ballot replacement could be seen on a CCTV record, so some preparations are required to avoid suspicion. Therefore, carousels are still being used but “owners of the administrative influence” haven't

pay special attention to them. The amount of carousels in the recent elections can be estimated to be significantly lower than 1%, and not more than 2000-2500 votes.

Often the owners of such “electoral know-hows” are the most interested themselves in carousels to earn some easy money during elections. Although, this doesn’t exclude that in the proper place and at the right time carousels can become important tool for electoral fraud.

Obvious advantages of carousels include the following:

- High reliability, i.e. it’s almost impossible to detect the “owner”. In the worst case, an intruder will be caught with one completed ballot.

- Very high efficiency. As all the ballots are checked by the “owner” of the know-how, probability of “group member” of voting wrong is very small. It’s important advantage of carousels compared to nets (which we’ll discuss below).

- Last but not the least carousels don’t distort statistics. Very thorough analysis of electoral databases can be used to detect traces of carousels, especially if their use has been systematic. But it’s hard to do and cannot yield unquestionable proof as such small fluctuations can occur spontaneously.

8. Nets also can avoid distortion of statistics, being currently the most “promising” and most commonly used kind of electoral falsifications in those cases when the falsification technology is “mature and mass-replicated”

(<https://strana.ua/articles/196258-okruh-ikononenka-s-pomoshchju-falsifikatsij-protjanul-pporoshenko-vo-vtoroj-tur.html#.XLYm9lsI5PU.twitter>). Indeed, in the nets the same people vote at the same polling stations. Change in turnout usually is a question. If it doesn’t have a positive correlation with results of some certain party (as it has happened in our case) it’s quite difficult to mathematically proof existence of this kind of falsifications.

During the recent elections, nets have been widely used in Moldova for the first time but it’s use was rather specific.

8.1. Nets were almost mixed with another kind of falsifications – “voter impersonation”, which had yielded higher effect in the specific background of Moldova. Generally, this two kinds of falsifications are somewhat similar, although having clear differences

(https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2488645, <https://www.kansascity.com/news/politics-government/article117957143.html>).

8.2. Absence of total control by “group leader” and reliance on a ordinary member are important features of nets. In Moldova and Ukraine experience has shown that if real rating of nets beneficiary is less than 15-20%, nets can fail, because many participants get their fees but vote for another party.

8.3. The specific nature of Chişinău political landscape has turned out to be even more important than it seemed. It’s obvious that there are no DPM ordinary activists in Chişinău, so participants were mostly right-flank activists or just young people with developed communicative skills. Ultimately, many of them voted for Acum, despite Acum had nothing to do with this. That’s one of the reasons of high correlation coefficient between DPM and Acum results.

It's wrong to assume that circumstances described above had made use of nets useless for DPM. In Chişinău, basically, yes, but in Moldova as a whole the situation was completely different. There, nets and voter impersonation played a crucial role in many cases.

It's easy to see the volume of nets and voter impersonation by analyzing excess of electoral activity over the normal distribution in the hours before noon.

In Chişinău, nets cover 4-5% of all votes, but not all of its participants voted for DPM and Şor party, and it's evident in the constituency 31 where everything had been prepared for nets use. In the country as a whole the situation is drastically different as described below.

9. Voter impersonation isn't unique invention of Moldova (see https://www.washingtonpost.com/news/the-fix/wp/2014/10/13/the-disconnect-between-voter-id-laws-and-voter-fraud/?utm_term=.69d65f60f1ff, <https://www.politifact.com/texas/statements/2016/mar/17/greg-abbott/light-match-greg-abbotts-claim-about-rampant-voter/>) but it had turned out to be very effective "here and now".

The technology is based (as always) on largescale and strong administrative influence and widespread manipulations with citizens register. Added to this is the specific nature of situation in Moldova – at least 20-25% of population isn't present in the country, DPM fully controls the mayors of rural communities, hence fully controlling electoral commissions. The result was "old technology" enhanced with new ideas specific to Moldova.

At some moments, especially from the statistical point of view it's hard to separate nets and voter impersonation. In Chişinău voter impersonation almost didn't influence "internal statistics" (however, nets did) but made a large impact of "external" one (i.e. connected with electoral activity). Actually this is voter impersonation that helped DPM to increase its result by approximately 4-5% in Chişinău (and much more in Moldova as a whole) with little effort.

Brief summary. DPM was prepared for falsifications in Chişinău, and their preparations were versatile and systematic. Approximately 10% of total votes in the city are irregular, and DPM got about 75% of them. But DPM had managed to realize only part of its plans, because of negative attitude towards DPM of most of the city residents (in cities other than Chişinău the situation is mostly the same) and... because of insufficient administrative influence. DPM had to face that many of people engaged to take part in the falsifications actually took no action or even opposed them.

In the countryside, however, situation had turned out to be much more favorable for DPM

To be continued.